

Original Article

SELECTED EPIDEMIOLOGICAL ASPECTS OF SCHIZOPHRENIA: A CROSS SECTIONAL STUDY AT TERTIARY CARE HOSPITAL IN MAHARASHTRA

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ABSTRACT

Background: To study epidemiological factors in cases of schizophrenia, as schizophrenia begins in early age of life and treatment includes pharmacological and psychosocial interventions and rehabilitation of patients.

Objectives: To study agent, host and environmental factors, to study clinical profile and identify, familial, psycho - social factors

Methods: Diagnosed cases of schizophrenia according to WHO ICD -10 classification at tertiary care hospital in central Maharashtra between 1st Jan 2006 to 31st Dec 2006. The data was collected with pre-tested questionnaire by direct interview method. Socio- demographic variables were reported using descriptive statistics and age of onset of first symptom of schizophrenia were compared across gender by Chi- square test.

Results: There were 48 men and 24 women with mean age of 30.26 years. 44.44% were unmarried, 50% were unemployed and 41.66% were in socio-economic class IV. Substance abuse and alcohol was found to be 83.33% among males. Age of onset of symptoms of schizophrenia found at earlier age in males than in females.

Conclusion: Age of onset of first symptom were at earlier age in males than in females, this difference is found to be statistically significant.

Key words: Schizophrenia, substance abuse, Modified BG Prasad classification, Family history of disease

INTRODUCTION

Schizophrenia begins in early age of life; causes significant & long lasting impairments; makes heavy demands for hospital care and requires ongoing clinical care, rehabilitation & support services and the financial costs. The burden on patient's family is heavy & both patient and his or her relatives are often exposed to the stigma associated with illness over generation. So schizophrenia remains major public health problem ¹.

Schizophrenia is a clinical syndrome of variable but profoundly disruptive psychopathology, which involves thought, perception, emotion, movement and behaviour².

The condition as such causes serious distress, suffering, decreases the positive strengths of an individual & affects quality of life. Schizophrenia affects just under 1% of world's population (0.85%). The disease is found in all societies and geographical areas³.

In year 1990, it was estimated that 3% Disability Adjusted Life Years (DALYs) in 15-44 years age group worldwide were due to schizophrenia. It is estimated that by 2020, 15% of DALYs lost due to mental and behavioural disorders ⁴.

From review of 13 different studies, prevalence of schizophrenia identified as 2.5/1000 population, this means that, it is estimated that India has nearly 2.5 million schizophrenics needing care at any point of time ⁵.

Emerging evidence has an important implication for the role of mental health professionals who need to recognize the bio-psycho-social approach in practice of psychiatry ⁶.

Present study is an attempt to study some epidemiological aspects in patients of schizophrenia at Tertiary care hospital in central Maharashtra.

Aim: To study epidemiological factors in cases of schizophrenia, at Tertiary care hospital in central Maharashtra.

Objectives: To study agent, host and environmental factors; to study age of onset of symptoms of schizophrenia in males and females; and to study clinical profile and identify, familial, psycho - social factors

MATERIAL AND METHODS

Hospital based cross sectional study was carried out at a tertiary care teaching hospital in marathwada region of Maharashtra state from 1st Jan 2006 to 31st Dec 2006.

Ethical committee approval of college committee was taken before starting up the study. Informed oral consent was taken from cases of schizophrenia.

Selection criteria for cases: Confirmed cases of schizophrenia visiting in psychiatric OPD and admitted in psychiatric ward of the hospital during the study period were included cases. The cases were diagnosed by qualified psychiatrist according to WHO ICD -10 classification. The purpose and methodology of study were explained to the psychiatrists for seeking their active cooperation in selection of cases.

Exclusion criteria for cases: Cases with acute and transient psychotic disorders; persistent delusional disorders; induced delusional disorders; organic psychotic disorders; other non

organic psychotic disorders and seriously ill were excluded from study.

Using pre -tested questionnaire, data were collected by direct interview of the study subjects who were admitted in psychiatry ward and outpatient department of psychiatry of teaching to hospital in central Maharashtra.

