



A study to assess sexual dysfunction in patients with major depressive disorder

Abstract

Background: Major depressive disorder (MDD) is associated with impairments of sexual function and satisfaction. A review of available literature suggests that sexual dysfunction is common in depressed patients. **Aim and objectives:** This study was undertaken to assess prevalence of sexual dysfunction in patients with MDD, to evaluate relationship of MDD with sexual dysfunction, and to evaluate type of sexual dysfunction in these patients. **Methods:** Hundred consecutive drug naive patients of MDD according to DSM-IV-TR, presenting to psychiatry OPD of general teaching hospital, were evaluated. Sexual dysfunction was assessed by using Arizona Sexual Experience Scale. Female Sexual Functioning Index and Brief Sexual Function Inventory were used to identify type of sexual dysfunction in females and males respectively. Clinical Global Impression scale was used to assess overall severity of the illness. Data thus obtained was pooled and analysed using appropriate statistical tests. **Results and conclusion:** 77.78% of male patients and 74.55% of female patients with MDD had sexual dysfunction. In male patients, 48.89% had low sexual drive, 40% patients each had ejaculatory problem and problem with sexual life, while 37.78% had erectile dysfunction. In female patients, 54.54% had low lubrication and 52.73% had low orgasm. 49.09% of the patients each had low sexual drive, low arousal, and sexual pain disorder. Poor overall satisfaction with the sexual life was seen in 35% of male patients and 40% of female patients. Hence, this study emphasises the need for awareness and importance of enquiring about sexual dysfunction in depressed patients.

Keywords: Depression. Sexual Satisfaction. Erectile Dysfunction. Orgasm.

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INTRODUCTION

Human sexuality is the sum total of individual's biologic constitution, life experiences, knowledge, behaviour, and attitude, and is influenced by physical, psychological, interpersonal, and cultural factors.[1] Sexual satisfaction is essential for having a healthy relationship and has a positive impact on quality of life.

Sexual dysfunction can arise as a result of biological problems, relationship problems, intrapsychic conflicts, lack of proper sexual knowledge, other psychiatric and/or medical disorders, personality types and disorders,[2] and use of medications, or a combination of any or all of these. Sex and the psyche are closely interlinked, and seem to have a bidirectional relationship. Sixty to 90% of patients with sexual dysfunction have a psychogenic basis for their problem.[3-5] Also, the reverse is true, i.e. psychological problems are associated with a myriad of sexual problems.[6,7]

It is difficult to estimate the incidence and type of sexual dysfunction accurately in depressed patients as both the patient and the physician may be reluctant to discuss it. Major depressive disorder (MDD) is associated with impairments of sexual function and satisfaction. A number of investigators

have reported various sexual dysfunctions associated with depression.[8-12]

Few Indian studies throw light on this subject.[13] Though sex is arguably the most natural human behaviour, we are still uncomfortable talking about it and in our culture, it is considered taboo. Hence, a need was felt to look into the aspects of sexual dysfunction and their relation to underlying depression. With this background in mind, the current study was undertaken with the following aims:

1. To assess prevalence of sexual dysfunction in patients with MDD.
2. To evaluate type of sexual dysfunction in these patients.
3. To evaluate relationship of severity of MDD with sexual dysfunction.

MATERIALS

A semi-structured proforma was designed for the study to capture socio-demographic, clinical, treatment, and other details.

MDD was diagnosed by clinical interview based on the Diagnostic and Statistical Manual of Mental Disorders, fourth edition, text revision (DSM-IV-TR).[14]

Hamilton Rating Scale for Depression (HAM-D)[15] was developed in the early 1960s to monitor the severity of major depression. Twenty four items version was used in this study with total score ranging from zero to 50. Scores of seven or less may be considered normal; eight to 13, mild; 14 to 18, moderate; 19 to 22, severe; 23 and above, very severe. Reliability is good to excellent and validity also is good.

Arizona Sexual Experience Scale (ASEX)[16] is designed to measure five items - sexual drive, arousal, vaginal lubrication, ability to reach orgasm, and satisfaction from orgasm. A total score of >18 or five or greater on any one item is associated with clinical sexual dysfunction.

Clinical Global Impression (CGI) scale,[17] developed at National Institute of Mental Health, consists of three global subscales - severity of illness, global improvement, and efficacy index. In our study, severity of illness subscale was used. The scoring for this was done using a Likert scale ranging from one to seven with one being not ill and seven being most extremely ill. The scale has good reliability (0.20 to 0.81), good validity and good sensitivity too.

