

RESEARCH

Clinical study on role of life events in genesis of neurotic disorders and depression

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Abstract

Background: This study was conducted to know about the role of life events in genesis of neurotic disorders and depression in four groups of patients with dissociative disorder, somatisation disorder, generalized anxiety disorder (GAD), and depression. It was conducted in the Department of Psychiatry, Gauhati Medical College and Hospital, Guwahati, Assam, India.

Methods and materials: It was a case control study with 100 cases of neurotic disorders and depression (25 cases in each group) attending indoor and outdoor, and diagnosed using research diagnostic criteria of the tenth revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10). The groups were compared with similar number of matched controls, in respect to number, scoring, and type of life events occurring within one year prior to the onset of illness using the Presumptive Stressful Life Events Scale (PSLES). Variables related to socio-demographic characteristics were also seen between cases and controls.

Result and conclusion: Number of life events was significantly higher in depressive and generalized anxiety groups than control group. Total life events scores were significantly higher in depressive and generalized anxiety group than control group. Undesirable events were significantly higher in all groups. Personal events were significantly higher in depressives than control. Events related to interpersonal relation were significantly higher in depressive, dissociative, and GAD groups than control. Bereavement was closely associated with depression and GAD. Events related to health, finance, and education were higher in dissociative group than control. Events related to move were found significantly higher in GAD group than control. Implications of the findings are discussed.

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Human beings have been exposed to different stresses and strains in their struggle for existence since the very beginning. Earlier, primitive people were concerned primarily with survival - avoiding death by starvation, disease, or violence. But, today in modern civilization, stress is commonly associated with feelings of uncertainty, insecurity, inadequacy, relationship problem, time pressure, and role conflicts. Life stress is a product of changes that occur in one's life that requires adaptation, coping, and social readjustment; failing which may result in pathological states. Personal events such as death of a relative or friend, illness or an economic setback are probably the commonest stressful conditions one experiences in life. Studies have shown that such stressful life events induce transient symptoms of psychological disturbance[1] and onset of serious psychological disorders.[2,3]

The temporal association between life events and onset of mental illness was studied by Hudgens *et al.*,[4] Morrison *et al.*,[5] Cooper and Sylph.[6] The casual relationship of number and nature of events in genesis of depression was studied by Payke *et al.*[3] They found depressives to report more events than general population. They also found that exit events like death of close family member, separation, divorce were significantly more among depressives. Undesirable events like death of family member, separation, demotion, serious illness of family member, financial problem were found more frequently in depressives than in the control. Other researchers in this area were Cadoret *et al.*,[7] Myers *et al.*,[1] Cooke,[8] Bhatti and Channabasavanna,[9] Saxena *et al.*,[10] Satija *et al.*[11] The relationship of bereavement as a determinant of neurotic disorders and depression was specifically studied by Parkes,[12,13]

Though lots of researches have been done on this subject, studies in Indian perspective are not many. The present study aims to study the role of life events in genesis of neurotic disorders and depression with reference to socio-demographic variables. While doing so, study and control groups were compared in respect to number, scoring, and type of life events occurring within one year prior to onset of illness.

Materials and methods

The study was carried out in the Department of Psychiatry, Gauhati Medical College and Hospital (GMCH). This is a multi-speciality teaching hospital situated in Guwahati, a premier city in the North Eastern part of India and it caters to people of lower and middle Assam and neighbouring states. The study was done during the period from 1 July 1998 to 31 June 1999. The sample was drawn consecutively from patients attending the outdoor or inpatients. The inclusion criteria for cases were: age within 15-65 years and patients with first episode of illness, diagnosed using research diagnostic criteria of the tenth revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10)[16] for depression, dissociative, somatisation, and generalized anxiety disorder (GAD). Twenty five cases in each group with total of 100 were taken. The exclusion criteria for cases were patients with associated organic brain syndrome, epilepsy, substance abuse, previous history of head injury, mental retardation, and severe depressive episode with psychotic symptoms. In all cases, detailed histories were taken and physical, mental state examinations were carried out. Socio-demographic data were collected using a standard proforma designed for the study in the Department of Psychiatry, GMCH. Life events were assessed during the one year preceding onset of illness using the Presumptive Stressful Life Events Scale (PSLES) of Singh *et al.*[17] It was translated to Assamese language and tested for validity on normal subjects by two faculty members of the department. Test retest reliability and interterm reliability of the questionnaire were also assessed. PSLES was also used by Thakuria and Das[18] in GMCH to assess the life events and to study the role of life events as an aetiological factor

in non insulin dependent diabetes mellitus (NIDDM).

