Original Article

**PREVALENCE OF SEXUAL DYSFUNCTIONS IN
MAJOR DEPRESSIVE DISORDER AND ITS
RELATION TO QUALITY OF LIFE**

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ABSTRACT

Background : Adequate sexual expression is an essential part of many human relationships, and may enhance quality of life and provide a sense of physical, psychological, and social well-being. Epidemiological and clinical studies show that depression is associated with impairments of sexual function and satisfaction, even in untreated patients. Most antidepressant drugs have adverse effects on sexual function, but accurate identification of the incidence of treatment-emergent dysfunction has proved troublesome. However, few investigators have reported the base rate for disturbances in sexual desire, arousal, and orgasm or ejaculation in patients with major depressive disorder (MDD) prior to antidepressant treatment. The purpose of this study is to define the frequency of sexual dysfunction (SD) in 60 patients with MDD and examine the relationship between SD and quality of life enjoyment and satisfaction variables. **Materials and Methods :** A consecutive series of 24 male and 36 female MDD patients diagnosed by SCID-DSM IV assessment completed a series of psychometric measures including a Sexual Function Questionnaire ASEX (Arizona Sexual Experience Scale) which asked about change in sexual interest and function as well as quality of life of life enjoyment using QLESQ-SF. **Results:** Over 33.33% of men and 42% of women reported decreased sexual interest. Reduced levels of arousal were more common in both men and women (8-22%) than ejaculatory or orgasm difficulties (11-16%). In women, SDs were more than males. Quality of life was more impaired in sample with SDs

than those without dysfunction showing significant impact of SD on quality of life. **Limitation and Conclusion:** Although limited by a relatively small sample of drug-free patients with MDD, and by the absence of a non-depressed comparison sample, these results emphasize the importance of factors beyond specific drug effects in the assessment of SD in drug naive-depressed patients.

Keywords: Impairment, major depressive disorder, quality of life, sexual dysfunctions

INTRODUCTION

Sexual functioning is influenced by a number of factors, mental illness being one of them. Sexual dysfunctions (SDs) are characterized by disturbances in sexual desire and in the psychophysiological changes associated with the sexual response cycle in men and women.^[1]

Using the measure of disability-adjusted life years, it was determined that unipolar major depression was the fourth leading cause of disease burden in the world. It was also projected that, in the year 2020, unipolar major depression would be the second leading cause of disease burden in the world.^[2]

Major depressive disorder (MDD) is characterized by loss of interest, reduction in energy, lowered self-esteem, inability to experience pleasure, this constellation of symptoms may be expected to produce difficulty in sexual relationship. Depressed patients have shown SD two to

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three times more than non-depressed individuals.^[3]

Quality Of Life (QOL) is a multidimensional construct to include subjective well-being and life satisfaction. Subjects with affective disorders have significant QOL impairment although the degree of dysfunction varies.^[4]

SD in patients with MDD has mostly been studied independently or in gender-specific studies. These studies have reported significant dysfunction in different areas of sexual functioning. However, majority of these studies are uncontrolled and provide limited evidence about the baseline rates of dysfunction across MDD. Furthermore, patients in affective disorders are usually prescribed antidepressant medications, which are known to cause substantial SD. Simply exemplifying the dysfunction caused by medications is imperfect unless the dysfunction caused by the disease is clearly demarcated. SD and QOL in MDD have mostly been studied independently or in gender-specific studies. Most studies have highlighted the role of drugs used in the class of affective disorders which cause substantial SDs.^[5]

In India, most of the studies have focused on male SD, very few have voiced the female SD.^[6]

Thus, limited data exist on SD and QOL in MDD in Indian Literature in rural or urban settings.

The *aim* of the present study was to assess the sexual functioning in drug-free MDD subjects and to investigate the association with QOL domains.

METHODS AND MATERIALS

The present study was a single center, cross-sectional, single interview study that was approved by the institutional ethics board. All the first-time registered patients were screened with the Psychiatric Diagnostic Screening Questionnaire (PDSQ).^[7]

Subjects of either sex aged between 18 and 65 years fulfilling the criteria for MDD were included. All subjects were interviewed by using the Structured

Clinical Interview for DSM-IV-TR Axis I Disorders, Research Version, Patient Edition (SCID-I/P) and Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II).^[8] A detailed history was obtained and a physical examination, consultation liaison (when required), and laboratory investigations (where indicated) were performed to rule out any physical comorbidity.