Brief Sexual Function Inventory (BSFI)[18] is a very brief self-report inventory developed by O'Leary and collaborators to measure the current sexual function of males. The scale has 11 items, scored in a five-point Likert type scale that covers sex drive, erectile capacity, ejaculatory function, and satisfaction with sexual performance. It has good internal consistency reliability.

Female Sexual Functioning Index (FSFI)[19] is a 19-item questionnaire to assess the key dimensions of sexual function in females. It assesses six domains of sexual function, including desire, physical arousal-sensation, physical arousal-lubrication, orgasm, satisfaction, and pain.

METHODS

Hundred consecutive drug naive subjects presenting to the psychiatry outpatient department of a tertiary teaching hospital in an urban area, namely K.J. Somaiya Medical College & Hospital, Sion, Mumbai who fulfilled the assessment criteria were purposively sampled and included in the study. The study design was cross-sectional. Ethics committee approval and informed valid consent was taken prior to commencement of study. Patients diagnosed as having MDD as per DSM-IV-TR criteria and not on any psychotropic medication were included in the study. Patients with history of pre-existing psychiatric illness, with medical/psychiatric comorbidity, or who were not sexually active were excluded. Psychiatric comorbidity was diagnosed based on a detailed clinical interview and DSM-IV-TR.

Semi-structured proforma, specially designed for the study was used to collect sociodemographic data and details of sexual history of the patient. HAM-D was used to assess severity of depression. CGI was used to assess overall severity of the illness. The total ASEX score was used to assess the presence of clinical sexual dysfunction. FSFI and BSFI were used to identify type of sexual dysfunction in females and males respectively. Data thus obtained was pooled and subjected to statistical analysis using the SPSS software and Pearson correlation test was applied.

RESULTS

In this study, 100 patients diagnosed with MDD were included. As seen in Table 1, the mean age of male patients was 32.49 years while the mean age of female patients was 30.8 years. There was almost equal number of male and female patients. Thirty one (68.89%) male and 38 (69.09%) female patients were married, while 33 (73.33%) male and 42 (76.36%) female patients did not have any family history of psychiatric illness.

The severity of depression in the sample studied is shown in Table 2. In male patients, 37.78% each had moderate and

Table 1: Sociodemographic data of the study population

Sociodemographic variables	Total number of male patients, n=45	Total number of female patients, n=55
Age (years)		
18-30	21 (46.67%)	32 (58.18%)
31-40	21 (46.67%)	20 (36.36%)
41-50	3 (6.67%)	3 (5.45%)
Religion		
Hindu	31 (68.89%)	37 (67.27%)
Muslim	7 (15.56%)	10 (18.18%)
Sikh	2 (4.44%)	3 (5.45%)
Christian	3 (6.67%)	3 (5.45%)
Other	2 (4.44%)	2 (3.64%)
Education		
Illiterate	12 (26.67%)	19 (34.54%)
Primary	8 (17.77%)	14 (25.45%)
Secondary	15 (33.33%)	16 (29.09%)
Graduate	10 (22.22%)	6 (10.09%)
Marital status		
Single	6 (13.33%)	6 (10.09%)
Married	31 (68.89%)	38 (69.09%)
Separated	4 (8.89%)	5 (9.09%)
Divorced	4 (8.89%)	6 (10.09%)
Occupation		
Self-employed	7 (15.56%)	2 (3.64%)
Service	11 (24.44%)	9 (16.36%)
Housewife	-	41 (74.54%)
Unemployed	27 (60%)	3 (5.45%)
Family type		
Joint	17 (37.78%)	20 (38.36%)
Nuclear	28 (62.22%)	35 (63.64%)
Family history		
Yes	12 (26.67%)	13 (23.64%)
No	33 (73.33%)	42 (76.36%)

severe depression, whereas in female patients, 38.18% had moderate and 41.81% had severe depression.

Table 3 shows the scores of severity of illness on CGI. This was marked in 40% of male patients, while 33.33% of the sample was severely ill. Moderate severity of illness was seen in 38.18% of female patients.

Of the 45 male patients with MDD, 35 patients, i.e. 77.78% had sexual dysfunction while sexual dysfunction was seen in 41, i.e. 74.55% of 55 female patients on ASEX.

