Psychosocial aspects of first episode depression patients: An observational study

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ABSTRACT

Background: Depressive disorder affects at least 20% of women and 12% of men at some time during their lifetime. Current data suggest that social stressors in the onset of depressive disorder are more relevant to the first few episodes of the illness. **Objectives:** The main objective of our study is to assess the role of socio-demographic variables and stressful life events in the first episode depressive patients. **Materials and Methods:** A total of 40 patients with a diagnosis of the first depressive episode were compared with a healthy control group to study the relationship between psychosocial factors and the first episode of depression. Individuals with a psychiatric diagnosis other than depression and those with longstanding medical illness were excluded from the study. **Results:** The mean age for the study group was 33.1 and that for the control group was 34 and around 85% of patients fall between 18 and 45 years. Among the 40 patients, six were suffering from moderate depression, 20 from severe depression, and the remaining 14 patients were suffering from severe depression with psychotic features. About 97.5% of patients presenting with depression had significant life events of three and above, when compared to normal controls, only 22.5% reported the same. **Conclusion:** Socio-demographic factors such as female sex, rural residence, and family history of mental illness and substance abuse predispose to depression. The number of life events and accumulated stress scoring predisposes the onset of the first episode of depression. The knowledge of the role of psychosocial factors can be applied for providing support and primary prevention of depression.

KEY WORDS: First Episode; Depression; Life Events; Psychosocial Factors; Stress

INTRODUCTION

"It is changes that are chiefly responsible for disease, especially the greatest changes, the violent alterations both in seasons and in other things"

– Hippocrates

As Hippocrates said, the greatest changes in one's life are always stressful. Major depressive disorder is reported to be the most common mood disorder. The WHO has ranked depression fourth in a list of most urgent health problem worldwide. The "crisis theory," proposed by Lindenmann and elaborated by Satin, maintains that when an individual is faced with a new situation (stress), he goes into a period of disequilibrium (crisis). The review of epidemiological studies of life events and psychiatric disorders has shown that 32% of the psychiatric cases (among females, 41%) can be attributed to stressful life events. Since first studied over 40 years ago by Holmes and Rahe, stressful life events have been of major focus of psychiatric epidemiology. Life events and crisis singly or in series have been known as stressors. Paykel *et al.* were the first to demonstrate that depressed

patients had experienced significantly more life events in the 6 months before the onset of depression than normal controls.[1]

In India, a study by Rao and Nammalvar revealed clustering of events during the 2-year period preceding the inception of depression, a high rate of the accumulated distress from all events in their group of depressed subjects compared with controls.[2] Suicide attempters reported 4 times as many events as were reported by the general population and 1½ times as many as were reported by depressive patients, 6 months before the illness onset. In addition, among women, loss of mother before the age of 11 was associated with greater risk of depression. The studies from India generally indicate that two events within a year are held tolerable and clustering of events is common in the pre-depressive state. A major depressive disorder is a common disorder with a lifetime prevalence of about 15% perhaps as high as 25% of women.[3] An almost universal observation, independent of country or culture, is the twofold greater prevalence of major depressive disorders in women than in men. The reasons for the difference have been hypothesized to involve hormonal difference, the effect of childbirth, differing psychosocial stressors for women and for men, and behavioral models of learned helplessness. Kendler *et al.* reported, in subjects with no exposure to stressful life events or exposure to events with the minor threat, the model predicted risk for major depression in women slightly more than double that found in men.[4] Goodyer *et al.* found that significantly more girls than boys were detected as being at high risk.[5] Barnow *et al.* reported that, in the females, socio-demographic factors (being married, children in the household, higher education, and the quality of interactions) but not psychosocial stressors or life events were found to be related to the severity of depression on admission.[6] The effect of life events predicting depressiveness appears to be independent of social support, somatic disease, sex, and genetic liability, and stronger for more severe depression.

Strickland *et al.,* when studying life events and hormonal changes, found that evening cortisol was increased after recent life events.[7] Life events and depression were associated with increased prolactin responses. Paykel discussed that the overall effects of life stress in depression are moderate; some differences can be discerned between different types of depression.[8] Suicide attempts are more strongly related to life stress than depression itself. Studies reported that stressful life events are more likely to occur before the first or second episode depressions than before recurrent depression. Kendler *et al.,* while evaluating the "Kindling" hypothesis of major depression in women, reported that the number of previous depressive episodes had a strong effect on the association between stressful life events and depression onsets.[4] An increase in previous depressive episodes impacted much more strongly on the relationship between stressful life events and major depression when the number of previous depressive episodes was <10.