The control sample consisted of hundred subjects selected from attendants, visitors of the inpatients, but not relatives of the patients, and not having any past psychiatric illness after clinical examination. The control group was matched for age, sex, religion, educational, and socioeconomic status. Informed consents were obtained from both cases and controls before recruiting them in the study. Their life events scoring were done using the same PSLES within one year prior to the date of interview.

Statistical analyses included calculation of means, frequencies, and percentages of the variables as descriptive measures. The results were analysed using Student's *t* test to find any significant difference.

Results

Mean age for depressives was 32.12 years, for dissociative group 22.05 years, for somatisation group 37.72 years, GAD group 34.15 years, all cases 30.26 years, and for control group 32.32 years. In dissociative group, highest member of subjects (76%) was young (15-25 years). Among dissociative, most of the patients were females (*n*=18, 72%). In all groups, majority of subjects were Hindus. In the depression, dissociative, and somatisation groups, most of the patients were from low and lower middle socioeconomic status. But in GAD group, highest number of patients was from lower middle (*n*=17, 68%) and upper middle (*n*=six, 24%) class. In all groups, highest number of patients studied up to secondary level (depression: *n*=nine, 36%; dissociative: *n*=15, 60%; somatisation: *n*=11, 44%; GAD: *n*=ten, 40%, respectively). Among depressives, majority were housewives (*n*=ten, 40%). Among dissociative, majority were students (*n*=12, 48%). In somatisation group, the distribution was almost uniform. Housewives were again highest (*n*=nine, 36%) with GAD group. Among depressives, majority were married (*n*=ten, 40%), followed by single (*n*=nine, 36%). Among dissociative, majority were single (*n*=20, 80%). In somatisation group, single and married were equal in numbers (*n*=12, 48%). But, in GAD group, most of the patients were married (*n*=20, 80%). Among the control subjects, 50% were married, 27% were housewives, 47% were educated up to secondary level, and 60% subjects were from lower

Table 1: Distribution of total number of life events, total life events scores, their means, standard deviations, and *p* values in different groups

Disorders	Total no. of LE	Mean \pm SD	t/z value	p value	Total LE score	Mean score \pm SD	t/z value	p value
Depression, <i>n</i> =25	133	4.52 \pm 2.06	t=2.60	<0.05	6028	241.12 \pm 92.52	t=5.11	<0.01
Dissociative, <i>n</i> =25	92	3.68 \pm 1.77	t=0.63	>0.05	4591	183.64 \pm 93.19	t=1.61	>0.05
Somatisation, <i>n</i> =25	91	3.64 \pm 2.14	t=0.51	>0.05	4479	179.16 \pm 97.61	t=1.32	>0.05
GAD, <i>n</i> =25	123	4.92 \pm 1.47	t=3.76	<0.01	6009	240.36 \pm 72.22	t=11.72	<0.01
Total cases, <i>n</i> =100	419	4.19 \pm 1.93	z=3.28	<0.01	21107	211.07 \pm 92.50	z=4.69	<0.01
Control, <i>n</i> =100	342	3.42 \pm 1.85	-		15708	157.08 \pm 68.12	-	

LE=life events, SD=standard deviation, *n*=number, GAD=generalized anxiety disorder

Table 2: Distribution of standard deviation and p values in different groups according to type of events

Type of events	Depression n=25		Dissociative n=25		Somatisation n=25		GAD n=25		Total cases n=25		Control n=25	
	SD	p value	SD	p value	SD	p value	SD	p value	SD	p value	SD	p value
Desirable	0.76	t=1.26 p>0.05	0.58	t=1.03 p>0.05	0.76	t=1.56 p>0.05	0.86	t=0.49 p>0.05	0.74	z=1.29 p>0.05	0.56	-
Undesirable	1.61	t=9.57 p<0.01	1.65	t=4.78 p<0.01	1.48	t=5.34 p<0.01	1.31	t=7.53 p<0.01	1.54	z=7.98 p<0.01	0.57	-
Ambiguous	0.48	t=1.36 p>0.05	0.58	t=1.25 p>0.05	0.65	t=1.49 p>0.05	0.93	t=1.42 p>0.05	0.72	z=4.16 p<0.01	0.74	-
Personal	1.32	t=2.19 p<0.05	1.22	t=0.60 p>0.05	1.12	t=0.70 p>0.05	1.25	t=1.11 p>0.05	1.23	z=2.63 p<0.01	1.07	-
Impersonal	1.46	t=2.46 p<0.05	1.20	t=0.53 p>0.05	1.41	t=0.59 p>0.05	1.29	t=3.93 p<0.01	1.38	z=2.10 p<0.05	0.85	-
Exit	0.84	t=1.89 p>0.05	0.63	t=0.98 p>0.05	0.77	t=0.79 p>0.05	0.63	t=1.74 p>0.05	0.73	z=1.29 p>0.05	0.58	-
Entrance	0.6	-	0.2	-	0.2	-	0.28	-	0.36	-	0	-

