



# Exploration of life events and perceived stress in female patients admitted in the psychiatry department of a tertiary care hospital

## Abstract

**Background:** Research in past four decades show that recent life events do contribute to the onset of psychiatric illness but exact relationship between stress and psychiatric illness is still unclear and studies on life events are relatively less in North Eastern region of India. **Aim:** To examine the nature of life events, perceived stress, their association with various psychiatric illness and impact on duration of hospital stay in admitted female patients. **Method:** It is a cross-sectional study on 100 female patients admitted in psychiatry ward in Assam Medical College & Hospital, Dibrugarh, Assam, India, over a period of one year. Life events were examined using the Presumptive Stressful Life Events Scale (PSLES) and perceived stress was assessed by 14-item questionnaire, the Perceived Stress Scale (PSS). **Result:** Four most common stressful life events were financial problem/loss, death of a close family member, excessive alcohol use, and illness of a family member. Patients of schizophrenia perceived more stress than mood disorder followed by conversion disorder. Similarly, duration of hospitalisation was also higher in patients with higher perceived stress. **Conclusion:** The results of current research suggest that higher levels of perceived stress and negative life events are encountered in patients with schizophrenia. Life events in manic patients are usually related to social life while in depressive patients, role of loss is found more important like bereavement, loss of job.

**Keywords:** Schizophrenia. Mood Disorders. Conversion Disorder.

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## INTRODUCTION

Stress is a process that leads to both psychological and biological changes by affecting the adaptive capacity of an organism/individual due to the environmental demands made upon it and thereby increases the risk of development of various illnesses.[1] On the other hand, life events are certain social experiences or occurrences with specific onset and course which have got definite psychological impact on the individual.[2]

Stress can be perceived either due to major life events or during specific daily hassle.[3] Numerous research in past four decades show that recent life events contribute to the onset of psychiatric illness.[4] In another study,[5] it was found that prior to hospitalisation, patients with psychiatric disorders suffered more stressful events than those with physical disorders.

Andrews and Tennant[6] found recent life events as having aetiological role in neurosis, formative role in neurotic depression, and precipitating role in schizophrenia. Norman and Malla[7] found a weak association between stressful life events and onset of psychotic illness, and psychotic patients

although did not experience more stressful life events than normal controls but they reported greater subjective stress. Rajendran *et al.*[8] found a strong association between stress and neuroses.

Experiences of loss and grief such as death of a parent have been associated with depressive disorders.[9] In a study of recent onset psychiatric illness,[10] it was found that threatening life events were significantly related to the onset of schizophreniform psychosis but not schizophrenia and life threatening events might precipitate hypomanic episodes too.

Another study looked into the relationship between recent life events and episode of illness in schizophrenia,[11] and found that initial or early episodes of schizophrenia are more likely to be associated with recent life events than the later episodes. In bipolar disorder, the effect of life events is generally weaker than unipolar; however, major life events may be important in first episode.[12]

Mean levels of stress, as measured by self-report, were found higher among women, compared to men, and higher among women aged 18-29 years than all other female age groups.[13] Even happy events are disruptive and can interfere with healthy practices.[14]

Community-based studies have identified family conflict and social problems as the most important stressful life events which contributed to the perceived stress.[15] Different studies have been done examining life events in psychiatric patients but studies examining life events in female patients is even lesser in North Eastern part of India, which has prompted us to undertake this study.

## Aim and objectives

To examine the nature of life events, perceived stress, their association with various psychiatric illness and impact on duration of hospital stay in admitted female patients.

## METHOD

It was a cross-sectional study carried out in the Department of Psychiatry, Assam Medical College & Hospital, Dibrugarh, Assam, India, over a period of one year from August 2016 to July 2017. Participants were recruited from inpatients of psychiatry department.

## Sample size

The overall sample size was 100 female patients.

## Inclusion and exclusion criteria

All female patients above 18 years admitted in psychiatry department were recruited for the study while uncooperative patients and those with mental subnormality were excluded.

## Tools

### *Informed consent form*

An informed consent form explaining the nature of the study, the contents of which were explained in vernacular language, was read out to the subjects of study.

### *Semi-structured proforma for sociodemographic variables*

This contained the personal identification data of the patients.