Goodyer *et al.,* while studying major depression in high-risk adolescents, found disappointments and permanent losses in the 1st month before the clinical interview/onset was associated with subsequent major depressive disorder.[5] They suggest that life events are part of the antecedent process of major depression for both high-risk boys and girls. Surtees *et al.* found that major difficulties were associated with illness onset.[9] Hirschfeld in his work on situational depression failed to find significant differences in psychosocial stress levels between situational and non-situational depressives.[10]

Satija *et al.* found depressed patients experiencing significantly more stressful life events and using significantly more avoidance coping strategies as compared to non-depressed controls.[11] Ramachandran *et al.* while studying the psychosocial variables associated with depression found that female sex, widowed state, unemployed condition, low social class, nuclear family, living alone, physical illness, and sensory deficits were significantly associated with depression in old age.[12]

The main objective of our study is to assess the role of socio-demographic variables and stressful life events in the first episode of depressive patients. It is assumed from the previous works that depression is more frequent in younger age group, females, and lower social status, those who are unemployed, living in an urban setting, with significant life events in the past 1 year. More the number of life events and stress scoring increases the severity of depression. This hypothesis was tested in our present study.

MATERIALS AND METHODS

Study Population and Study Design

The study was conducted in the Psychiatry Department of Government Theni Medical College Hospital, Theni, during the period between August 2017 and January 2018. Forty patients suffering from the first episode of depression diagnosed according to the International Classification of Diseases-10 were selected and interviewed by a semi-structured questionnaire. Patients from both sexes were selected in the age group of 18–60 years. Those patients with the previous history of mental illness, prolonged substance use, and with a history of chronic medical illness were excluded from the study. The age- and gender-matched control group consists of healthy relatives of the medical ward patients of the same hospital after they have been examined by a psychiatrist and designated as free of any psychiatric disorders. Informed consent was got from all participants and appropriate Institutional Ethical Committee approval was obtained.

All participants were administered the presumptive stressful life events scale, socio-economic scale, and Hamilton Depression Rating Scale. Presumptive life events scale[13]

was developed by Singh *et al.* and it consists of events which are relevant to Indian population and representative of the common life events experienced as stressful by our population. The scale items were classified into (a) desirable, undesirable or ambiguous and (b) personal or impersonal. The time scale of 1 year before the onset of illness as opposed to 6 months period was followed as suggested in studies of Paykel *et al.*[1] Socio-economic scale was standardized for the urban population and its suitability for the hospital population has been established.[14] The raw score obtained from this scale was used for categorization of the patients into social classes.

Statistical Analysis

Three tests have been used to analyze the data collected from depressive patients and normal controls. *t*-test was used to determine whether any observed differences between the groups (depressives and normal controls) should be attributed to chance or due to the effect of life event and other variables. Chi-square was used to evaluate the relative frequency or proportion of events in a population that fall into well-defined categories. This test was used while studying the distribution of patients according to socio-demographic data.

RESULTS

The mean age for the study group was 33.1 and that for the control group was 34 [Table 1] and around 85% of patients fall between 18 and 45 years. Women patients constitute 70% of both the groups and Hinduism was followed by most of

Table 1: Number and percentage of the patients belonging to cases and controls

Age group	Depression	%	Controls	%
18–25	14	35	14	35
26–35	9	22.5	9	22.5
36–45	11	27.5	11	27.5
>45	6	15	6	15

Range=18–60, Range=19–60

Table 2: Sex-wise distribution of the samples

Sex	Depression	%	Controls	%
Male	12	30	12	30
Female	28	70	28	70
Total	40	100	40	100

Table 3: Distribution of cases and controls according to religion

Religion	Depression	%	Controls	%
Hindu	33	82.5	33	82.5
Muslim	3	7.5	2	5
Christian	4	10	5	12.5

the participants [Tables 2 and 3]. About 52.5% of patients (82%) belong to the rural background and remaining from urban areas and in the control group, 42.5% was rural and 57.5% from urban. This finding was statistically significant [Table 4]. In the patient's group, the duration of illness was between 15 days and 1 year. The mean duration of illness was 4.1 months. Among the 40 patients, six were suffering from moderate depression, 20 from severe depression, and the remaining 14 patients were suffering from severe depression with psychotic features ($P = 0.0321$). Table 5 shows the majority of the depressives belongs to lower middle and very low in their socio-economic status, and statistical analysis was significant ($P = 0.0051$). At least 60% of cases and 35% of controls have completed high school education [Table 6]. Half of the depressed patients reported a history of mental illness in their family whereas in controls, 25% reported family history of mental illness [Table 7]. The difference in the family history of mental illness for depressives was significant ($P = 0.00001$). Table 8 reveals that family history of suicide was present in 32.5% depressives patients compared to 20% among normal controls and the difference was significant ($P = 0.0057$). There was a significant difference ($P = 0.00001$) between the two groups in family history of substance abuse; 42.5% in depressed patients 15% of normal controls [Table 9].

