Expressed Emotion as a Precipitant of Relapse in Schizophrenia and Bipolar Disorder

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Abstract: _Context_: _A number of research has demonstrated that Expressed Emotion (EE) predicts clinical relapse in a number of psychiatric disorders. Influence of EE has been found to be one of the robust predictors of relapse in Schizophrenia and Bipolar Disorder._ _Aims_: _The present study was to assess the relationship between Expressed Emotion(EE) and relapse cases of Schizophrenia and Bipolar disorder and socio-demographic characteristics of patients and their caregivers._ _Materials and Methods_: _In one year period from 1st September 2010 to 31stAugust 2011 consecutive relapse cases of Schizophrenia and Bipolar disorder admitted in the Psychiatric Ward of RIMS Hospital and corresponding caregivers/influential others was taken up for study and information regarding socio-demographic characteristics (e.g. age, gender, domicile) was recorded on a semi-structured proforma._ _Results_: _A total of 64 cases and corresponding 64 caregivers/influential others were taken up and analysed. Out of these 32 cases were Schizophrenics, 30 were BPAD in Mania and remaining 2 belonged to BPAD in depression.The mean age of the patients was 30.23 years with SD±7.53.Maximum of the patients (26.6%) fell in the 19 -24 years age group. Majority (56.25%) of the inpatients were females and the remaining (43.75%) were males. Most of the patients were from rural areas, unemployed and most were educated up to class-XII and most of them belonged to the monthly income group of Rs 5000-10000. Majority of the caregivers/ influential others were parents with mean age being 43.61 yrs. Most of the caregivers were females (64.1%) and from nuclear families(54.7%) most of them are illiterate (32.8%). In both cases of Schizophrenia and BPAD Mania there was highly significant correlation between the scores of (Family Interaction Pattern Scale) FIPS with the duration of illness and also a high positive correlation between duration of untreated illness and number of relapse._ _Conclusion_: _Research on the influence of the family environment on the onset and course of mental illness including relapse is critical to the understanding of the mechanism for relapse and for the development of appropriate psychosocial interventions. It is now clear that negative family atmosphere plays a role in relapse of Psychological disorders._

Keywords: Expressed motion, Schizophrenia, BPAD, Relapse, Caregivers.

1. Introduction

Expressed emotion refers to the degree of criticism, hostility and emotional over-involvement in family relationships and interactions with a mentally ill patients. Expressed emotion (EE), is a qualitative measure of the 'amount' of emotion displayed, typically in the family setting, usually by a family members or care takers.[1]The concept of EE was developed by the team at the Medical Research Council Social Psychiatry Unit in the late 1960s. The original investigator focuses the EE of the close relative on its influence on the course of schizophrenia. And many studies have supported that EE is a direct factor in the relapse of a patient that has a psychological disorder.[2]

Expressed Emotion is a measure of how well relatives of a psychological patient express their attitude towards them while they are not present. In order to measure this expressed emotion, the family is interviewed to carefully watch their expressions and comments while answering questions. This interview is known as the Chamberwell Family Interview which lasted around 90 minutes and the degree of EE has been rated according to operational criteria.[3]

A number of studies have demonstrated that schizophrenic patients returning to live with a high EE relative have a relapse rate three to four times that of patients returning to a low- EE relative during a 9 month post- discharge period.[4]Bipolar adults who live with highly critical, hostile

or emotionally over involved (high EE) parents are significantly more likely to experience a relapse within one year after an acute episode than adult patients whose parents are low in EE.[5]

The duration of illness has been found to be positively correlated with the number of critical comments expressed by relatives in schizophrenia studies, suggesting that levels of EE may increase as the illness becomes more chronic and recurrent.[6]

The distribution and mean scores of criticism, hostility and emotional involvement are significantly different across cultures. It has been pointed out, however, that what counts as criticism, hostility and emotional over involvement is a matter of cultural definition .Culture determines whether any type of EE is a prominent part of the emotional response among family members, the specific content/target of various EE components and factors influencing their levels.[7]

Perhaps the strongest evidence supporting a causal role for EE in relapse comes from family intervention research. Across the majority of studies conducted to date, it appears that when efforts are made to decrease family levels of criticism, hostility and emotional over involvement through behaviourally oriented family treatment, patients fare much better than they do if they are assigned to a comparison condition of medication and routine clinical care. These findings are consistent with the idea that EE is functioning

as a causal risk marker and suggest that EE is somehow involved in the relapse process.[8]

As we review various studies on EE and family interactions from India we found that most of the studies have been those that use scales or measures that were based on the Western populations. Further we noted that the Family Interaction Pattern Scale (FIPS), developed by Bhatti et al, [9]also included some of the items of the EE construct as well as the patterns of family interaction in various psychiatric illnesses.