In situation where the study subject could not answer, parents or accompanying relatives were asked for relative information and then study subjects were clinically examined.

The Questionnaire includes; socio - demographic profile, Aetiology of disease in terms of agent host environmental factors, age of onset of the disease addictions to the cases of alcohol, tobacco etc. questionnaire related to patients about the symptoms, since how long they are suffering, where they had gone for treatment, taking the treatment regularly or not, improvement in the symptoms following the treatment etc.

Clinical profile of all cases recorded which includes history of presenting complaints, general examination, height, weight, pulse, blood pressure, temperature, respiratory rate, any signs of icterus, clubbing, cyanosis, lymphadenopathy, examination of respiratory system, cardio vascular system, Central nervous system and per abdominal examination.

Drug abuse is defined as self administration of a drug for non - medical reasons in quantities and frequencies which may impair individual's ability to function effectively and which may result in social, physical or emotional harm⁴.

Family history of disease - in this first and second degree relatives were considered

First degree relatives - parents, brother, sister were taken as first degree relative

Second degree relatives - uncles, aunts, grandparents and cousins were taken as second degree relatives ⁹.

Modified BG Prasad classification was used to classify the socio economic status ⁴.

RESULTS

Total 72 cases were studied. 33.33% of cases were in age group of 26-30 years, 66.66% of cases were male while 33.33% cases were females. No one out of 72 cases found to have major medical problem.

Table 1: Distribution of cases according to socio- demographic profile

Category	Cases (n=72) (%)
Age wise distribution	
15-20	08 (11.11)
21-25	13 (18.05)
26-30	24 (33.33)
31-35	13 (18.05)
36-40	05 (6.94)
>40	09 (12.50)
Education	
Illiterate	11 (15.27)
Primary/ literate	03 (4.16)
Middle	30 (41.66)
High school	04 (5.55)
Intermediate	08 (11.11)
Degree/diploma	16 (22.22)
Marital status	
Unmarried	32 (44.44)
Married	28 (38.88)
Separated	09 (12.50)
Divorced	03 (4.16)
Occupation	
Employed	05 (6.94)
Unemployed	36 (50.00)
Dependent	01 (1.38)
Housewife	12 (16.66)
Agricultural labourer	09 (12.50)
Own business	09 (12.50)
Socio - economic class	
Class I	08 (11.11)
Class II	18 (25.00)
Class III	12 (16.66)
Class IV	30 (41.66)
Class V	04 (5.55)

The investigator studied the relation of family history of the disease with the cases of schizophrenia; it shows 25 (34.72%) cases having family history of disease with different degree of relationships.

Clinical profile of all cases was done. Not a single case is suffering from any medical disorder.

To assess the agent, host and environmental factors, in table 1 the details of host factors is given.

Table 2: Distribution of cases of schizophrenia according to the type of substance abuse

Type of substance	Number (n=40) (%)
Tobacco	23 (57.5)
Cigarette	07 (17.5)
Alcohol	03 (7.5)
Tobacco with alcohol	03 (7.5)
Cannabis with tobacco	02 (5.0)
Cannabis with alcohol	02 (5.0)

Table 3: Distribution of cases of schizophrenia according to the psycho -social risk factors

Psycho - social factors	Male	Female	Total (%)
Substance abuse	40	00	40 (55.55)
Attempt of suicide	11	10	21 (29.16)
Stressful life events	20	10	30 (41.66)

In the agent factors, history of stressful life events was asked, 41.66% of the study cases were found to the stressful life event in the past.

Among the environmental factors, attempt of suicide was asked, 29.16% were gave history of attempt of suicide in the past, 55.55% were given history of substance abuse and all were males.

Other environmental factors as any intra-natal complications during the birth of the case and migration of the family of the study case but both these factors were not found to be associated with the disease.

Table 4: Distribution of cases of schizophrenia according to age of onset of first symptom of schizophrenia

Sex	Age of onset of first symptom		Total
	15 - 25 Yrs	>25yrs	
Male	39	09	48
Female	11	13	24
Total	50	22	72

$\chi^2 = 9.33$, P value = 0.002

Table shows distribution of schizophrenia cases according to age of onset of first symptom, in this it has been observed that males were having earlier age of onset of disease than in females and this difference is found to be statistically significant.