Tables 10 and 11 showed the details about the occurrence of significant life events in both groups. On analysis of number of life events, 97.5% of patients presenting with depression had significant life events of three and above, when compared to normal controls only 22.5% reported the same, and it is highly significant [Table 10]. The number of life events were higher in the age group of 18-25 in both the groups [Table 12]. The average number of events in 1 year was 4.65 for depression group, and among normal controls, it was 1.9/year, and this was also highly significant ($P = 0.000001$). Most number of events distributed among female population in both samples [Table 13]. In depressed patients, the mean stress score was 233.35 and in normal controls 93.1, and when compared, it was significant [Table 14]. There was no significant correlation between the number of life events, stress score in the previous one year and intensity of depression [Tables 15 and 16].

DISCUSSION

The primary finding of this study is that stressful life events play a significant role in the first episode of depression. Almost all the patients studied had a history of three or more stressful life events in the last year, and this was similar to a study done in the elderly population of India.[15] The average age of onset of major depressive disorder falls between 20 and 40 years, and in the study, around 85% of patients fall between 18 and 45 years. The mean age for the study group was 33.1 and that for the control group was 34. About 70% of the patients were females and this was similar to the

Table 4: Majority of both samples contains Hindu by religion (82.5)

Domicile	Depression	%	Controls	%
Urban	19	47.5	23	57.5
Rural	21	52.5	17	42.5

Table 5: Distribution of cases and controls according to social class

Social class	Depression	%	Controls	%
Middle	11	27.5	10	25
Lower middle	27	67.5	26	65
Very low	2	5	4	10

Table 6: Education level of cases and controls

Education	Depression	%	Controls	%
Primary	12	30	18	45
High school	24	60	14	35
Intermediate	4	40	4	10
Graduate	0	0	4	10

Table 7: The family history of mental illness both in cases and controls

F/H Mental illness	Depression	%	Controls	%
Present	20	50	10	25
Absent	20	50	30	75

F/H: Family history

Table 8: The family history of suicide in cases and controls

F/H Suicide	Depression	%	Controls	%
Present	13	32.5	8	20
Absent	27	67.5	32	80

F/H: Family history

Table 9: The frequency of family history of substance abuse among cases and controls

F/H Substance abuse	Depression	%	Controls	%
Present	17	42.5	6	15
Absent	23	57.5	34	85

F/H: Family history

Table 10: The frequency of life events among depressive and controls

Frequency	Depression	%	Controls	%
0–2	1	2.5	31	77.5
3–4	20	50	8	20
5–6	14	35	1	2.5
>6	5	12.5	0	0

About 85% of the depressives reported 3–6 events/year, more than 6 events/year was reported by 12.5%, and one patient reported only 2 events/year. In controls 77.5% reported 2 or less events/year. And 22.5% reported 3–6 events/year. Chi-square 49.535, DF=3, *P*=0.000001* significant

observation made by Vadher and Ndetei, Ramachandran *et al.,* and Kendler *et al*.[4,12,16] Almost all community-based epidemiological surveys of mood disorders that compare the prevalence of depression by gender found that women are twice as likely as men to experience a major depressive episode. In this study, 52.5% of patients belong to the rural background and remaining from urban areas and in control group, 42.5% is rural and 57.5% from urban. In the present study, the majority of the depressed subjects belong to lower middle and very low in their socioeconomic status and was similar to the study of Ramachandran *et al*.[13] We found that the occupation of an individual was not observed to be related to depressive episode and was similar to one previous study[11] but different from another.[12] We observed a noteworthy difference between the groups when analyzing the family history of mental illnesses, family history of substance abuse, and family history of suicides. Nearly 50% of the study subjects had a history of mental illness in their family. Depression and substance use have a bidirectional relationship. Depressed individuals were more likely to

Table 11: Comparing the average number of events in 1 year between two samples

Study group	Total events	Mean±SD	*t*-value
Depression	186	4.65±1.4242	9.6051
Control	76	1.9±1.081	

P=0.000001*. The mean number of life events among depressives was 4.65 whereas in controls it was 1.9, SD: Standard deviation

Table 12: The age-wise distribution of life events among both samples

Age	Depression	Life events	Controls	Life events
18–25	14	65	14	36
26–35	9	51	9	12
36–45	11	48	11	16
>45	6	22	6	12

The maximum numbers of life events were distributed between 18 and 45 age groups in depressive sample (164), in controls 64 events were distributed between 18 and 45 years of age