n=number, GAD=generalized anxiety disorder, SD=standard deviation

middle class.

It is seen that depressive patients had total 113 life events (mean=4.52, SD=2.06) and total 6028 score (mean=241.12, SD=92.52). Dissociative patients experienced total 92 events (mean=3.68, SD=1.77) and total 4591 score (mean=183.64, SD=93.19). Somatisation group had total 91 (mean=3.64, SD=2.14) and total score 4479 (mean=179.16, SD=97.61). Lastly, GAD group experienced total 123 life events (mean=4.92, SD=1.47) and total score 6009 (mean=240.36, SD=72.22). Study groups as a whole experienced total 419 events (mean=4.19, SD=1.93) and total score 21107 (mean=211.07, SD=92.50). In the control group, total number of life events was 342 (mean=3.42, SD=1.85) and total score was 15708 (mean=157.08, SD=68.12) (Table 1).

Statistically significant association of total number of life events prior to onset of illness was among depressives and patients with GAD (t=2.60, p<0.05; t=3.76, p<0.01, respectively). These two groups differed from control significantly in total life events scores also (t=5.11, p<0.01; t=11.72, p<0.01, respectively). While all the groups were together compared with control, significantly number of life of events and scores was observed in cases than control (z=3.28, t<0.01; z=4.69, p<0.01) (Table 1).

Significantly higher undesirable events were seen in all groups (depression: t=9.57, p<0.01; dissociative: t=4.78, p<0.01; somatisation: t=5.34, p<0.01; GAD: t=7.53, p<0.01, respectively). Significant association of personal events was observed in depressive group (t=2.19, p<0.05). Significant association of impersonal events was observed in depressive patients and patients with GAD (t=2.46, p<0.05; t=3.93, p<0.01). No difference for exit events was observed between different groups and control (Table 2).

Bereavement was significantly associated with depression and GAD (t=3.03, p<0.01; t=2.03, p<0.05, respectively). Events related to health, finance, and education were significantly associated with dissociative

disorder (t=2.31, p<0.05; t=4.45, p<0.01; t=5.06, p<0.01, respectively). Marital events were significantly higher in depression (t=3.33, p<0.01). Events of moves were associated with GAD (t=2.54, p<0.05). Familial events were associated with depression and GAD (t=2.48, p<0.05; t=2.67, p<0.01, respectively). Events of interpersonal relation were associated with depression (t=3.13, p<0.01), dissociative disorder (t=2.57, p<0.05), and GAD (t=2.69, p<0.01). In the study, no significant association was observed between somatisation disorder and events related to different areas of activity (Table 3).

Discussion

Number and score of life events in different groups

In our study, depressive group differed from control significantly in relation to total number of life events mimicking results of earlier studies by Paykelet *al.*,[3] Jacobs *et al.*,[19] Chatterjeeet *al.*,[20] and Satijaet *al.*[11] Depressive group also experienced significantly higher score than the control similar to results of studies by Thomson and Hendrie,[21] and VenkobaRao and Nammalvar.[22] Ghosh and Dutta[23] “found that major life events were more closely related to depression and mania, as against schizophreniform psychoses and schizophrenia”.

Among neurotic disorders, only GAD group differed significantly from control in relation to total number of life events giving similar results with studies by Bhatti and Channabasavanna,[9] and Gautam and Kamal.[24] This group also experienced significantly higher score than control like that reported by Bhatti and Channabasavanna.[9]

Total cases differed significantly from control in relation to number and score of life events suggesting high correlation between cumulative importance of life events and onset of subsequent illness as observed by Paykelet *al.*,[3] Cadoretet *al.*,[7] Myers *et al.*,[1] and Saxenaet *al.*[10]

Table 3: Distribution of standard deviations and p values in different groups according to areas of activity

