

Study of Frequency of Psychiatric Illnesses in the Family Members of the Patients Suffering from Schizophrenia

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Abstract

Introduction: Schizophrenia affects around 1% of world population. Due to its chronic nature and associated occupational impairment, it puts an enormous financial and psychological burden on the family members of the affected patients.

Aim: To study the presence of psychiatric morbidity in family members of patients suffering from schizophrenia.

Methods: Family members of patients attending psychiatric outpatient department fulfilling selection criterion were recruited for purpose of the study. The recruited persons were interviewed in detail using the special proforma prepared for the study and all the required data was collected from the patient and their relatives. Those patients having presence of psychiatric illness in the family members were encouraged to bring the family members for direct interview and for asked for the previous medical records if available. All the collected data was tabulated and analysed using appropriate statistical methods.

Results: Final analysis of the data revealed that 40% of the patients had a family member suffering from psychiatric illness. Psychiatric morbidity of 30% was found in first degree relatives, while among second degree family members it was 12%. Mean age of onset for patients was 34.43 years whereas for family members it was 30.50 years. There was equal propensity for developing schizophrenia between the family members of male and female schizophrenia in our study.

Conclusion: The risk for psychiatric morbidities like having schizophrenia is more in close relatives, out of maximum morbidity seen in first degree relatives of patients with equal propensity for both genders.

Key words: Schizophrenia, Family members, First degree relatives

INTRODUCTION

Schizophrenia is a chronic, pervasive, disabling, and potentially terminal illness that affects a significant proportion of the world population. Given its severity, the illness affects the patient, his or her family, and society. Schizophrenia-associated with increased mortality (Allebeck and Wistedt, 1986) and is costly and uniquely distressing for patients and their families (Brown and Birtwistle, 1998).

Hence, schizophrenia has been the focus of intense research with earlier work focusing on incidence and prevalence to the recent spotlight on identifying the risk factors, environmental, genetic and the complex interaction between them.

One of the first instruments used to study schizophrenia was the family studies.

According to Gottesman and Shields 1982 calculated that the morbid risk in first-degree relatives was 5.6% in the parents of schizophrenics, 12.8% in the children of one schizophrenic parent, and 46.3% in the children of two schizophrenic parents. In dizygotic twins and siblings, the rate is about 15%, and in monozygotic twins reared together or apart; the rate is over 50%. Kendler^[1] concluded that in family studies using blind diagnoses, control groups,

Access this article online



www.ijss-sn.com

Month of Submission : 02-2018

Month of Peer Review : 03-2018

Month of Acceptance : 04-2018

Month of Publishing : 04-2018

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personal interviews, and operationalized diagnostic criteria, the risk for schizophrenia in close relatives of patients with schizophrenia is 5–15 times greater than in the general population. Given the accumulated evidence from genetic epidemiologic research, overall heritability estimate for the liability to schizophrenia of 60–70% (Kendler, 1988; Jones and Cannon, 1998).^[1]

At present, there are many studies with analyze the disease pattern with respect to the presence of positive family history, but not many of them examine the presence of any congruity between disease profile and pattern of the index patient and affected family members. Hence, the current study was undertaken with an objective to study psychiatric morbidity in the family members of the patients suffering from schizophrenia and in addition to compare the phenomenology of illness between the family members and the index patient.

Aims and Objectives

- A. To study the frequency of psychiatric disorders in family members of the patients suffering from schizophrenia.
- B. To compare the phenomenology of illness (age of onset, course of illness, and overall outcome) between the patient and the affected family members.

MATERIALS AND METHODS

- A. Study design: This was a cross-sectional study.
- B. Sample size: A total of 100 consecutive patients attending the psychiatric Outpatient Department of Medical College and General Hospital were recruited for the study.
- C. Definition of the subject:
 - 1. Inclusion criteria
 - a. All the patients are suffering from schizophrenia according to DSM V.
 - b. All the patients between the ages of 12 and –65 years.
 - c. All the patients and the family members willing to give the informed consent and participate in the study.
 - 2. Exclusion criteria
 - d. All the patients are lacking the adequate data.
- D. Place of study: Psychiatric outpatient department of general hospital.
- E. Duration of study: 6 months.
- F. Parameters to be studied:
 - 1. Demographic profile of the patient.
 - 2. Details of the phenomenology of illness.
 - 3. Information about first- and second-degree family members.