Table 13: Sex-wise distribution of life events between two samples

OCA	Depression	Controls
Male (12)	58	25
Female (28)	128	58

Most number of events distributed among female population in both samples. Chi-square=5.91, DF=1, *P*=0.0150* significant

Table 14: Comparing the stress score in 1 year between cases and controls

Study group	Total score	Mean±SD	*t* value
Depression	9334	233.35±79.18	9.1669
Control	3724	93.1±53.47	

P=0.000001* Significant, SD: Standard deviation

Table 15: Correlation between number of life events in 1 year and Hamilton score in cases

S.No.	Life event (1 year)	HAM-D	S. No.	Life event (1 year)	HAM-D
1	3	25	21	3	25
2	4	24	22	6	32
3	4	18	23	8	22
4	4	32	24	5	35
5	3	24	25	3	29
6	4	17	26	4	25
7	5	35	27	5	20
8	4	24	28	5	35
9	4	29	29	7	38
10	6	18	30	5	22
11	6	28	31	3	30
12	4	19	32	6	34
13	3	21	33	7	39
14	4	26	34	7	39
15	5	41	35	4	35
16	3	23	36	5	42
17	3	27	37	4	33
18	4	38	38	7	32
19	6	32	39	6	42
20	5	25	40	2	40

There was weak correlation between the number of life events and depth of depression

Table 16: Correlation between life event stress score and Hamilton score in cases

S. No.	Stress score	HAM-D	S. No.	Stress score	HAM-D
1	191	25	21	104	25
2	141	24	22	280	32
3	191	18	23	430	22
4	262	32	24	244	35
5	172	24	25	134	29
6	198	17	26	178	25
7	284	35	27	241	20
8	199	24	28	244	35
9	192	29	29	323	38
10	322	18	30	237	22
11	289	28	31	151	30
12	253	19	32	318	34
13	167	21	33	371	39
14	185	26	34	378	39
15	196	41	35	196	35
16	128	23	36	227	42
17	154	27	37	200	33
18	190	38	38	292	32
19	305	32	39	370	42
20	292	25	40	105	40

There was a weak correlation between stress score and depth of depression

become problem drinkers (hazardous/harmful and possible dependent drinkers) and substance abuse in the family might have contributed to the occurrence of depression in patients because of a detrimental harsh family environment.[17]

Although recent findings point out to a biochemical basis for depressive episodes, the role of stressful events is also important. We found that the average number of events in 1 year was 4.65 for patients and among normal controls, it was 1.9/year. This was similar to the observations of Rao and Nammalvar.[2] However, Barnow et al. reported that socio-demographic factors but not psychosocial stressors or life events were found to be related to the severity of depression among females.[6] There has been conflicting reports about the association between location of population and depression. Some studies found that manic depressive rates are higher in rural areas, while schizophrenia, anxiety, and personality disorders are more common in urban areas whereas higher rates are reported in the urban as compared to the rural population.[11] It is possible a set routine of an isolated life with limited stimulation in villages, may contribute toward the greater prevalence of manic depressive symptoms among rural.[18] There was no significant difference between the groups in relation to the type of family, and this was in line to the observations of Sethi and Manchanda and differs from Satija et al. who observed depression was common in joint families than the nuclear family.[11,19] Most experts attribute

the increased risk for depression and suicidal attempts when family history is positive to a genetic predisposition; yet shared family environment may also contribute to the increased risk.[20] We further looked for a correlation between the occurrence of number of life events and intensity of depression, but it was not robust. This may point to the fact that there is no accumulated effect of life events and depressive severity.

With increasing emphasis on the molecular basis of depression the part played by the psychological factors in the occurrence of depression especially the initial episode is neglected and through our study, we found that the role of stressful events cannot be totally overlooked. It needs further prospective research to find whether stressful events are causative or just risk factors of depression. The study was conducted by both subjective questionnaire and objective interview methods and ratings. They had to be reminded of frequently about the significance of the period before the onset of illness while administering presumptive life event scale. Most of the times patient's relative's help, in addition, was sought for the evaluation of stressful life events. The study is limited in its cross-sectional design, preventing inferences of causality in the relationship between current illness and number of life events in the previous year. Furthermore, participants were requested to retrospectively recollect significant events in their life, which could have contributed to recall bias.

CONCLUSION

Socio-demographic factors such as female sex, rural residence, and lower socioeconomic status, family history of mental illness, suicide, and substance abuse predispose to the occurrence of depression as found in the study. Regarding life events, number of life events and accumulated stress scoring predisposes the onset of depression in the general population, particularly in females. Information, education, and communication activities have to be designed at all levels of health care to build awareness and to identify depression at the grass root level. The knowledge of the role of psychosocial factors can be applied to induce people to avoid interpersonal conflicts, to get into mutual understanding and support as a way of primary prevention.

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