RESEARCH

Study on role of life event in major psychoses

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Abstract

Background: The observation that life events has role in major psychoses will have to be corroborated by studies in our country because of the considerable difference in the socio-cultural set up. This study aimed to study how the study group and the control group differ in respect of life event in number, scoring, and type of life event.

Material and methods: Patients were diagnosed as per the revised third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R) criteria, and two groups of patients were included—(i) schizophrenia and (ii) mood disorder. The control group consisted of 100 subjects which were taken from general population. The Presumptive Stressful Life Event Scale (PSLES) was taken to assess the life event of subjects.

Results: A total number of 100 patients comprising of four distinct categories, i.e. schizophreniform disorder (25), schizophrenia (25), mania (25), and major depression (25) were taken for the study. We found that major life events were more closely related to depression and mania, as against schizophreniform psychoses and schizophrenia. Among the life events, undesirable, exit, and impersonal events were more closely related as compared to other events, and the relation was found to be more significant in depression. Bereavement as a life event needs special mention in case of mood disorders.

Conclusion: It opens a new era of investigation as to what needs to be done to the category of mood disorder to protect them from the increased vulnerability to life events.

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Introduction

There are stressful events which bring about definite change in the life pattern of a person requiring for him to make significant readjustment in his life style. Such events have been termed life events by modern scientists. They believed that as far as psychological and social functioning of a man is concerned, such factors play a major role. As a consequence to this belief, they also thought that such events may have some role to play in initiation and remission of commonly occurring psychological disorders.

There is a complex relationship between the development of psychiatric symptoms and the occurrence of various life events, particularly threatening, unpredictable, and uncontrollable negative events. In general, such undesirable life events predispose a person to develop psychiatric symptoms. This is especially likely if the person already has a psychiatric disturbance. It is also true that certain environmental features can counter the effects of environmental stressors and protect against breakdowns.

The observation that life events has role in major psychoses will have to be corroborated by studies in our country because of the considerable difference in the socio-cultural set up. Singh *et al.*[1] modified the scale of Holmes and Rahe[2] for use in India. They introduced and rated few items which are significant in our country. But Indian studies on this subject are very few and not a single study in northeastern part of our country. It was felt necessary to do something on this topic, and so was the topic selected.

Aims and objectives: (1) To study the role of life events as aetiological factor in major psychoses; (2) to study how the study group and the control group differ in respect of life event in number, scoring, and type of life event.

Methods and materials

Place of study: This study was done in the Department of Psychiatry of Gauhati Medical College Hospital (GMCH), Guwahati, Assam, India.

Period of study: The study was done during the period from 1 August 1991 to 31 July 1992.

Selection criteria: (1) Cases from both sexes were included; (2) patients above the age of 15 years and below 70 years were taken; (3) patients were diagnosed as per the revised

third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R)[3] criteria, and two groups of patients were included—(i) schizophrenia and (ii) mood disorder. The schizophrenia group taken for the study was further categorised into schizophreniform disorder (295.40) with duration less than six months and schizophrenia (295.00). The patients with mood disorder were also categorised into mania and major depression, fulfilling the criteria of DSM-III-R; (4) patients only with first episode of illness were included; (5) life events were assessed during the six months period preceding to the onset of illness.

Exclusion criteria: Organic brain syndrome, history of epilepsy, concomitant alcohol or drug dependence, previous history of head injury, metabolic disorder, doubtful history where organicity could not be ruled out, history of delayed milestones, diagnosed cases of mental retardation.

Control group: The control group consisted of 100 subjects which were taken from general population. Persons with presence or past history of psychiatric illnesses were excluded from the study.

Mode of selection of cases: Consecutive 100 cases, both outpatients and inpatients in the Department of Psychiatry of GMCH, who fulfilled the DSM-III-R criteria for schizophrenia and mood disorder were collected for the study. Out of 100 patients, 25 were schizophreniform psychosis, 25 schizophrenia, 25 major depression, and 25 mania.

All the patients were subjected to detailed physical and neurological examination. On each case, present state examination was done meticulously following the manual of Royal College of Physicians. Patients so diagnosed were re-assessed for confirmation by another psychiatrist. Normal cases were selected from medical students and staff of psychiatry department after carefully ascertaining the mental status examination that there was no evidence of psychiatric illness and also that there was no past history of psychiatric illness. The control group was selected matching with age, sex, educational, and social status of the patients as far as possible. They were fully explained about the aims, objectives, and procedures of the study.