As seen in Tables 4 and 5, in this study, all the male and female patients having very severe depression on HAM-D had sexual dysfunction. Sixteen (94.12%) male patients and 20 (86.96%) female patients with severe depression on HAM-D had sexual dysfunction.

As seen in Figure 1, 28.87% of mildly depressed male patients each had low desire and ejaculatory problem. 58.12% of moderately depressed male patients had ejaculatory problem and 35.29% had low desire. 70.59% of severely depressed patients had overall problem with their sexual life and 64.7% had low desire, whereas in very severely depressed male patients, low desire, erectile dysfunction, and overall

problem with sex life was found in 75% each.

Figure 2 shows that in mildly depressed female patients, low desire, low lubrication, low orgasm, low satisfaction, and sexual pain disorder was found in 33.33% each. In moderately depressed female patients, low lubrication and low orgasm was found in 52.38% of each. Sexual pain disorder was found in 56.52%, and low arousal and low orgasm in 47.83% each in severely depressed patients. Low lubrication was found in 87.5%, and low desire and low orgasm in 75% of each very severely depressed female patients.

The correlation between severity of depression on HAM-D and sexual dysfunction on ASEX was highly significant for both male and female patients as seen in Table 6.

As shown in Table 7, on BSFI, the most common sexual dysfunction seen in male patients was low sexual drive, being present in 22, i.e. 48.89% of patients. Ejaculation problem and problem with sexual life were equally common in the sample studied, i.e. 40%. Poor overall satisfaction with their sexual life was seen in 35% and 37.78% of male patients had erectile dysfunction.

Table 2: Severity of depression

Severity of depression (Total HAM-D score)	Male (n=45)	Female (n=55)
Mild	7 (15.56%)	3 (5.45%)
Moderate	17 (37.78%)	21 (38.18%)
Severe	17 (37.78%)	23 (41.81%)
Very severe	4 (8.89%)	8 (14.54%)

HAM-D=Hamilton Rating Scale for Depression

Table 3: Severity of illness

CGI	Male (n=45)	Female (n=55)
Mildly ill	4 (8.89%)	2 (3.64%)
Moderately ill	6 (13.33%)	21 (38.18%)
Markedly ill	18 (40%)	15 (27.27%)
Severely ill	15 (33.33%)	15 (27.27%)
Extremely ill	2 (4.44%)	2 (3.64%)

CGI=Clinical Global Impression

Table 4: Severity of depression and sexual dysfunction in males

Severity of depression on HAM-D	Sexual dysfunction as per ASEX, n=45	
	Present (%)	Absent (%)
Mild	2 (28.57)	5 (71.43)
Moderate	13 (76.47)	4 (23.53)
Severe	16 (94.12)	1 (5.88)
Very severe	4 (100)	0
Total	35	10

HAM-D=Hamilton Rating Scale for Depression, ASEX=Arizona Sexual Experience Scale

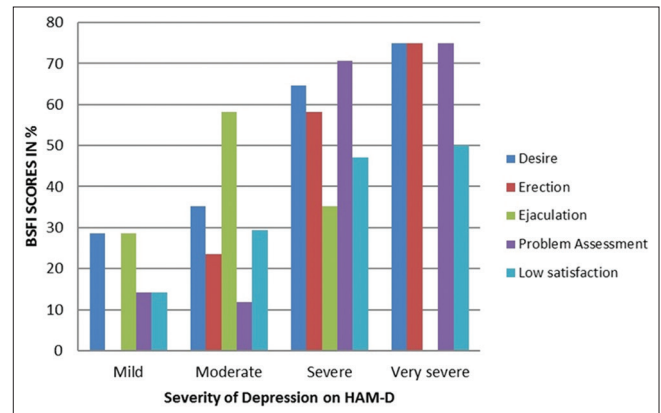


Figure 1: Severity of depression and type of sexual dysfunction in males. BSFI=Brief Sexual Function Inventory, HAM-D=Hamilton Rating Scale for Depression.

