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Psychosocial Factors in First-Episode Psychosis

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Abstract: Psychosocial factors have been implicated in causal theories of psychiatric illness since the inception of psychiatry as an independent medical discipline. It includes the socio-demographic profile of a person and all the life events that leads to a particular repertoire of responses according to the individual psychology of a person. Still we have not come to a conclusion to the cause of psychiatric illness and so the classification of mental disorders is based on group of symptoms. Lately researchers have been grouping all the patients presenting with psychotic symptoms for the first time into a category that they term "first-episode psychosis" (FEP), in a hope to elicit causal factors. This particular paper is an attempt to find clinical distribution of diagnoses in FEP and significant association between the psychosocial factors (socio-demographic factors and life events) and FEP. Study was carried out in the outpatient department of psychiatry at post-graduate institute of behavioural and medical sciences. 104 patients of first-episode psychosis were subjected to socio-demographic and clinical data sheet and presumptive stressful life event scale and were diagnosed using ICD 10 DCR criteria. Data was analyzed using SPSS version 16. Majority of the patients (58.7%) were diagnosed as having schizophrenia, followed by acute and transient psychotic disorder (32.7%). Amongst socio-demographic variables only education was significantly associated with FEP ($p<0.05$) and amongst stressful life events, events like change in working condition or transfer, trouble at work with colleagues, superiors or subordinates, property or crops damaged, religion conversion and change or expansion of business were significantly associated with FEP ($p<0.05$). Thus it can be concluded that primary prevention strategies that promote education and that build up coping strategies in an individual can turn out to be effective, though further research is needed to substantiate the conclusion.
Keywords: Psychosocial factors, Stressful life events, First-episode psychosis.

INTRODUCTION

Psychosocial factors are all the psychological and social factors that revolve round a person to make up his personality. It includes socio-demographic profile of a person along with all the life events that affects his psychology. First-episode psychosis is considered as an occurrence of psychotic symptoms in any person for the first time in his life. It includes all the psychotic illnesses, i.e. acute and transient psychosis, schizophrenia, persistent delusional disorders, mood disorders like mania or depression with psychotic symptoms.

"A life event is a significant occurrence involving a relatively abrupt change that may produce serious and long lasting effects"[1] It refers to the happening itself and not to the transitions that will occur because of the happenings.

Three types of life events can serve as turning points: [2]

- Life events that either close or open opportunities.
- Life events that make a lasting change on the person's environment.
- Life events that change a person's self-concept, beliefs and expectations

Life events can either be pleasant (eustress) or unpleasant (distress)[3] or neutral (neustress)[4].

The first formal hypothesis that emotional conflicts related to external events can precipitate mental illness was given by Heinroth in 1818[5]. Holmes and Rahe (1967) also developed the Social Readjustment Rating Scale by assigning weights for events of different judged severity from the Schedule of Recent Experience[6]. These weights were called "life change units".

The nature of causal relationship between psychosocial stress and functional mental disorders has been conceptualized by various theories or models that include

- Crisis Theory - The Crisis Model has been best used to explain the experiences of healthy individuals with relatively intact personalities and relatively enduring coherent human relationships[7].
- Principle of Optics – Rahe et al. [8] opined that one's past experience may alter the significance of his recent life change and often defense mechanisms are employed which diffract away some of the life event changes.
- Differential Effect - Stress may have both triggering and formative effects on mental illness[9].
- Cybernetic Model – In 1974 Kagan and Levi proposed that the combined effect of psychosocial stress and psychobiological programme determines the psychological or physiological reactions which may lead to precursor of an illness or the illness itself[10].
- Vulnerability Models - These models assume that people have varying degrees of vulnerability to the development of a mental disorder and that the likelihood to develop an illness depends on two factors, first, the extent of the biologically influenced vulnerability and second, the magnitude of stress that the individual is encountering[11,12].
- Psychodynamic Theories - According to the theories of Freud, Jung and Sullivan, psychological stress results in regression. This, overburdens already strained coping mechanisms, and triggers a sequence of internal changes whose outward expression is the development of psychotic symptoms[13].

Relationship between life events and psychiatric illness

Several researches have focused on the role of stressful life events in the etiology of various psychiatric illnesses especially psychosis. Most of the researches done on psychosis were focused on schizophrenia. Researches show that independent as well as non-independent life events precede the onset of psychotic symptoms[8,14] Few works, have proved the relationship between traumatic experiences and psychotic disorders[15,16].