- 4. If present details about the phenomenology of the psychiatric illness in the family members.
- G. Operational criteria: The operational criteria were devised to judge the overall outcome of the illness in the patient and affected family member.
 - Good: Lasting remission of active symptoms and engagement in occupational activity for more than 75% of duration since the onset of symptoms.
 - Poor: Lack of lasting remission of active symptoms and engagement in occupational activity for <75% of duration since the onset of symptoms.

Method

Patients attending psychiatric outpatient department fulfilling the above selection criterion were in the first interview were informed about the nature, and the purpose of the study and those willing to participate in the study after giving the informed consent were included in the study. The recruited patients were interviewed in detail using the special pro forma prepared for the study, and all the required data were collected from the patient and their relatives. Those patients having the presence of psychiatric illness in the family members were encouraged to bring the family members for a direct interview and for asked for the previous medical records if available. All the collected data were tabulated and analyzed using appropriate statistical methods.

RESULTS AND DISCUSSION

Table 1 shows majority (72%) of the patients had onset of schizophrenia between 15 and 45 years. Mean age of onset for schizophrenia in patients was 34.43 years. (S.D.- 13).

Table 1: Demographic profile of the patients

Parameter	n (%)
Age	
<15	04 (04)
Mean – 34.43 years	
15–45	72 (72)
S.D. - 13	
>45	24 (24)
Gender	
Male	57 (57)
Female	43 (43)
Marital status	
Unmarried	48 (48)
Married	48 (48)
Widow/divorced	04 (04)

Table 2: Psychiatric illness in family members

Psychiatric illness in family members	Number
Present	40
Absent	60
Total	100

Table 2 highlights the fact that psychiatric morbidity was observed in about 40% of the family members of the patients suffering from schizophrenia.

Table 3 shows that around 19% of family members (first- and second-degree relatives) suffered from schizophrenia and related disorders (schizotypal personality disorder, psychosis NOS, and paranoid personality disorder). Among the patients, 14% of patients had a first-degree family members, and around 4% of the patients had a second-degree family member suffering from schizophrenia. 4% patients had first-degree family members and 2% the patients had a second-degree family member suffering from other psychotic disorders related to schizophrenia.

Kendler *et al.* (1985) reported a value of 3.7% for the morbid risk for schizophrenia among relatives of schizophrenic patients who were diagnosed according to the DSM-III criteria.

Table 4 depicts the comparison of phenomenology between the patients and the family members affected with schizophrenia under four domains. Mean age of onset for

patients was 34.43 years whereas for family members it was 30.50 years. 83% of the patients had a gradual onset of symptoms compared with 90% of the family members [Table 5].

As it can be seen, the age of onset for schizophrenia went on decreasing with each generation, maximum (42.33 years) for parents, and minimum for the offspring (14.66 years).

Kendler *et al.*^[2] found in systematically ascertained pairs of affected siblings, the age at onset of schizophrenia is modestly correlated, whereas the correlation in age at onset in concordant monozygotic twin pairs is much higher.

Summary

Schizophrenia affects around 1% of world population. Due to its chronic nature and associated occupational impairment, it puts an enormous financial and psychological burden on the family members of the affected patients. Given the enormity of the problem, schizophrenia has been the focus of substantial research.

Major facts that were highlighted from the family studies were that the risk for schizophrenia was higher in the relatives of schizophrenic probands than in relatives of control probands. Across these studies, the risk of schizophrenia was, on average, 11 times greater in relatives of schizophrenic probands than in relatives of matched control probands. The difference in risk for schizophrenia in the relatives of schizophrenic and control probands was quite unlikely to occur by chance (i.e., $P < 0.05$). According to Gottesman (1991), the risk of developing schizophrenia in family members increases with the degree of biological relatedness to the patient - greater risks are associated with higher levels of shared genes. Most first-degree relatives (e.g, siblings and dizygotic [DZ] twins) share about 50% of their genes and show a risk of about 9%. Monozygotic (MZ) twins share 100% of their genes and show risks near 50%.