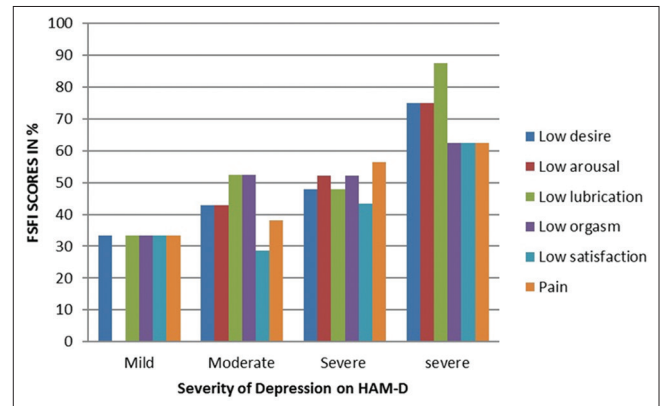


Figure 2: Severity of depression and type of sexual dysfunction in females. FSFI=Female Sexual Functioning Index, HAM-D=Hamilton Rating Scale for Depression.

Table 8 shows that the commonest sexual dysfunction seen in female patients on FSFI was low lubrication in 30, i.e. 54.54% of patients. Low orgasm was seen in 52.73% of female patients. Low sexual drive, low arousal, and sexual pain disorder were seen in 49.09% of female patients each. Poor overall satisfaction with the sexual life was seen in 40% of the patients.

DISCUSSION

Sociodemographic data

The mean age of onset of depression is 40 years with 50% of all patients having an onset between the ages of 20 to 50 years.[20] In a study done by Shah *et al.*,[21] the mean age of onset was 37.4 years and 50% of patients were married, which is in keeping with this study results. Depression is two times more common in females than in males,[22] which is similar to the results in this study. A study done by Lourenco *et al.*,[23] found that 92% of depressed patients had finished primary education and up to 47.2% of patients were unemployed. Research suggests that family history is significant in MDD. However, in this study, majority of the patients had no family history of psychiatric illness.

Severity of depression

When the patients were assessed for the severity of depression as per HAM-D, majority of male and female patients had moderate to severe depression as shown in Table 2. The mean duration of depression in male patients was 23.5 months with range being three to 44 months while in female patients it was 29.9 months with range being seven to 72 months. This is in keeping with study done by Lourenco *et al.*,[23] As seen in Table 3, 40% of male patients had marked illness and 38.18% of female patients had moderate illness on CGI which correlates well with severity of depression as found on HAM-D in Table 2.

Prevalence of clinical sexual dysfunction

In this study, higher prevalence of sexual dysfunction was seen in male patients than in female patients. Various studies[24-27]

have reported prevalence of sexual dysfunction in depression to be ranging from 35 to 72%. Shah *et al.*,[21] in their study, also found high prevalence rate of sexual dysfunction in male depressed patients than in females, which is similar to this study. This may be due to cultural pattern seen in India where talking about sex is considered taboo for females. Also, a study done by Kendurkar and Kaur[28] found sexual dysfunction in 74.2% of male and 78.95% of female depressed patients.

Severity of depression and clinical sexual dysfunction

As seen in Tables 4 and 5, the prevalence of sexual dysfunction increased as the severity of depression increased. In male patients, the prevalence increased from 28.57% in mild depression to 100% in very severe depression. Similarly, in female patients, only 33.33% of mildly depressed had sexual dysfunction while 100% of very severely depressed had sexual dysfunction. In ELIXIR study done by Bonierbale *et al.*,[24] 60.8% of mildly depressed, 68% of moderately depressed, and 73.9% of severely depressed patients had sexual dysfunction. This shows that occurrence of sexual dysfunction depends upon severity of depression.

Relationship between severity of MDD and sexual dysfunction

There was highly significant correlation between sexual dysfunction and severity of depression in both male and female patients, as shown in Table 6. These findings are similar to those of studies done by Casper *et al.*,[27] Lourenco *et al.*,[23] and Bonierbale *et al.*,[24] who found that sexual dysfunction significantly correlated with severity of depression. However, in contrast to the results of this study, Kennedy *et al.*,[29] noted that there was no relationship between sexual dysfunction and severity of depression.

