

Assessment of Gender differences in depression- A cross-sectional study

Abstract

Background and Aim: Major depression in both women and men is a debilitating disorder that disrupts relationship and daily lives and affects nearly 10% of general populations. The aims and objectives of this study were to determine the gender differences in major depression with respect to following: Demographic characteristics, Clinical manifestations, Stressful life events, Risk factors.

Material and Methods: Total of 100 patients was included in the study. All the included patients meet the criteria for DSM-IV diagnosis of major depression. The included patients were interviewed at the department of Psychiatry, B. J. Medical College & civil hospital Ahmedabad. Based on the Life Events Scale by Holmes and Rahe (year), its Indian adaptation (Presumptive stressful life events scale) was done by Gurmeet Singh (year). The statistical analysis was done by using SPSS IX version.

Results: Their ages range from 18 to 70 years. Most of the patients were married, were from urban background, and nuclear family. On Hamilton Depression rating scale when the statically analysis was done, there was no significant difference in males and females. Men had higher mean life events score than women but this was not statistically significant. In female, there was significant positive correlation between number of life events in one year and severity of depression as well as impact score during one year prior to onset of depression and Hamilton rating scores.

Comment [h1]: statistical

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Conclusion: Male and female major depression patients did not differ as regards demographic characteristics, except that most women were homemakers and men were employed. Number of stressful life events experienced during 1 year prior to onset of MDD was similar. Early insomnia, middle insomnia and somatic symptoms general were more severely present in female patients.

Key Words: Depression, Gender, Insomnia, Psychiatry

UNDER PEER REVIEW

Introduction

Major depression is the leading cause of disability and ranks fourth in ten leading causes of global burden of diseases. If projections are correct, within next 20 years it will have risen to second place. According to World Health Organization Report 2001, estimated 450 millions people alive today suffer from mental and behavioral disorder or from psychological problems.¹ Between the suffering and the prospect of care stands the barrier of stigma, prejudice, shame and exclusion. About 10 to 20 million people attempt suicide every year. One million of them including many who are young-do kill themselves.²

There is growing interest in relationship between gender and depression. This interest arises from the consistent finding that women are 2-3 times more likely than men to experience depressive episode.³ Considerable debate and research has focused on whether this difference have intrinsic origin, such as biological vulnerability, or whether they can be attributed to indirect effects such as specific gender roles.⁴

Major depression in both women and men is a debilitating disorder that disrupts relationship and daily lives and affects nearly 10% of general populations. Though depression is a treatable disease, about 80 % of episodes of depression are non-diagnosed and untreated. Our knowledge about the demographic characteristics of Major Depression is still not complete. Of these, gender characteristics form the focus of current study.⁵

Few studies have examined whether psychosocial factors, that operate to maintain depressive symptoms, have differential impact on depression in men and women.⁶

Theoretical formulation of gender differences suggest that women receive more learned

helplessness training than men because of prior victimization experiences, restricted opportunities, and assigned social roles of passivity. Consequently, women are less equipped to manage negative life events and thus are more prone to feeling of hopelessness and depression.⁷

Considering the inconclusive finding of previous studies on gender differences in the outcome of depression, purpose of present study was to examine whether gender is the main effect or in tract with type of treatment received, life events, social supports and dysfunctional attitude to predict major depression.⁸ The aims and objectives of this study were to determine the gender differences in major depression with respect to following: Demographic characteristics, Clinical manifestations, Stressful life events, Risk factors.

Materials and Methods

Total of 100 patients were included in the study. All the included patients meet the criteria for DSM-IV diagnosis of major depression. The ethical committee was informed about the study and the ethical clearance certificate was obtained prior to the start of study. The included patients were interviewed at the department of Psychiatry, B. J. Medical College & civil hospital Ahmedabad.

Instruments used:

Hamilton Rating Scale for Depression: HAM-D Scale was developed in early 1960 to monitor the severity of major depression with focus on somatic symptomatology. For this study 24 items version has been used. Items on the HAM-D are scored 0 to 2 or 0 to 4. Examiner on the basis of patient interviewed and observations completes rating. Reliability is good to excellent, including internal consistency and inter-rater assessments.

Comment [h3]: it looks like the purpose and the objectives of this study are two goals that don't exactly coincide.

Comment [h4]: What ethical precautions did you observe when interviewing these patients?

Comment [h5]: Which of the two scales did you use? You must resort to specific statistical treatment of scores when using both scales.

Comment [h6]: Please provide informations on the reliability index used as well as the values obtained.

Presumptive stressful life events scale (PSLE)(Singh, 1983)⁹:

Based on the Life Events Scale by Holmes and Rahe [\(year\)](#), its Indian adaptation (Presumptive stressful life events scale) was done by Gurmeet Singh [\(year\)](#). PSLE scale consists of 51 common life events, which are experiences by people at some time or other in their life. The time period of which life events are recorded for lifetime and for past one year. The scale items were further divided into desirable, undesirable and ambiguous and also into personal and impersonal categories. The scale is simple to administer in literate and illiterate subjects.