DISCUSSION

Present study was carried out at GMC & H, Aurangabad, a tertiary care hospital in marathwada region of Maharashtra state from 1st Jan 2006 to 31st Dec 2006. Total 72 cases were included in the study.

Mean age for the cases was 30.26 years. Sex wise distribution of the cases shows 66.66% were males and 33.33% were females. McGrath J et al (2004) studied the incidence and prevalence of schizophrenia, the distribution of rates was significantly higher in males compared to

females; the male/female ratio median was 1:0.47.

Jablensky et al (1992)⁸ studied the incidence of schizophrenia, in WHO DOSMED study, 6 out of 8 sites reported an excess proportion of males over females.

Distribution of cases of schizophrenia according to religion shows, 55.55% cases were Hindus. Findings are similar to the study which was conducted by National Institute of Mental Health⁹; prevalence of schizophrenia found at similar rates in all ethnic groups around the world, as in this study population of Hindus is more than other religion. According to the place of residence, 65.27% of cases were from urban area and 34.73% were from rural area; the findings are consistent with McGrath et al (2004)⁷.

Marital status of cases shows 44.44% were unmarried. Eaton (1985)¹⁰ studied the relation of marital status with schizophrenia, found that marital status has been found to be associated with the risk of schizophrenia; the increased risk of developing schizophrenia for unmarried as compared with married people ranges between 2.6 and 7.2. It has been suggested that marriage exerts a protective effect which delays the onset of illness in women.

Occupational status of cases of schizophrenia, 50% of cases were unemployed. Carpenter WT et al (2002)¹¹ studied the epidemiology of schizophrenia; the disease is the fourth leading cause of disability in adults worldwide. In United States, about 80% of persons with schizophrenia are unemployed, a third of homeless persons have schizophrenia.

According to the socio-economic status of schizophrenia cases, 41.66% of cases from class IV lower socio- economic class, the similar findings were observed by Clark et al (1949)¹² and Hollinshead and Redlich (1958)¹³.

Distribution of cases of schizophrenia with family history of disease; 34.72% were found to have family history of disease. Gottles Mann D (1991)¹⁴ and Hallmayer J (2000)¹⁵, studied the familial risk of developing schizophrenia for people with different degrees of relationship to someone with schizophrenia. Risk varies with extent of gene sharing the risk is greatest in identical twins i.e. 48% and decreased step by step in children of two schizophrenic parents, first degree relatives, second degree relative and third degree relatives and general population which has risk of 1%.

Investigator has studied relationship of psychosocial risk factors and schizophrenia, 55.55% were with substance abuse, 29% were with attempt of suicide in past, 41% had gone through stressful life events. The findings are consistent with studies done by Fenning et al (2005)¹⁶, Cuffe SP et al (2005)¹⁷. Hafner H et al (1992)¹⁸ studied mean age at different points in the development of schizophrenia for men, and women, Germany, found that the earliest signs of mental disturbance occurred 4.5 years prior to the first admission in males as compared to females.

In this study, 57.5% out of 40 male cases showed abuse to tobacco. Similar findings were observed in Carpenter WT et al (2002)¹¹, shows 80% of schizophrenics smoke cigarettes and nicotine in patients.

Substance abuse does not cause schizophrenia. However, people who have schizophrenia are much more likely to have a substance or alcohol abuse problem than the general population. Addiction to nicotine is the most common form of substance abuse in people with schizophrenia. They are addicted to nicotine at three times the rate of the general population (75 to 90 percent vs. 25 to 30 percent). The relationship between smoking and schizophrenia is complex. People with schizophrenia seem to be driven to smoke, and researchers are exploring whether there is a biological basis for this need¹⁹.

Socio- economic status of cases of schizophrenia according to Modified B. G. Prasad classification shows 41.66% of cases from class IV. According to the literacy status, 41.66% were educated up to Middle school, 22.22% were educated up to degree/diploma and 15.27% were illiterate.

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