The selected cases fulfilling the selection criteria for MDD were rated for severity of illness with the 17-item Hamilton Rating Scale for Depression (HAM-D).^[9]

Sexual experience of subjects was assessed by using the Arizona Sexual Experience Scale (ASEX),^[10] a self-rated instrument for both genders. The ASEX rates sexual experience in the areas of desire, excitement, penile erection/vaginal lubrication, orgasm, and satisfaction from orgasm on a scale of 1 to 6. SD is defined as having either a score of 5 or more on any item or a total score of 19 or more. The patients were then evaluated for impairment in QOL using QOL Enjoyment and Satisfaction Questionnaire-Short Form (QLES-Q-SF).^[11] Higher scores on the QLES-Q are indicative of greater enjoyment or satisfaction. Scoring on all scales were administered by a psychiatrist and recorded. After screening 104 subjects, 60 subjects were included on giving written consent.

The exclusion criteria for all subjects included having comorbid Axis I and Axis II disorders (excluding tobacco dependence) on SCID-I/P and SCID-II; psychotic symptoms; history of SD prior to present episode of illness; endocrinal disorders (thyroid dysfunctions, diabetes); local genital problems (vaginitis, pelvic infections); hypogonadism; cardiovascular disorders (angina, myocardial infarction); renal dysfunctions; neurologic disorders (stroke, spinal cord lesions, pelvic autonomic neuropathy); intake of any psychiatric medication in last 1 month; and pelvic and abdominal surgeries in past, known to be causing SDs (oophorectomy, operations for prolapse). The subjects were excluded

if any of the above-mentioned physical disorders were present in last 3 months.

The data was pooled and statistical analysis was done using SPSS version 20 (SPSS Inc., Chicago, ILL).

Chi square tests, two sample *t*-tests, and correlation analysis using Pearson's correlation were performed where necessary. In all these analyses, two-tailed level of significance was set at $P < 0.05$ and confidence interval (CI) at 95%.

RESULTS

Table 1 describes the demographic and clinical characteristics of the subjects participating in the

study. The overall sample ($n = 60$) had a mean $\pm$ SD age of 38.0 ± 10.53 years. 60% of the subjects were female ($n=36$). Most of the subjects were from a rural background ($n=48$), while 20% were from urban areas. 88.3% of the subjects were married. The mean $\pm$ SD of duration of illness was 14.26 ± 8.25 months. On rating for severity of depression, the overall sample had HAM-D mean $\pm$ SD 19.35 ± 3.96 , with higher mean scores on HAM-D for females 19.97 ± 4.10 .

Characteristic	Male (N=24)	Female (N=36)
Age (mean $\pm$ SD)	38.75 $\pm$ 9.53	37.50 $\pm$ 11.15
Duration of illness(months)	13.88 $\pm$ 8.61	14.51 $\pm$ 8.11
<i>Religion</i>		
Hindu	41.7%	50.0%
Muslim	54.2%	36.1%
Christian	4.2%	8.3%
Sikh --	5.6%	--
<i>Marital status</i>		
Married	83.3%	91.7%
Single/widowed	16.7%	8.3%
<i>Residence</i>		
Rural	79.2%	80.6%
Urban	20.9%	19.4%
<i>Family</i>		
Nuclear	51.1%	77.8%
Joint	48.9%	22.2%

SD was reported in 71.66% of the subjects ($n=43$). Table 2 depicts the gender wise distribution of SD across all the domains. In males, total dysfunction was present in 66.67% of the subjects, low desire in 33.33% ($n=8$) was most frequently reported followed by difficulty in sustaining penile erection ($n=7$, 22.23%). Arousal and excitement problems were less reported. The mean $\pm$ SD ASEX scores in males were 18.71 ± 3.67 .

Females reported higher rates of dysfunction spanning all domains with total dysfunction in 75% ($n=27$) of subjects. Figure 2 depicts the gender wise and domain wise distribution of SD. In female subjects, low desire 41.67% ($n=15$) was the most common reported abnormality followed by arousal and excitement problems 22.2% ($n=8$). The mean $\pm$ SD ASEX scores in females were 18.78 ± 3.12 .

The overall sample had dysfunctions in the domains of desire 38.33% followed by dysfunctions in penile erection/vaginal lubrication 23.3%.

To study the impact of depression on SD, a two sample t -test was done ($t=14.12$, $P=0.000$) showing that mean HAM-D scores were significantly higher in the SD group.

On correlation analysis, to examine the relationship between mean HAM-D and ASEX scores, HAM-D scores correlated significantly with all ASEX items except erection/lubrication ($r=0.15$, $P=0.257$). Total HAM-D scores correlated positively with total ASEX scores significantly ($r=0.817$, $P<0.000$).

To study the relationship of SD on QOL raw scores on QLES-Q-SF were converted to % maximum scores. Subjects without dysfunction had mean $\pm$ SD (65.24 ± 9.90) compared to subjects with SD (30.63 ± 6.68) the difference being statistically significant ($t=13.265$, $df=22.0$, $P<0.001$). The mean differences on all items of QLESQ-SF were significant statistically in between the groups, helping in assessing the impact of SD on all domains of QOL.