PSLE scale is administered in isolation, in the language that was convenient to the patient i.e. the Gujarati version (**Vankar-G.K., 1991**). The help of reliable attendant was sought in some cases.¹⁰

Statistical analysis: Comparison of different factors and dimension was done by statistical analysis. Statistical analysis included the calculations of the range; the mean, the standard deviation and following tests were done as appropriate.

- χ^2 test for comparison of categorical data
- 't' test for comparing difference between mean of continuous data.

The statistical analysis was done by using SPSS IX version (Statistical Package for Social Sciences, 2002).

Results

Socio Demographic characteristics:

A total 100 patients (50 male and 50 female) having Major Depressive Disorder were interviewed. [Their ages range from 18 to 70 years.](#) Most of the patients were married, were from urban background, and nuclear family. Income of most of the patients was

Comment [h7]: Categorical data were obtained in the evaluation of which variable?

Comment [h8]: Why integrate participants from at least two different generations into the same study?

rupees 1000 or less. Most of the female patients were housewives and were of first sib order. More than 50 % of patients had received primary education.

Profile:

Most of the patients had less than 1 year of symptoms of major depression. Premenstrual worsening of symptoms was found in 8%, while 2% of women reported worsening of symptoms during peri- or postmenopausal period. 12% had onset of major depression during post-partum period, while 10% had postoperative onset. (Table 1)

Lack of confiding relationship was reported by 18% males and 30% females. Past history of depressive episode was positive in 30 % of males and 20 % of females. In both genders, 22% patients had a positive family history. Housing problems, problems with in-laws, unemployment of spouse were more in females as compared to males. (Table 2)

Comment [h9]: This sample is very heterogeneous. Thank you for justifying this choice.

Table 1: Depression: Relation to reproductive functioning:

	Male (%)	Female (%)
Worsen Premenstrually	-	8
Onset Post partum	-	12
Onset Post abortal	-	-
Onset post operative	8	10
Relation with pregnancy	-	2
Peri post menopausal	-	2
Functional limitation	18	24
Number of children		
0 -1	36	20
2 to 3	52	56
>4	12	24

Comment [h10]: What do the numbers in this table represent?

Table 2: Risk factors for depression:

	Male(%)	Female(%)
Lack of confiding relationship	18	30
Conflictual relation with spouse	02	16
Spouse substance abuse	0	28

Housing problem*	40	62
Problem with in-law**	8	26
Unemployment spouse	0	30

* $\chi^2 = 4.84$, $df = 1$, $p = 0.02$

** $\chi^2 = 5.74$, $df = 1$, $p = 0.016$

Comment [h11]: This statistic is implemented between which variables?

Table 3: Hamilton Rating Scale for Depression

	Male	Female
Range	12-32	13-35
Mean (SD)	22.2 (3.9)	22.8 (4.5)

On Hamilton Depression rating scale when the statically analysis was done, there was no significant difference in males and females.

Comment [h12]: statistical

Comment [h13]: You must provide the values of the Student test, the test normality and the test of homogeneity of variances.

Gender related significant clinical manifestation were somatic feature, insomnia early and middle. Parental separation is more common in females, while death of parents, childhood abuse, and prolonged physical illness were almost equal in male and female.

Ten most common life events in female were change in sleeping and eating habits, change in social activities, illness of family members, unfulfilled commitment, financial loss, sexual problems, self or family member's unemployment, family conflicts and decreased number of family members.

Ten most common life events in male were change in sleeping and eating habits, change in social activities, and illness of family members, financial loss, family conflicts, sexual problems, self or family member's unemployment, unfulfilled commitment, and property damage. Men had higher mean life events score than women but this was not statistically significant.

Table 4: Severity of depression and life events

	Male	Female	All
1 Year events	r=0.281 p=0.048	r=0.330 P=0.019	r=0.281 p=0.05
Impact score 1 yr	r=0.305 p=0.031	r=0.335 p=0.017	r=0.290 p=0.03

As a whole, severity of depression as measured by HDRD score in this study was correlated with number of life event in last one year as well as with impact score in one year. Thus as a whole, number and impact of life events was significantly positively correlated with severity of depression.

In female, there was significant positive correlation between number of life events in one year and severity of depression as well as impact score during one year prior to onset of depression and Hamilton rating scores, i.e. higher the impact score of life events during one year in female, higher the HDRS score i.e. more severe the depression.