### *Kuppuswamy's socio-economic status scale*

Kuppuswamy's socio-economic status scale has been used to measure the socioeconomic status of patients.[16] The latest update applicable in the studies ongoing in 2014 was used.[17]

### *Perceived Stress Scale*

Cohen and colleagues[18] developed the original 14-item scale (Perceived Stress Scale [PSS]-14) as a global measure of stress. It consists of seven negative and seven positive items, each with a possible answer rated on a five-point scale. The positive element (four, five, six, seven, nine, ten, and 13) evaluates the ability to cope with perceived stressors, whereas the negative one focuses on assessing lack of control, negative emotions, and reactions.

### *Presumptive Stressful Life Event Scale*

The Presumptive Stressful Life Event Scale (PSLES) is a suitable scale for examining stressful life events experienced by the Indian population.[19] The scale is simple to administer to literate and illiterate subjects.

## *International Statistical Classification of Diseases and Related Health Problems*

The diagnosis was made as per the provisions of the tenth revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10).[20]

## Interview procedure

Following approval from institutional ethics committee, patients and their relatives were explained about the study procedure and consent was taken. Sociodemographic information was collected in the semi-structured proforma. Perceived stress and life events were examined using the above scales. Patients were diagnosed using ICD-10 and confirmed by the consultant.

## Statistical analysis

Data was analysed using Statistical Package for the Social Sciences (SPSS) (version 19.0; IBM). Demographics were reported using descriptive statistics like mean and standard deviation. t-test and analysis of variance (ANOVA) test were used for comparing means of two or more groups respectively. Differences were considered to be significant if  $p < 0.05$ . For evaluating correlation, Pearson correlation test was performed.

## RESULTS

From Table 1, it is evident that most of the patients belonged to Hindu religion (93/100), nuclear family (81), and came from rural locality (85). Majority of the patients were married (59/100). Most common life events among married patients were conflict with in-laws (13), followed by death of a close family member (seven), damage to crops or property (nine), and financial problems or loss (17), while in unmarried, common life events were death of a close family member (seven), followed by alcohol use by any family member (12) and illness of any family member (18). Most of the patients belonged to upper lower socioeconomic class. Patients belonging to lower socioeconomic class had significantly lengthier duration of hospitalisation.

Majority of the patients belonged to less than 29 years age followed by 30-39 years. For patients less than 29 years of age, financial problems or financial loss (17) was the most common life event followed by excessive alcohol use (12) by any family member and damage to crops or property (9) mostly due to floods which is common in this part of the country. For age group 30-49 years, death of a family member (seven) was the most common life event followed by financial problems or loss (17), conflict with in-laws other than dowry (13), unfulfilled commitment (37). Mean age of schizophrenia patients was 27 years, acute and transient psychotic disorder was 29 years, conversion disorder was 18 years, and mood disorder was 36 years.

Most common diagnosis was acute and transient psychotic disorder (32/100) followed by schizophrenia (30/100), mood disorders (14/100), and conversion disorder (13/100). Mean perceived stress score and mean duration of stay with their respective diagnosis are given in Table 2 along

**Table 1:** Demographic information

Sociodemographic variable	N	%	Mean perceived stress score	Common life events (rank number)	Mean duration of hospital stay (days)
Religion					
Hindu	93	93	29.09±5.94	17,7,18,12,9	18.22±15.84
Muslim	6	6	33.33±8.89	7,15,37	21.33±16.73
Christian	1	1	19±0.0	7	5±0.0
p value			0.068		0.620
Marital status					
Married	59	59	28.75±6.12	13,7,9,17	16.88±14.59
Unmarried	39	39	30.31±6.36	7,12,18	20.05±17.39
Widow	2	2	23	5	23±21.21
p value			0.173		0.549
Locality					
Rural	85	85	29.01±6.07	17,7,18,13,12,15	18.51±15.15
Urban	15	15	30.53±7.17	17,15,12	17.00±19.72
p value			0.236		0.264
Type of family					
Nuclear	81	81	29.11±6.40	17,9,18,12,7,15	18.35±17.02
Joint	19	19	29.79±5.57	7,13,15,18	18.0±9.30
p value			0.773		0.283
Socioeconomic status					
Lower middle (iii)	2	2	35.0±0.00	17,16,27	32.50±24.75
Upper Lower (iv)	80	80	28.94±6.03	17,7,9,15,18,12	16.03±13.22
Lower (v)	13	13	29.92±7.03	12,18,29	26.77±22.99
Upper middle (ii)	3	3	27.67±10.97	11,37,44	31.67±24.66
Upper (i)	2	2	33.5±3.54	31,39,19	15.0±10.61
p value			0.536		0.045

with their common life events. For better comparison, study sample was classified into four major psychiatric illnesses in Table 3.