It has been seen that people who suffer from psychotic disorder, have been exposed to adverse life events[17-19], which are in excess in just 3 months prior to the occurrence of the psychotic symptoms[20] Another study came to the conclusion that a lifetime experiences of traumatic life events, may increase the risk for schizophrenia[21]. Contradictory to this, one of the studies did not show any elevated risk for schizophrenia [22]. The cumulative exposure to traumatic life events increases the risk of psychosis [23] as compared to the occurrence of a single traumatic life event [24].

Experiencing social defeat in the form of subordinate position or 'an outsider status', plays a role in the development of psychotic symptoms [25]. It goes well with the fact that the level of stress experienced is higher in the urban population due to the high level of competition and lesser job opportunities for people with lower IQ, for migrants who are socially excluded and people with hearing impairments. Moreover, 'The defeat lies in the eyes of the beholder.' It proves that the socio-economic status has no association with the risk of developing schizophrenia. Children of high socio-economic status may feel more pressurised to meet expectations of their parents [26]

People who develop psychosis in their later life are shown to have increased emotional reactivity towards the daily stresses of life [27,28]. In daily life situation stress also increases the intensity of subtle psychosis-like symptoms in both, the patients and their first-degree relatives [29].

There has been ongoing effort, to set criteria for early detection of cases of psychosis, so as to provide early intervention, to lessen the severity and to delay the onset, to decrease the duration of untreated psychosis and provide healthy life to an individual, who can live his life near optimum, as much as possible. As studies have consistently shown that the outcome of psychosis improves with the psychosocial interventions, one cannot deny the relationship between psychosocial factors and psychosis. Moreover, most of the studies related to psychosocial factors are based on patients suffering from psychosis since long, and eventually it turns out to be studies that focus only on schizophrenia, leaving other psychotic illnesses unfocused. So, this study was planned to find out what are the important psychosocial factors closely associated with all the first-episode psychosis. So that better intervention can be planned beforehand in probable cases.

This study aimed at studying the clinical distribution of diagnoses in first-episode psychosis as per ICD 10 DCR and to test significance of association of first-episode psychosis with demographic variables and life events.

MATERIALS AND METHODS

Patients between the age of 18 – 60 years, from the out-patient department of psychiatry in "Post Graduate Institute of Behavioural and Medical Sciences", Raipur [C.G.] who gave written informed consent and who were diagnosed as having first-episode psychosis were included in the study. The definition of first-episode psychosis was operationalised for this particular study. Any first-episode of nonaffective, affective and any other non-organic psychotic illnesses was considered as first-episode psychosis. ICD 10 DCR criteria were used to diagnose the cases. Patients with co-existing physical disorder, intellectual impairment or suffering from organic disorder or substance use were

excluded from the study. They were subjected to Presumptive Stressful Life Event (PSLE) Scale constructed by Singh, Kaur and Kaur in 1983 especially to suit the Indian population, based on the Holmes and Rahe's stressful life event scales. It consists of 51 items and is standardised for two time spaces i.e. last year and life time. In our research, scoring was not done but the items were seen only to elicit the life event[29].

Statistical analyses were done using Statistical Package for Social Sciences (SPSS 16.0) windows version. Data obtained were analyzed using descriptive statistics and correlation. Following statistical methods were used:

1. Mean was used for age at first presentation.
2. χ^2 – test (chi-square test) was used to test the significance of association between:

a) Demographic variables and first-episode psychosis.
b) Life events and first-episode psychosis.

RESULTS

Table-1: Diagnosis wise Distribution of Patients

Variables	N=104 (%)
Schizophrenia (F 20)	61 (58.7)
Acute and Transient Psychotic Disorders (F 23)	34 (32.7)
Mania with Psychotic Symptoms (F 30.2)	6 (5.8)
Persistent Delusional Disorder (F 22)	3 (2.9)

137 patients were contacted out of which 6 were not ready to give consent, 27 patients gave inadequate information. Out of 104 patients 61(58.7%) were diagnosed as suffering from schizophrenia, 34(32.7%) patients were diagnosed as having acute and transient psychotic disorder, 6(5.8%) patients were diagnosed as having mania with psychotic symptoms and 3(2.9%) patients were suffering from persistent delusional disorder as per the criteria given in ICD-10-DCR [Table 1].