Description of the tool for assessment: The Presumptive Stressful Life Event Scale (PSLES)[4] was taken to assess the life event of subjects. It was translated from English to Assamese as there was no such questionnaire available in Assamese. It was translated and made into questionnaires from English by three different persons separately including the first author himself. These three separate questionnaires were then compiled by two consultants of the department. Initially the questionnaire was tested upon 20 different individuals by the consultants including normal persons as well as patients, and thus validity of the questionnaire was tested. Test retest reliability and inter-rater reliability of the questionnaire were also then assessed between two consultants before it was finally adopted as tool for this investigation.

Interview procedure: At first, informed consent of all patients was taken. The study was approved by the Institutional Ethics Committee. All the cases were interviewed using the tool. Stressful life events, as charted in number if experienced within six months of the onset, were assessed.

Analysis of data: Data were analysed according to life events and life event scores. Life events were classified into types, e.g. desirable vs. undesirable, personal vs. impersonal, and according to area of activity. Descriptive statistics were used to analyse the data.

Results and observations

A total number of 100 patients comprising of four distinct categories, i.e. schizophreniform disorder (25), schizophrenia (25), mania (25), and major depression (25) were taken for the study to see the relationship with life events, six months preceding the onset of illness. Hundred control subjects of similar age and sex were also taken from the general population.

Schizophreniform patients had 70 as total number of life events with mean as 2.8±1.91 (fig 1). In the same group, total life event score was 3422 and mean score as 136.88±91.1 per patient. In schizophrenia group, total number of life event was 61 with mean as 2.44±2.42. Corresponding total score was 2873 and mean score was 114.92±110. Amongst the depressives, total number of life event was 125 with mean as 5±2.48. In the same group, life event score was 6071 with mean score as 242.84±122.54. In mania, total life event in number was 121 and mean was 4.84±3.13. Scoring in that group was 5758 with mean score as 230.32±144.6. In the control, total number of life event was 238 with mean as 2.38±2.44 per person. Correspondingly, total life event score was 10602 and mean was 106.02±110.77.

In all groups, undesirable events were more than desirable as well as ambiguous events. Again, in all groups except in schizophreniform, impersonal events were more than personal events. In schizophreniform group, it was 37 vs. 33 between personal and impersonal events, respectively. In all groups including the control, exit events were more than entrance events. Bereavement was more in mania (18) and depression (20) (table 1). In health, marital, financial, family and interpersonal relationship, all groups had more number of life events than the control, and depression and mania even had more than the schizophrenia group. In moves, legal, and education, almost all groups including the control had similar number of life events.

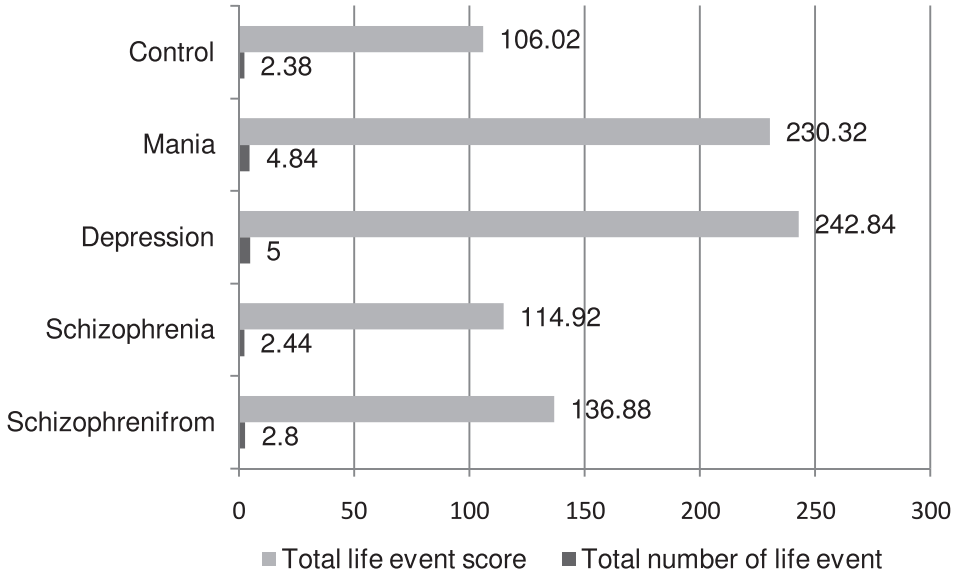

Fig 1: Distribution of mean number of life events and life event scores.