From Table 3, it is found that there was significant difference in perceived stress among four different diagnostic groups ( $p=0.02$  [ $<0.05$ ]). Within groups, significant difference in perceived stress was seen between patients of schizophrenia and acute and transient psychotic disorder ( $p=0.012$  [ $<0.05$ ]). Here, perceived stress in schizophrenia is highest.

When four diagnostic groups were compared for their duration of stay, significant difference was seen among four diagnostic groups ( $p=0.00001$  [ $<0.05$ ]). Within groups, significant difference was present in duration of stay in patients with schizophrenia and acute and transient psychotic disorder ( $p=0.001$  [ $<0.05$ ]), schizophrenia and conversion disorder ( $p=0.001$  [ $<0.05$ ]), conversion and mood disorder ( $p=0.03$  [ $<0.05$ ]).

The value of  $R$  is 0.1929 (Figure 1). There is a weak positive correlation between perceived stress and duration of hospitalisation (It should be noted that nearer the value is to zero, the weaker the relationship). The value of  $R^2$ , the coefficient of determination, is 0.0372.

From Table 4, it is clear that there is no significant difference in perceived stress ( $p=0.155$  [ $>0.05$ ]) and duration of hospital stay ( $p=0.319$  [ $>0.05$ ]) in patients with or without life events.

## DISCUSSION

Out of 100 patients, 87 had life events while 13 had no life events. Overall, financial problem/financial loss was the most common (21/87) life event, followed by death of a close family member (16/87), excessive alcohol use and illness of a family member (14/87), followed by damage to crops or property mostly due to flood. Among various sociodemographic variables, married females, patients living in joint family, patients with age 30 years or above experienced life events like death of a close family member followed by conflict with in-laws as more common life events.

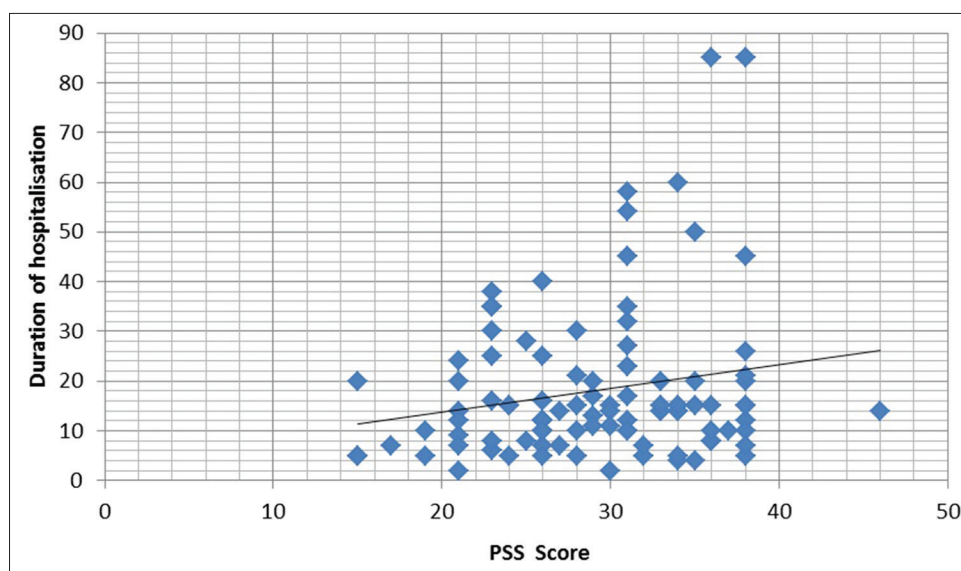
Majority of the patients belonged to upper lower socioeconomic class and they experienced the general trend of life events while patients in middle and upper socioeconomic class more commonly experienced life events like theft/robbery, trouble at workplace, unfulfilled commitments. No significant differences were observed in the quantum of