Table-2: Association between Demographic Variables and Psychiatric Illnesses

Demographic variables		Psychiatric Illnesses								χ^2	d.f	p-value
		Schiz.		PDD		ATPD		MPS				
		n=61	%	n=3	%	n=34	%	n=6	%			
Age	18 – 30 yrs.	40	65.6	2	66.7	21	61.8	3	50	4.21	9	0.9
	31 – 40 yrs.	15	24.6	1	33.3	8	23.5	3	50			
	41 – 50 yrs.	2	3.3	0	0	3	8.8	0	0			
	>50 yrs.	4	6.6	0	0	2	5.9	0	0			
Sex	Male	36	59	3	100	5	44.1	6	100	9.21	3	0.27
	Female	25	41	0	0	19	55.9	0	0			
Education	Illiterate	13	21.3	0	0	2	5.9	0	0	19.3*	9	0.02*
	Upto X^{th}	26	42.6	2	66.7	16	47.1	6	100			
	X^{th}-Graduation	22	36.1	1	33.3	12	35.3	0	0			
	>Graduation	0	0	0	0	4	5.9	0	0			
Marital Status	Unmarried	30	49.2	1	33.3	16	47.1	3	50	1.65	6	0.95
	Married	27	44.3	2	66.7	17	50	3	50			
	Widow/er	4	6.6	0	0	1	2.9	0	0			
Family Type	Nuclear	32	52.5	1	33.3	18	52.9	2	33.3	9.0	6	0.17
	Joint	28	45.9	1	33.3	14	41.2	3	50			
	Extended	1	1.6	1	33.3	2	5.9	1	16.7			
Monthly Income	Upto Rs.3000	12	19.7	0	0	5	14.7	1	16.7	4.15	9	0.90
	Rs.3001-5000	9	14.8	1	0	9	26.5	1	16.7			
	Rs 5001-10,000	24	39.3	1	0	9	26.5	2	33.3			
	>Rs.10,000	16	26.2	1	33.3	11	32.4	2	33.3			
Domicile	Urban	14	22.9	0	0	7	20.6	1	16.7	1.01	3	0.83
	Rural	47	77.1	3	100	27	79.4	5	83.3			
Birth Order	First	22	36.1	1	33.3	12	35.3	1	16.7	2.06	6	0.92
	Second	11	18	1	33.3	8	23.5	1	16.7			
	Others	28	45.9	1	33.3	14	41.2	4	66.7			

*-showing levels of significance; ** - p value </=0.05

ATPD = Acute and Transient Psychotic Disorder; MPS = Mania with Psychotic Symptoms; PDD = Persistent Delusional Disorder; Schiz = Schizophrenia

[Table-2] Maximum patients lie in the age group 18 – 22 years (56.7%), followed by the range 31-40yrs (21.2%). Male patients (57.7%) are more as compared to the female patients (42.3%). Majority of patients were educated upto 10th standard (48.1%) followed by 11th class to Graduation (33.7%) while 15% were illiterate. Almost equal numbers of patients were in the married and unmarried groups (47.1% & 48.1% respectively), while (4.8%) were Widow/Widower/Divorcee/Separated. Majority of patients belonged to nuclear families (51%) while 44.2% were living in the joint family, leaving behind only 4.8% patients, who lived in an extended family. Number of patients belonging to the extended family was quiet low (4.8 %). Majority of the patients belonged to the monthly income group of Rs.5001-Rs.10, 000 (34.6%), 27.8% were in the income group of above .10, 000 while 18.3% were in the group below Rs.3000 per month. All the patients in the sample were Hindu. Most of the patients (79%) were from rural background. 34.6% patients had 1st birth order while 20.2% had second birth order. There is significant difference in education at 0.05 level of significance. No significant difference was found in other socio-demographical variables.

Table-3: Association between Life Events and Psychiatric Illnesses

Life Events		Psychiatric Illnesses (N=104)								χ^2	d.f	p-value
		Schiz. (n=61)		PDD (n=3)		ATPD (n=34)		MPS (n=6)				
		n	%	N	%	N	%	N	%			
Change in Working Condition or Transfer	Absent	54	88.5	1	33.3	31	91.2	5	83.3	16.4	6	0.01*
	Present(1yr)	2	3.3	0	0	1	2.9	1	16.7			
	Present(LT)	5	8.2	2	66.7	2	5.9	0	0			
Trouble at Work with Colleagues, Superior, Subordinates	Absent	60	98.4	2	66.7	31	91.2	4	66.7	17.3	6	0.008*
	Present(1yr)	1	1.6	1	33.3	2	5.9	1	16.7			
	Present(LT)	0	0	0	0	1	2.9	1	16.7			
Property or Crops Damaged	Absent	61	100	3	100	34	100	5	83.3	16.5	3	0.001***
	Present(1yr)	0	0	0	0	0	0	0	0			
	Present(LT)	0	0	0	0	0	0	1	16.7			
Religion Conversion	Absent	61	100	3	100	34	100	5	83.3	16.5	3	0.001***
	Present(1yr)	0	0	0	0	0	0	1	16.7			
	Present(LT)	0	0	0	0	0	0	0	0			
Change and Expansion of Business	Absent	61	100	3	100	34	100	5	83.3	16.5	3	0.001***
	Present(1yr)	0	0	0	0	0	0	1	16.7			
	Present(LT)	0	0	0	0	0	0	0	0			