Discussion

Number of life event and schizophrenia

Analysing the relation between number of life events with various psychotic groups, it was found that the total life event number in case of schizophreniform and schizophrenia was not appreciably different than that of control. Our study tallied with Gureje and Adewunmi[5] who found that onset of schizophrenia was not preceded by an increase in life events. But contrary to our findings, Huang[6] found significant difference with the control subject. Prakash *et al*.,[7] in their study of depression and schizophrenia, found depressive to experience more life events than schizophrenia within six months of onset of illness. Serban[8] found that patients with chronic schizophrenia experience more stress than acute, and this in turn had more stress than normal. Beck and Worthen[9] found that patients with schizoph-renia were associated with a clear precipitant in about half the cases. According to Jacobs *et al*.,[10] patients with schizophrenia experience 2.5 events per person within six months of admission which is almost equal to our present study. In our study, all patients with schizophrenia, when taken together, experienced 2.62 events per person.

Number of life event and mood disorder

In our study in case of mood disorder, both depressive and manic had significant difference than the control. Jacobs *et al*.[10] reported in their study that depressives had a mean of 3.6 events per patient in the six months before onset. Overall, their depressives had experienced approximately 50% more events than the patients with schizophrenia. Beck and Worthen,[9] in their study of schizophrenia and depression, found higher mean rated hazard in the majority of depressives. Our study also collaborates with previous studies that employed general population as control. Paykel *et al*.[11] found depressives to report almost three times as many events as control subjects in the six months before onset. Brown *et al*.[12] found the rate for all events was elevated only in three weeks before depressive onset, but events rated as markedly threatening were elevated over the whole 48 weeks studied. But, Uhlenhuth and Paykel[13] found no difference in depressives and mixed psychiatric patients. Hudgens *et al*.[14] found events uncommon in the six months prior to onset of illness in their depressive patients.

Our study corroborates with other Indian workers like

Table 1: Distribution of events grouped by area of activity

Type of event	Schizophreniform N=25	Schizophrenia N=25	Depression N=25	Mania N=25	Control N=100
Bereavement	6	6	14	18	20
Health	8	6	17	12	18
Employment	9	3	13	5	25
Marital	1	2	3	4	2
Financial	8	8	18	14	30
Education	4	7	4	7	17
Legal	1	0	1	1	0
Moves	5	3	5	5	21
Family	15	15	36	29	48
Interpersonal relation	12	6	15	17	32

Chatterjee *et al*.,[15] who found total life event of depressives to be 2.58, six months preceding the onset whereas control had 1.42 as mean. Prakash *et al*.[7] reported depressives had 2.47 life events over six months before onset of illness, which was much higher than their control group. But, our depressive group had experienced twice those life events (five) within six months preceding the onset of illness.

Leff *et al*.[16] reported considerable evidence of environmental stress preceding the onset of severe psychotic depressions. Previous studies on mania are though very few, but all corroborates with our study. Ambelas[17] found significantly more events independent of illness prior to admission with mania, particularly in first episodes, than in surgical control. Leff *et al*.[18] reported 28% of manic episodes to be preceded by independent events. Patrick *et al*.[19] found 50% of bipolars retrospectively to report significant events in the three months before onset of the first affective episode.

Singh *et al*.,[4] while making their PSLES, found that general population on an average experienced 1.9±2.62 stressful life events according to their scale within past one year. But, we found our general population group had experienced 2.38±2.44 life events per person within six months of study, which was much higher than the previous workers' report. Above mentioned workers also reported that mean life event score experienced by their young adult group (age below 35 years) was 45.35±17.16, and 45.12±21.67 for old age group, which differ with our study that revealed on an average our control general population had 106.02±110.77 as mean life event score.

Life event score and schizophrenia

Schizophreniform group had slightly more stress score than schizophrenia group though in both groups, it did not reach significance level compared to control. Beck and Worthen,[9] in their study on a small group (15 schizophrenia and 21 neurotic depression), found mean rating for schizophrenia to be 34.7 and their depressed patients with 45.1. Our schizophreniform patients had higher mean life events as well as life event scores which may be due to less memory distortion because they reported earlier than the schizophrenia patients.

Life event score and mood disorder

In our study, both the groups of mood disorder – depression as well as mania – had significantly more life event score than the control. Thomson and Hendrie[20] reported their depressives to experience significantly higher score than polyarthritis control and staff control with scoring as 221±126, 170±139, 133±110.

Type of life event

Desirable vs. undesirable: Schizophreniform and schizophrenia groups experienced undesirable type of events twice that of desirable events but similar result was also found for the control group. But depression and mania groups experienced undesirable events four times that of desirable events. Similar finding was also reported by Paykel *et al*.[11] and Jacobs *et al*.[10] that depressive group experienced more undesirable events in comparison to their control group. Singh *et al*.[4] found general population group to experience more undesirable events (mean 56.71±13.06) than desirable events (mean 39.7±8.82) which is also true in our study.