Although there has been extensive research on the illness, little is known about its etiology. The current study uses the family history method, one of the earliest epidemiological tool to study the presence of any familial aggregation of illness and if schizophrenia is present in the family

Table 3: Type of psychiatric disorders in family members in first-degree and second-degree family members of the patients suffering from schizophrenia

Type of disorder	First degree	Second degree	Overall
Schizophrenia and related disorders	16 (16)	03 (03)	19 (19)
Schizophrenia ^a	14 (14)	02 (02)	15 (15)
Schizophrenia related ^b disorders	04 (04)	02 (02)	05 (05)
Bipolar mood disorder	01 (01)	-	01 (01)
Major depressive disorder	05 (05)	-	05 (05)
Substance use disorders			11 (11)
Alcohol dependence ^c	07 (07)	06 (06)	11 (11)
Opioid dependence	01 (01)	-	01 (01)
Other disorders	05 (05)	02 (02)	07 (07)

^aOne patient had both first- and second-degree family member suffering from schizophrenia; hence, the overall percentage is 15%, ^bone patient had both first- and second-degree family member suffering from schizophrenia-related disorder; hence, the overall percentage is 05%, Two patients had both first- and second-degree family member suffering from alcohol dependence; hence, the overall percentage is 11%

Table 4: Comparing phenomenology of schizophrenia between the patients and affected family members

Parameters	Mean age of onset (years)	Type of onset		Course of illness		Overall outcome		
		Acute (%)	Gradual (%)	Episodic (%)	Continuous (%)	Good (%)	Average (%)	Poor (%)
Patients (n=100)	34.43 (S.D.- 13)	17 (17)	83 (83)	53 (53)	47 (47)	49 (49)	13 (13)	33 (33)
Affected family members (n=20)	30.50 (S.D.-14.9)	02 (10)	18 (90)	12 (60)	08 (40)	13 (65)	0	07 (35)
		(P>0.05)		(P>0.05)		(P>0.05)		

Table 5: Comparing age of onset between first-degree family members suffering from schizophrenia and index patient

Parameters	Patients	Parents	Offspring's	Siblings
Mean age of onset (years)	24.28	42.33	14.66	27.37

members, to compare the phenomenology of illness between the patient and the affected family member.

In the present study, 100 patients suffering from schizophrenia were recruited, and details of first- and the second-degree relatives were obtained for the presence of any psychiatric illness.

Final analysis of the data revealed that 40% of the patients had a family member suffering from psychiatric illness. Psychiatric morbidity of 30% was found in the first-degree relatives, while among second-degree family members it was 12%. These results are in congruence with the previous studies. In terms of specific psychiatric disorders, it was found that 19% of family members (first- and second-degree relatives) suffered from schizophrenia and related disorders (schizotypal personality disorder, psychosis NOS, and paranoid personality disorder). Earlier family studies have shown the risk of developing schizophrenia in the family members anywhere between 2% and 16%. Among our patients, 14% of patients had first-degree family members, and around 4% of the patients had a second-degree family member suffering from schizophrenia. 4% patients had first-degree family members and 2% the patients had a second-degree family member suffering from other psychotic disorders related to schizophrenia. Among schizophrenia-related disorders, 3 patients had personality disorders, 2 having schizotypal, and 1 having paranoid personality disorder. Only one patient was found to have family member suffering from bipolar mood disorder (1%), and 5 (5%) patients had family members were suffering from major depressive disorder. The overall prevalence of substance dependence in the family members of schizophrenia patients was found to be around 11%. All the affected family members were found to have alcohol dependence with one family member having both alcohol and opioid dependence. Mean age of onset for patients was 34.43 years whereas for family members it was 30.50 years. Although the mean age of onset between the patients and the family members was similar, surprisingly a low level (20%) of concordance was seen between the groups.

Hence, the age of onset was compared with respect to the relations between the affected family members. It was seen that the age of onset for schizophrenia went on decreasing with each generation, maximum (42.33 years) for parents and minimum for the offsprings (14.66 years) However, a high level of concordance was seen with respect to the type of onset, the course of illness and overall outcome between the patients and the family members suffering from schizophrenia. There was an equal propensity for developing schizophrenia between the family members of male and female schizophrenia patients in our sample population in contrast to the previous studies, which have shown a more preponderance of psychiatric illness of female schizophrenic patients.

CONCLUSION

Given study confirms the important findings of the study are the presence of significant psychiatric morbidity in family members of patients suffering from schizophrenia.

Hence, we should be proactive in eliciting about family history of psychiatric illness as it will help as giving better patient care.

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How to cite this article: Murke M, Khapri A. Study of Frequency of Psychiatric Illnesses in the Family Members of the Patients Suffering from Schizophrenia. *Int J Sci Stud* 2018;6(1):130-133.

Source of Support: Nil, **Conflict of Interest:** None declared.