Not much study about EE has been reported in our country especially the North Eastern region particularly Manipur. Hence it was proposed to take up this study with the objective of finding the relationship of EE among the family members of the patients with schizophrenia and bipolar disorder.

2. Aims and Objects of the Study

To assess the relationship between Expressed Emotion (EE) and relapse cases of Schizophrenia and Bipolar disorder.

3. Materials and Methods

The study was conducted in the Department of Psychiatry, Regional Institute of Medical Sciences (RIMS), Imphal.In a one year period (1st September 2010-31st August 2011) consecutive relapse cases of Schizophrenia and Bipolar Disorder admitted in the Psychiatric ward of RIMS Hospital fulfilling the International Classification of Diseases, Tenth edition (ICD-10) for relapse cases of schizophrenia and Bipolar disorder and their corresponding caregiver/influential other was taken up for study.The study was a hospital based descriptive study.

Inclusion Criteria:
a. Individuals aged between18 years and 60 years.
b. Both males and females were taken for study.
c. Individuals must fulfill the criteria of a close relative or influential other to whom the patient was closest and who was currently most influential in his or her life. A minimum of one hour per week contact on average is required for being influential other person.

4. Procedure

The patients and their legal guardian were explained about the procedure and purpose of the study and those willing to participate and give written consent were enrolled in the study and their socio-demographic profile were recorded in a Semi-structured proforma.
i) All patients presenting as relapse cases of schizophrenia and bipolar disorder symptoms to the psychiatry department of Regional Institute of Medical sciences were identified and diagnose by the International Classification of Diseases, 10th Edition (ICD- 10).
ii) Those cases meeting the criteria of relapse laid in the study were taken up for study and their close relative or a significant others were assessed by Family Interaction Pattern Scale (FIPS).

iii) The patient were assessed by using PANSS,[10] HAMD scale[11] and Young Mania Rating scale.[12]

5. Results

The data was scrutinized for completeness and analyzed using appropriate statistical methods like percentages, mean, median, standard deviation, chi-square, Pearson x^2 test,Karl Pearson's correlation coefficient wherever necessary and interpretation done accordingly. All tests were based on two-tailed and p<0.05 and p<0.01 were taken as significant and highly significant levels of significance respectively.

6. Characteristics of patients:

Atotal of 64 cases and corresponding 64 caregivers or influential others who met the inclusion criteria for the study were included in the study.Out of a total of 64 patients admitted during the period between September 2010 to August 2011, 32 cases were Schizophrenics, 30 were BPAD in Manic Phase and remaining 2 patients belonged to BPAD in depression. BPAD in depression was not included in the analysis as the sample size was statistically small. The mean age of the patients was 30.23 years with SD 7.53.Maximum of the patients fell in the 19- 24 years group (26.6%), with the least percentage being in the 45-49 years group (1.6%).Majority (36 out of 64) of the inpatients were females and the remaining 28 were males. The mean age of the males was 30.4286 with SD±6.8119 and the mean age of the females was 30.0833 with SD±8.1493. Out of the 64 patients, 47 were Hindus by religion, 12 were Christians and 5 were Muslims. Most of the patients were from rural areas (78.1%) and most of them are unemployed (42.25).There is almost equal number of unmarried and married patients. Among the 64 patients, 51.6% are married and most of them are educated upto class X-XII (45.3%).
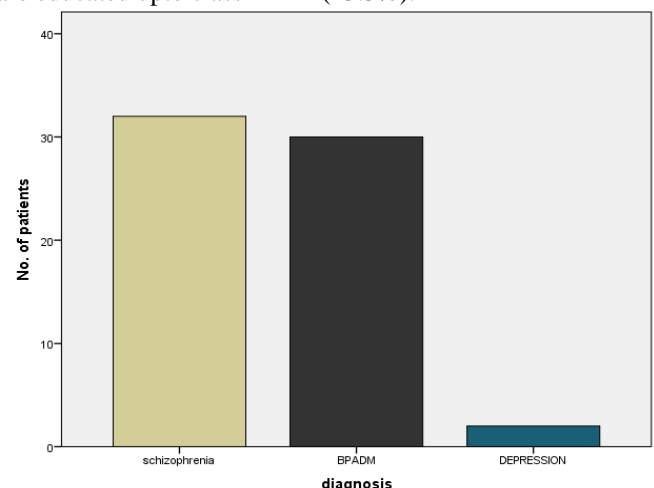