**Table 2:** Distribution of patients on the basis of psychiatric illness

Diagnosis (ICD-10)	Number of patients	Mean duration of hospital stay (days)	Mean perceived stress score	Most common life event (rank number)
Schizophrenia	30	29.07±20.60	31.80±5.44	7,17,18
Delusional disorder	1	15±0.0	24±0.0	13
Acute and transient psychotic disorder	32	11.88±6.40	27.13±5.64	17,7,12,15
Unspecified non-organic psychosis	4	26.75±3.7	16.25±4.81	9,18
Acute stress reaction	1	5±0.0	26±0.0	16
Conversion disorder	13	8±4.06	29.08±7.89	17,34,29
Somatoform disorder	3	10.66±6.64	22±7.25	No specific life event
Mania	2	25±5.0	26±3.0	No specific life event
Bipolar affective disorder	5	29.2±5.4	34±14.18	37,44
Depressive episode	6	14.83±6.85	33.5±2.7	7,14,17
Recurrent depressive disorder	1	15±0.0	24±0.0	7,31
Alcohol dependence	2	11.5±3.5	37	13,15,25

**Table 3:** Comparison of four major psychiatric illnesses with their perceived stress score and duration of hospitalisation

Diagnosis	Number of patients	Mean perceived stress score	Mean duration of hospitalisation (days)
Schizophrenia	30	31.80±5.44	29.07±20.60
Acute and transient psychotic disorder	32	27.13±5.64	11.88±6.40
Conversion disorder	13	29.08±7.89	8.00±4.06
Mood disorder	14	30.50±5.08	23.14±14.77
p value		0.020	0.00001

**Figure 1:** Correlation between perceived stress and duration of hospitalisation. PSS=Perceived Stress Score

subjective stress experienced by the subjects in different age groups, socioeconomic class, marital status, and educational level.

Negative life events played an important role in schizophrenia like financial loss or problems, death of

close family member, illness of family member, property or crops damaged, excessive alcohol use by a family member. Similarly, previous studies have also shown higher levels of perceived stress and negative life events playing an important role in schizophrenia. Andrews and Tennant[6] also found an association between stressor and psychiatric illness.



**Table 4:** Comparison of perceived stress and duration of stay in patients with or without life events

Perceived stress and duration of stay	Patients without life events	Patients with life events	p value
Mean perceived stress score	29.54±6.36	27.23±5.05	0.15542
Approximate duration of stay (days)	17.68±15.97	22.15±14.44	0.3197
Number of patients	13	87	100

Common life events in depressive disorder were death of a close family member, unemployment (self or family member), financial loss or problems. In other studies on life events, role of loss is prominently reported in literature. Loss includes interpersonal separation and deaths.

In manic patients, change in sleeping habit, unfulfilled commitments were seen frequently. Other life events included detention of a family member in jail, change in working condition, expansion of business. Life events related to social life of manic patients is in accordance to the hypothesis of social rhythm dysfunction in manic patients. Malkoff-Schwartz *et al.*[21] have also reported that the frequency of life events disrupting social rhythm is significantly present in manic patients. It is evident from the findings that while life events of manic patients were related to social life, life events of depressed group were mostly related to personal life (death of a close family member, unemployment, and financial loss). This is consistent with findings by Kumari and Jahan.[22]

But, in previous studies, even manic patients have been reported to suffer events like loss, threat, and bereavement.[23]

Common life events in patients with conversion disorder were financial problems, appearing for an examination or interview, family conflict other than dowry issues, excessive alcohol use in a family member, unfulfilled commitments.

In our study, among 13 patients who had no life events, eight patients presented as episodic relapse or recurrence of schizophrenia or acute and transient psychotic disorder. This supports sensitisation-kindling model.[24] This study also shows that degree of stress perceived (measured by PSS score) and duration of hospitalisation were unaffected by presence or absence of life events.

Previous studies suggest that stressful life events may be a part of normally functioning persons also. Mere presence of life events may not be considered responsible for emergence or relapse of psychiatric disorder. It may be because of the difference in perception of and coping with the stressful life events. The cognitive-behavioural model of bipolar affective disorder also emphasises on cognitive styles of these patients. A body of research focused on cognitive factors such as attribution style perfectionism, deficits in problem solving skills, and also maladaptive schemata. These factors can lead to changes in one's behaviour, alteration of biological functions, and response to the psychosocial stresses along with varied response to treatment with psychotropic medications. Hence, significant variables affecting the perception of life events and ways of coping with it should be explored in detail in further studies.

## Limitation

It is a cross-sectional study and duration of hospitalisation does not correspond to the exact time taken for achieving remission in patients who absconded or had to be discharged on request or went against medical advice. There is lack of control group in this study.

## Conclusion

According to biopsychosocial approach, psychosocial stressors may precipitate an episode of psychosis, affective disorder, conversion disorder, or may cause relapse of such disorders. Our study shows positive association of life event with psychiatric illness.

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