In male, there was significant positive correlation between number of life events during one year and Hamilton rating scores, i.e. higher the number of life events during one year, higher the HDRS score i.e. more severe the depression. Similarly in male, there was significant positive correlation between life event impact score during one year prior to onset of depression and Hamilton rating scores, i.e. higher the impact score of life events during one year in male, higher the HDRS score i.e. more severe the depression

Discussion

This study explores the gender differences of depression with respect to other demographic characteristic, clinical manifestation, role of life events, and risk factors.

Socio-demographic Characteristics:

In this study, depression was more common in urban areas in both males and females. Earlier studies have also reported these e.g. Indian studies by **Sethi (1970)** and **Reddy (1998)**; and Western studies by **Desjarlais (1995)**.² Urban life has been shown to be associated with increase life events and stressors. Although women ought to be affected to a greater degree by the urban life associated stressors, in this study that was not observed.¹¹

Majority of patient with depression were from low socio-economic class. Earlier Indian study has linked poverty with depression (**Patel et al 2001**). Ours is a general hospital based psychiatry department, most people coming to us belong to low socioeconomic class, and thus the results cannot be generalized.¹²

It has been proposed that the relationship between poverty and mental health is complex and multidimensional (World Health Report, 2001, WHO).¹²

Duration of depression:

Most patients had illness duration of less than one year. It is possible that this may be an index of rising awareness about psychiatric disorders in general and depression in particular. There is also likelihood of selection bias. Although in this study there are more female patients with chronic depression the difference was not statistically significant.¹³

Clinical features

Gender based biological factors:

In this study, Depression worsening premenstrually (8%), postpartum onset (12%) post abortal (0%), and peri- postmenopausal (2%) of patients was observed. The female reproductive system especially the hormonal changes during menstruation and pregnancy has a definite and complex relationship with mood disorders, the exact nature of which

remains unknown even today. Following studies are supporting this finding **Sagud (2002) and Kornstein (2001)**.^{2,14}

Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) has Postpartum onset in Mood disorders as a course specifier. Data supporting postpartum disorders, as a distinct clinical entity is yet not sufficiently strong however.

Significant number of patients had a postoperative onset of depressive episode. As there was no observed significant difference among males and females it means that this can be regarded as a life event/risk factor for Major depression.¹⁵

In the present study it was found that women, who were housewives, had more depression rates. Some earlier studies however suggest that depression is found to be more in professional and working women (**Weissman and Mayers 1974**). This possibly only indicates the differential nature of stressors in working women. In this study it seems that the sample of study being from low socioeconomic class had less number of working and employed women, thus no generalizations can be made regarding the relationship of employment status and Major Depression.

Gender and Psychosocial characteristics:

- Lack of **confiding relationship** was found in 30% of females and 18% males. However statistically this was insignificant. Research shows that the impact of life event in provoking episode of major depression is reduced among individual who has intimate, confiding relationship with friend and relative. Lack of confiding relation leads to increased risk, especially in women.¹⁶
- Spouses of 28% female patients used **substance** in present study; In our country, alcohol use is commonly associated with physical abuse of spouse, conflictual

interpersonal relationship, loss of social status for the entire family and financial problems, all having a unique negative impact on women.

- Similarly **unemployment** of the spouse has a differential negative impact on women. In this study 30% of female patient reported unemployed spouse.
- **Parental separation** in early childhood was more frequently found in females than in males. 36% of female and 20% of male reported parental separation during childhood. This seems to be a well replicated finding.
- Other **risk factors** found equally important for developed depression in males and females were past history of childhood abuse, death of parents, prolonged physical illness. Previous study support this finding, (**Bertakis 2001**)¹⁷

Severity of Depression:

We found that between males and females there was no difference in severity of Depression as measured by HDRS and that this has been supported by previous studies also, (**Shah and Parkar 2000**).

Depression in this study presented with more somatic feature and insomnia. This was also found in several studies(**Silvestein 1999, Kocklear 2002**). This could be probably due to Indian patient having more anxiety combined with depression.¹⁸

Life events and Impact scores:

Depression is caused by biological, psychological, social factors. Stressful life events, Psychological stress forms an inseparable part of life. Selye (1956) in his classical work postulated that any type of life change could act as a stressor, causing physiologic arousal and enhanced susceptibility to illness. Individual subjective meaning of life events is

important and it differs from person to person. In present study, stressful life event occurring during lifetime as well as during last one-year has similar significance.¹⁸

Present study revealed that if total number of life events in lifetime or impact score in last one year is increased then Hamilton rating score is also increased means more severe depression.

Conclusion

Male and female major depression patients did not differ as regards demographic characteristics, except that most women were homemakers and men were employed. Number of stressful life events experienced during 1 year prior to onset of MDD was similar. Early insomnia, middle insomnia and somatic symptoms general were more severely present in female patients. Higher the number of life events during 1 year prior to onset of MDD, more severe the depression- this was observed for both male as well as female patients.

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