Personal vs. impersonal: All the groups had more impersonal that personal events, except the schizophreniform group which had slightly more number of personal events. In both schizophreniform and schizophrenia groups, difference was not much on comparison to control. But, depressive group experienced more than twice impersonal events than control. Mania group experienced double than that of control in both personal as well as impersonal type of events. Previous workers like Paykel *et al*.[11] reported this type of events to be more frequent in depression group, i.e. type of events that are included in impersonal group were more. Singh *et al*.,[4] in their study on general population, reported that impersonal life events had more subjective distress (mean 50.96±15.39) than personal life events (mean 47.08±14.85) which may be a cause of remembering more impersonal events by all groups of people.

Exit vs. entrance: In all the groups, exit events were more than entrance events. Depression and mania groups experienced three times exit events than control, and almost twice that of schizophrenia group as a whole. Previous workers like Paykel *et al*.,[11] Parkes,[21] and Jacobs *et al*.[10] reported that exit events were more common in depression than that of control, wherein few studies had schizophrenia taken as control. Jacobs *et al*.,[10] in their study, reported that depression group experienced exit events twice that of schizophrenia group (23 vs. 12) which exactly corroborates with our finding. Our finding revealed that though exit events were experienced by all but it was more important in mood disorder group than others.

Area of activity

On analysing the type of life event in second dimension which was grouped by area of activity, it was found that in case of mood disorder all variables except education and migration were significantly more than the control. In case of schizophreniform, lesser difference was found in health, employment, legal, family, and interpersonal relation only. While in case of schizophrenia, similar difference was found in marital and family area only. Here again, we could establish definite relation between life event and mood disorder, while in other two psychoses only certain variables seem to be of some relation.

Bereavement: Depression group experienced bereavement more than twice that of schizophrenia as a whole as well as control. Parkes,[21] Birtchnell,[22] Paykel *et al*.,[11] Hays,[23] Cadoret *et al*.,[24] and Forrest *et al*.[25] reported significant increase in bereavement preceding onset of illness. Zisook and Shuchter[26] found depressive syndrome in 23% of their study sample after seven months of death of spouse.

In the Indian literature, Chatterjee *et al*.[15] reported 12% of their depressives to experience bereavement of close family member as against none amongst the control. Similarly, they found health related event, familial and social, occupational, financial, moving home were more frequent in depression than the control group. This finding also corroborates with our finding of depression group who experienced more events on those areas. But, Prakash *et al*.[7] stated that they did not find any significant difference in any areas except educational life events when depression was compared with schizophrenia, whereas our findings were just the opposite.

Our finding corroborates with the study of Paykel *et al*.,[11] who reported more events among depression in areas of activities such as health, family, marital, legal, employment. When we compare mania with schizophrenia group as well as control, bereavement was thrice more common with mania group. This corroborates with the previous studies of Parkes[21] and Ambelas[17], who reported mania precipitated by bereavement.

Interpersonal relationships: Mania had experienced more events related to interpersonal relationship than any other psychoses as well as control. It corroborates with the findings of Cohen *et al*.,[27] who reported that interpersonal relationships and stressful events were of central importance in the precipitation of mania and depression.

Family life: Brown *et al*.[12] had suggested that schizophrenia may be particularly sensitive to disruptions of family life. In our study too, we found schizophreniform and schizophrenia group to experience more events in the family area than the control, although to a lesser extent.

Barman and Chakravortty[28] assessed fifty family members of schizophrenia and mood disorder clients. Majority of the family members (56%) had moderate level of stress while 22% family members had severe stress and the remaining 22% family members had mild stress. The family members are in great need of financial support since highest number of family members has severe stress regarding finance.

Summary and conclusion

We attempted to study relation of significant life events in four major psychoses. We found that major life events were more closely related to depression and mania, as against schizophreniform psychoses and schizophrenia. Total life event scores also led to similar observations. Among the life events, undesirable, exit, and impersonal events were more closely related as compared to other events, and the relation was found to be more significant in depression. Bereavement as a life event needs special mention in case of mood disorders.

Our study did not corroborate with few previously reported findings that schizophrenia is preceded by increased number of life events. Our study also did not support previous findings that depression had more life events in areas such as migration and education.

It opens a new era of investigation as to what needs to be done to the category of mood disorder to protect them from the increased vulnerability to life events. This will require more detail and better controlled studies in future to shed more light in these areas.

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