Type of sexual dysfunction in males

In male patients, 35.56% had poor overall satisfaction with their sexual life as seen in Table 7. Various domains of sexual

Table 5: Severity of depression and sexual dysfunction in females

Severity of depression on HAM-D	Sexual dysfunction as per ASEX, n=55	
	Present (%)	Absent (%)
Mild	1 (33.33)	2 (66.67)
Moderate	12 (57.14)	9 (42.86)
Severe	20 (86.96)	3 (13.04)
Very severe	8 (100)	0
Total	41	14

HAM-D=Hamilton Rating Scale for Depression, ASEX=Arizona Sexual Experience Scale

Table 6: Correlation between depression and sexual dysfunction

HAM-D total score	ASEX total score	
	r	p
Male	0.415	0.005*
Female	0.438	0.001*

p<0.05 significant, HAM-D=Hamilton Rating Scale For Depression, ASEX=Arizona Sexual Experience Scale

Table 7: Type of sexual dysfunction in males

Type of sexual dysfunction	Number of patients (n=45)	Percentage (%)
Low sexual drive	22	48.89
Erectile dysfunction	17	37.78
Ejaculation problem	18	40
Problem assessment	18	40
Poor overall satisfaction	16	35.56

Table 8: Type of sexual dysfunction in females

Type of sexual dysfunction	Number of patients (n=55)	Percentage (%)
Low sexual drive	27	49.09
Low arousal	27	49.09
Low lubrication	30	54.54
Low orgasm	29	52.73
Low satisfaction	22	40
Pain	27	49.09

functioning were also affected in these patients like low sexual desire, erectile dysfunction, ejaculatory dysfunction, and problems with sexual life. Most patients had more than one sexual dysfunction.

Loss of libido is frequently associated with depression and has been very well researched with prevalence rates ranging from 23% to 83%. [21,28-30] A study done by Kendurkar and Kaur [28] found loss of libido in 45% of depressed patients, which is similar to this study, highlighting Indian scenario in which rates are lower than that seen in Western culture. Few researchers [12,21,29] have found lower rates than that found in this study. This may be due to differences in methods of enquiry of researcher. On the other hand, Casper *et al.* [27] and Cassidy *et al.* [30] reported decreased libido in 72% and 83% respectively in depressed male patients. One possible explanation for lower rates of decreased libido in this study could be that patients in Indian culture still consider talking about sex a taboo and so, probably did not report their sexual dysfunction.

In this study, erectile dysfunction was found in 37.78% of male patients which is similar to the findings of studies done by Kennedy *et al.* [29] (46%), Kendurkar and Kaur [28] (35.5%), and Mathew *et al.* [12] (35%). Ejaculatory dysfunction was found in 40% of male patients. Somewhat similar rates have been reported by Mathew and Weinman [12] (38%) and Kennedy *et al.* [29] (34.2%). Orgasmic problems are researched well and ranged from 8.2% to 55.3% in male depressed patients in various studies. [12,24] Problems with sex life were seen in 40% and low overall satisfaction was found in 35.56% of male patients. This can be attributed to individual patient's perceiving of his sexual life as poorly satisfying and less pleasurable. Study done by Kendurkar and Kaur [28] had found poor overall sexual satisfaction in 29% patients.

Type of sexual dysfunction in females

As seen in Table 8, out of the 55 female patients assessed using FSFI, 54.54% had low lubrication and 52.73% had low orgasm. 49.09% of the patients each had low sexual drive, low arousal, and sexual pain disorder. Poor overall satisfaction with the sexual life was seen in 40% of the patients.

Zajecka *et al.* [31] and Veras *et al.* [32] have also found a range of problems with arousal, lubrication, and orgasm with 65% of depressed women presenting with some sort of sexual complaint. Kennedy *et al.* [29] found that 50% of women had decreased sexual desire, 40% had difficulty in obtaining vaginal lubrication, and 15% of women had problems with orgasm which is similar to the findings in this study.

Loss of libido in female patients also is frequently associated with depression and has been very well researched. [33-35] Shah *et al.* [21] and Cassidy *et al.* [30] have reported 30% and 53% respectively of depressed female patients to have loss of libido. Low overall sexual satisfaction was found in 40% of female patients, a finding similar to the study done by Kendurkar and Kaur [28] showing 42% with poor sexual satisfaction in females.

This shows that sexual dysfunction is very prevalent in depression affecting nearly all areas of sexual functioning.

Indian patients, especially females, being reticent about sex, would not have reported problems in all these areas unless being enquired about the same.

Conclusions and recommendations

This study highlights the high prevalence of sexual dysfunction in depressed patients before starting the treatment, emphasising on enquiring about sexual dysfunction in depressed patients. In the study sample, 77.78% of male patients and 74.55% of female patients had sexual dysfunction. There was highly significant correlation of severity of depression with sexual dysfunction. An increased awareness of sexual dysfunction in MDD in medical community will lead to further research in sexual dysfunctions and improved treatment.

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