Areas of activity	Depression n=25		Dissociative n=25		Somatisation n=25		GAD n=25		Total cases n=25		Control n=25	
	SD	p value	SD	p value	SD	p value	SD	p value	SD	p value	SD	p value
Bereavement	0.65	t=3.03 p<0.01	0.60	t=0.18 p>0.05	0.46	t=0.58 p>0.05	0.58	t=2.03 p<0.05	0.58	z=2.16 p<0.05	0.46	-
Health	0.49	t=0.75 p>0.05	0.37	t=2.31 p<0.05	0.65	t=0.43 p>0.05	0.68	t=1.84 p>0.05	0.59	z=0.12 p<0.05	0.62	-
Employment	0.41	t=0.10 p>0.05	0.37	t=0.31 p>0.05	0.46	t=0.91 p>0.05	0.46	t=0.91 p>0.05	0.42	z=0.66 p<0.05	0.44	-
Marital	0.68	t=3.33 p<0.01	0.28	t=1.15 p>0.05	0.33	t=1.91 p>0.05	0.44	t=1.6 p>0.05	0.46	z=2.45 p<0.05	0.17	-
Financial	.066	t=1.42 p>0.05	1.07	t=4.45 p<0.01	0.76	t=1.62 p>0.05	0.71	t=0.4 p>0.05	0.83	z=2.79 p<0.01	0.74	-
Education	0.64	t=2.43 p<0.05	0.7	t=5.06 p<0.01	0.52	t=1.31 p>0.05	0.5	t=0.88 p>0.05	0.61	z=3.34 p<0.01	0.38	-
Legal	0.47	-	0	-	0	-	0.33	-	0.29	-	0	-
Moves	0.28	t=0.30 p>0.05	0.37	t=0.85 p>0.05	0.44	t=0.27 p>0.05	0.63	t=2.54 p<0.05	0.45	z=1.29 p<0.05	0.3	-
Family	0.8	t=2.48 p<0.05	0.87	t=0.33 p>0.05	1.11	t=1.03 p>0.05	0.91	t=2.67 p<0.01	0.93	z=2.24 p<0.05	0.62	-
Interpersonal relation	0.88	t=3.13 p<0.01	0.85	t=2.57 p<0.05	0.59	t=1.19 p>0.05	0.75	t=2.69 p<0.01	0.77	z=3.25 p<0.01	0.51	-

n=number, GAD=generalized anxiety disorder, SD=standard deviation

Type of life events and each group

All the experimental groups experienced statistically significant different number of undesirable events than control; higher difference being in depressive group (t=9.57, p<0.01), which is similar to result of studies by Barrett[25] and Paykelet *al.*[3]

Depressive and GAD patients differed significantly from control in number of impersonal events mimicking results of study by Paykelet *al.*[3] Depressives also expected higher personal events than control (p<0.05). Ghosh and Dutta[23] found that “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”.

Areas of activity

Depressives experienced significantly higher number of events in areas like bereavement, marital, education, family, and interpersonal relation than control. Clayton *et al.*,[26] and Zisook and Shuchter[15] reported significant increase in bereavement preceding onset of depression. Ghosh and Dutta[23] made special mention of bereavement as a life event in case of mood disorders. Paykelet *al.*[3] also found that depressives experienced more events in relation to family and marital life than control.

Dissociative patients differed from control in events related to health, finance, education, and interpersonal relation. Bhatti and Channabasavanna[9] found definite relation between dissociative disorder and events related to education or performance. GAD patients differed from control in events related to health, finance, education, and interpersonal relation.

Summary and conclusion

Certain limitations of our study include sample size of cases was small in each illness group; thus, limiting generalisation of the results. Moreover, the influence of different socio-demographic variables in causation of illnesses was not tested statistically.

In summary, our study had identified life events as an important causative factor in genesis of depression and GAD. Among the life events, undesirable events were found to be related to all kinds of disorders; but, most significant association was seen with depression. Strong association between bereavement and depression was identified; though it was also related to GAD. Interpersonal events were more clearly related to depression and GAD. Our study also found significant association of personal events to depression. One of the striking findings from our study was detection of strong association of dissociative disorder to the events related to health, finance, and education. These kinds of association are frequently noticed in the presentation of dissociative disorder clinically. Our study found association of GAD with events related to move, like change of residence or change of working condition or transfer.

Therefore, role of life events as aetiology of different mental disorders cannot be neglected. Though, we nowadays are more focussed towards biological underpinning in the aetiology of mental illnesses, evidences from our study suggest the association of life events as precipitating or predisposing factors in certain group of mental illnesses.

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