*-p value ≤0.05 level of significance; ***- p value ≤0.001level of significance
ATPD = Acute and Transient Psychotic Disorder; MPS = Mania with Psychotic Symptoms; LT = Life-time; PDD = Persistent Delusional Disorder; Schiz = Schizophrenia

Table-3 shows only those life events that have significant association with first-episode psychosis i.e. change in working condition or transfer, trouble at work with colleagues, superiors or subordinates, property or crops damaged, religion conversion and change or expansion of business.

DISCUSSION

The present study was undertaken to find the psychosocial factors associated with the first-episode psychosis, in order to develop better understanding of these disorders and to help plan preventive measures for the same.

Socio-demographic variables of first-episode psychosis

For males it has been calculated to be 28.51 years and for females 29.06 years. More or less similar findings have been reported in earlier studies, too[31,32] and majority of patients were males (57.7%) which is in consistence with previous researches, though the percentage varies from study to study but males were found to be consistently more than females[33,34].

Most of the patients in this study were educated and 14.4% were illiterate. This is in consistence with the literacy rate in Chhattisgarh (65.8%) and 72% in Raipur city (capital of Chhattisgarh). Majority of patients were studied upto Xth standard (48.1%) followed by those educated upto graduation (33.7%). It may be due to the reason that majority of patient belonged to rural population, where higher education is not easily available. Findings of this study are similar to the findings of other studies [34]. This shows that education is not much compromised in the cases of first-episode psychosis.

49 patients (47.1%) were married, 50 patients (48.1%) were unmarried. Very few, only 5 of them (4.8%) lied in the group of widow/divorcee/separated. This is in contrast to other studies [35]. Findings of

present study could be explained by the culture in this particular region where the divorce rate is quiet low. Higher number of married patients as compared to other studies could be because in this study age of onset is found to be in late 20s on an average and this culture people are married at an earlier age as compared to the western countries.

Our sample contained 78.8% rural patients and 21.2% urban patients, which is quiet similar to the study done by Rohayah and Hasanah in 2007[35]. More number of rural patients may be because of the catchment area of this hospital which caters to the need of mainly persons from Chhattisgarh, Orissa etc. where more population resides in villages.

Among the sociodemographic variables significant association was found between education and first-episode psychosis, which is in contrast to the study where much more risk factors could be identified [36].

Life events in first-episode psychosis

In this study significant association could be seen between some of the life events and the first-episode psychosis. These events were change in working condition or transfer, trouble at work with colleagues, superior or subordinates, properties or crops damaged, religion conversion and change and expansion of business. Most of these are unique to this study. Mostly research studies have focused on traumatic childhood experiences, abuse sensitive about interpersonal relationships, most of the life events were found positively related to first-episode psychosis. In this study it was found that majority of the life events were related to the occupation itself or environment related to the working place.So, it is evident that psychosocial factors related to first-episode psychosis can differ from place to place. Perception of stressor determines whether it will precipitate illness or not. So, individual differences need proper attention for adequate management.

There are studies that show significant association between, other life events and occurrence of psychosis like childhood traumatic experiences[13], financial strain and poor social network[37,38], unemployment[39], and migration[40,41]. But it could not be corroborated in this study.

CONCLUSION

It can be concluded from this study that mean age of presentation of first episode psychosis is 28.76±10.46 years and is more in males as compared to that in females. Most common diagniss in first-episode psychosis as per ICD-10-DCR was schizophrenia in the group of first-episode psychosis taken in this study. Positive family history is found in 30.7% of first-episode psychosis. There seems to be a significant associatiobn between level of education and first-episode psychosis. Life events such as change in working condition or transfer, trouble at work with colleagues, superior or subordinates, property or crops damaged, religion conversion and change or expansion of business are significantly ($p \leq 0.05$) associated with first-episode psychosis.

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