Figure1: showing bar diagram of distribution of dignoses

Characteristics of Caregivers/Influential others:

Table 1: distribution of caregivers

Relationship	Frequency	Percentage
Parent	34	53.1
spouse	13	20.3
Sibling	16	25.0
others	1	1.6
Total	64	100.0

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Out of 64 caregivers the highest percentage (53.1%) was their parents followed by their siblings (25.0%) and by their spouses (20.3%). Most of the caregivers were females (64.1%) and 35.9% were males. The mean age of the caregivers was 43.61 years with SD 9.039. Maximum of the caregivers/ influential others fell in the 45-50 years group (26.6%) followed by the 39-44 years group (25.0%). In this study 54.7% of the patients came from a nuclear family and the rest 45.3% came from joint families. Maximum of the caregivers were illiterate and 31.2% had been educated upto class X-XII.

Analysis of the Schizophrenia subset:

Table 2: Relation between Duration of Untreated Illness (DUI) and FIPS

	FIPS	Corr. Value	p- value
DUI	FIPS1	0.408	< 0.05*
	FIPS2	0.337	> 0.05
	FIPS3	0.384	< 0.05*
	FIPS4	0.571	< 0.01**
	FIPS5	0.316	> 0.05
	FIPS6	0.233	> 0.05
	FIPS TOTAL	0.520	< 0.01**
	Relapse Number	0.830	< 0.01**

In this study there is positive correlation between Duration of Untreated Illness (DUI) and reinforcement (r=0.408, P<0.05) and this relationship is significant at 5% level of significance. Though we obtain the correlation values between DUI and Social support System, DUI and Cohesiveness, DUI and Leadership, these values are all insignificant and we can say that there is no correlation between DUI and Cohesiveness, Social Support System and Leadership. Again, Role has significant positive correlation with DUI (r=0.384, P<0.05) and also the correlation between DUI and Communication, which is positive, is highly significant (r=0.571, P<0.01). Further, the correlation between DUI and the six areas of family functioning considering together is also highly significant(r=0.520, P<0.01).

There is, also, high positive correlation between duration of illness (DUI) and Number of Relapse (r=0.830, P<0.01).

Table 3: Relation between Number of relapses and FIPS in Schizophrenics

	FIPS	Corr. Value	p-value
Relapse Number	FIPS1	0.358	< 0.05*
	FIPS2	0.169	> 0.05
	FIPS3	0.217	> 0.05
	FIPS4	0.392	< 0.05*
	FIPS5	0.327	> 0.05
	FIPS6	0.255	> 0.05
	FIPS TOTAL	0.421	< 0.05*

In this study there is positive correlation between Reinforcement and Number of Relapses (r=0.358, P<0.05). Also positive correlation is found between Number of Relapses and Communication (r=0.392, P<0.05). But no relationship are found in cases of Number of relapses and Social Support System, Role, cohesiveness and Leadership.

Further, if we consider all the six areas of family functioning together, its relationship with the Number of Relapses is found to be significant (r=0.421, P<0.05).

Analysis of Bipolar Affective Disorder in Mania [BPAD (M)]

Table 4: Relation between Duration of Untreated Illness and FIPS in BPAD (M)

	FIPS	Corr. Value	p-value
DUI	FIPS1	0.424	< 0.05*
	FIPS2	0.230	> 0.05
	FIPS3	0.449	< 0.05*
	FIPS4	0.370	< 0.05*
	FIPS5	0.496	< 0.01**
	FIPS6	0.560	< 0.01**
	FIPS TOTAL	0.593	< 0.01**
	Relapse Number	0.541	< 0.01**

In this study significant positive correlations were found between Reinforcement and Duration of Illness (DUI) (r=0.424, P<0.05), Communication and DUI (r=0.449, P<0.05), Role and DUI(r=0.370, P<0.05). But there was no relationship between Social Support System and DUI. The positive relationships between Cohesiveness and DUI(r=0.496, P<0.01) and between Leadership and DUI(r=0.560, P<0.01) are highly significant. High significance positive relationship is present between DUI and with all the six areas of family functioning taken together(r=0.593, P<0.01).

Highly significant positive correlation is present between the duration of Illness and the Number of Relapses (r=0.541, P<0.01).

Table 5: Relation between Number of Relapses and FIPS in BPAD (M)

	FIPS	Corr. Value	p-value
Relapse Number	FIPS1	0.199	> 0.05
	FIPS2	0.165	> 0.05
	FIPS3	0.332	> 0.05
	FIPS4	0.113	> 0.05
	FIPS5	0.299	> 0.05
	FIPS6	0.223	> 0.05
	FIPS TOTAL	0.306	> 0.05

In this study no correlation was found between the number of relapses with any one of the six areas of family functioning, namely Reinforcement, Social Support System, Role, Communication, Cohesiveness and Leadership. Even if we consider the six areas of family functioning together, it has no significant relation with the number of relapses.

7. Discussion

In this study majority of the patients were females (56.2%). The mean age of the patients was 30.23 years with SD 7.53 and maximum of the patients fell in the 19- 24 years group (26.6%). This study showed that there was very little difference in the sex ratios of relapsed patients of Schizophrenia and BPAD and also no significant difference between the mean ages of male and female patients.

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In an Indian study of Family interaction pattern of poor outcome BPAD-Mania patients out of the 80 patients maximum 76% of patients who relapsed were in the 21-40years age group, followed by 41-60 years (18%) and upto 20 years (6%).[13] In a study which compared the expressed emotion in schizophrenic patients between Bali (Indonesia) and Tokyo (Japan) the mean age of the patients in Bali group was 31.0 (9.3) years and in the Tokyo group it was 26.8(8.1) years.[14] Our findings were consistent with the earlier studies.

In this study Hindus were maximum (73.4%) and perhaps this might be due to the existence of the Institute in the heart of a Hindu dominated area.There was an almost equal number of unmarried and married patients with 48.4% being married. This finding was consistent with an Indian study which give 51.4% were married.[15] In our study most of the patients were from rural areas (78.1%) and most of them were unemployed (42.2%) which was consistent with an Indian study.[13]

Out of 64 caregivers the highest percentage of the caregivers were their parents (53.1%) followed by their siblings which is similar to other studies.[16] Majority of the caregivers were females and maximum fellin the 45-50 years age group and 54.7% came from a nuclear family and most are illiterate. Our findings were consistent with earlier studies.

In the case of Schizophrenia there was positive correlation between Duration of Untreated Illness (DUI) and reinforcement (r=0.408, P<0.05), Role (r=0.384, P<0.05) and Communication, which was highly significant (r=0.571, P<0.01). Further, the correlation between DUI and the six areas of family functioning considering together is also highly significant(r=0.520, P<0.01).

There was also, high positive correlation between duration of illness (DUI) and Number of Relapse (r=0.830, P<0.01), also positive correlation between reinforcement and communication domains of FIPS with the numberof relapses. This shows the prevalence of dysfunction in the family of Schizophrenics. It also corresponds to higher EE in the FIPS domain of reinforcement and communication, with family dysfunction being related to higher EE.

In a meta-analysis of 27 studies of EE-outcome relationship in schizophrenia EE appears to be a stronger predictor of relapse in patients with more longstanding illnesses. Our findings were in accordance with previous studies.[17]

In the case of BPAD Mania significant positive correlation are found between the different domains of FIPS and total FIPS scores with the Duration of Illness in the family of BPAD patients. Also there was high significant positive correlation between the Duration of Illness and the Number of Relapses(r=0.541, P<0.01). But in the case of BPAD Mania, no correlation was found between Number of Relapses with any of the different domains of FIPS. Even if we consider the six areas of family functioning together, it has no significant relation with the number of relapses.

Cross-cultural research into EE does reveal variation across cultures. EE rates are higher in Western than Eastern cultures (rural India: 8%; Mexican Americans: 37%-39%; UK: 45%).[18]

8. Conclusion

Research on the influence of the family environment on the onset and course of mental illness including relapse is critical to the understanding of the mechanism for relapse and for the development of appropriate psychosocial interventions. It is now almost clear that negative family atmosphere causes not only relapse of symptoms and re-hospitalization, but also has a significant effect on the course of illness.The study highlighted the important implications for understanding the course of Schizophrenia and Bipolar affective disorders in the context of Expressed Emotions and the need for future treatment to integrate a holistic, multidisciplinary, bio-psychosocial approach which should manage the patient and family in all dimensions.

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