A correlation matrix between HAM-D, ASEX(TOTAL), all items of QLES-Q, and total QLES-Q-SF revealed total score on HAM-D correlated positively and significantly with duration of illness ($r=0.579$, $P<0.001$), total ASEX scores ($r=0.817$, $P<0.000$), negatively with all domains of QOL scale and total scores ($r=0.849$, $P<0.001$).

Similarly, total ASEX scores correlated negatively with all items on QLES-Q-SF and total score ($r=0.752$, $P<0.001$).

DISCUSSION

The present study aimed to assess the prevalence of SDs in drug-free depressed patients and to evaluate its impact on QOL.

The results from the present study indicate high rates of SD in MDD patients, 71.66% which is comparable to the results of Casper *et al.*^[12] who found in 132 patients with depressive disorders, loss of sexual interest, characterized by loss of libido, or decrease of sexual desire or potency, was reported by 72% of patients with unipolar depression.^[12] Our findings are comparable to Kendurkar and Kaur^[13] who in 50 drug naive-depressed patients from India reported 76% baseline rates of SD. The prospective Zurich cohort study shows that the prevalence of sexual problems in depressed subjects (including those with major depression, dysthymia, and recurrent brief depression) is approximately twice that in controls (50% versus 24%). This difference encompassed emotional problems, SD, and both decreased and increased libido. The data in this study are from a group of young people (2835 years) and may not be applicable to older age groups.^[14]

Low sexual desire has frequently been reported with MDD as it was reported with the highest mean score in this study with 33.3% males and 41.67% females reporting dysfunctions in the area of desire which is comparable with the findings of Kennedy *et al.*^[15] who

assessed SD in a depressed sample of 67 men and 102 women who either had never taken antidepressant medication or had been antidepressant free for at least 2 weeks (5 weeks if they had been taking fluoxetine). They found that 42% of men and 50% of women reported a decrease in sexual drive, 36% of men and 38% of women had a decreased interest in sexually explicit material, and 42% of men and 35% of women had a reduction in fantasizing about sex.

In female subjects, 22.2% reported dysfunction in arousal which was comparable to previous self-reported measures in arousal in 914 women psychotropic medication use, and comorbid anxiety or substance abuse.^[16]

Difficulty in erection was the second most common dysfunction in males, 29.16%, preceded by desire problems in this study which is comparable to the findings of Kendurkar^[13] who reported 32% dysfunction in the domains of erection using the same rating instrument in Indian population. A study by Kennedy and co-workers showed similar rates of dysfunction with erection difficulties in 34% of male subjects.^[16]

Orgasmic dysfunctions were comparatively lower in this study population but corroborated with the findings of Kennedy and coworkers who found that 22% of depressed men reported delayed ejaculation and 12% had difficulty with premature ejaculation while 15% of depressed women reported difficulty in attaining orgasm.

Comparing our results with that of Kendurkar *et al.*^[13] we reported lower rates of dysfunction in males (74% vs 66.7%) and comparable rates in female subjects (78% vs 75%), which could be due to the higher male representation in the previous studies.

The most important finding of this cross-sectional study is the strong correlation between HAM-D scores and all individual items of ASEX scale which is not comparable to results previously documented.^[17]

This study found a significant correlation between ASEX and QLESQ-SF in all domains which were negatively correlated, quantifying the strength of impairment in all domains of QOL, enjoyment, and satisfaction.

The strong negative association between severity of depression and QOL domains are consistent with previous work demonstrating a monotonic gradient between MDD and QOL.^[18]

The finding that subjects with SD have statistically significant impairment in all domains of QOL compared to subjects without sexual complaints suggests it is likely that depressive symptoms and sexual problems are linked in a cyclic fashion with one contributing to the other. Concerning SD alone, there is little agreement about its causes, except that it is multiply determined, and that the relationships between SD and mood are “complex and multidirectional.”^[19-21]

There are certain inherent limitations with this study, firstly the absence of a control healthy group, secondly the small sample size, and thirdly the cross-sectional nature of this study limits the possibility to explore the cause and effect relationship between SD and psychiatric diagnosis. Lastly, since the data were collected from a specific population, the degree to which they represent the general population cannot be commented upon.

The robust nature of this study lies in documenting the baseline prevalence and types of SDs in both genders in MDD without highlighting the role of medication-induced dysfunctions. Also by excluding subjects with onset of SD prior to current episode and those with known physical conditions known to cause SDs an attempt was made to obtain more unambiguous data.

CONCLUSION

This study emphasizes the high rates of sexual dysfunctions in drug-free outpatients of MDD,

involving all phases of sexual cycle with females having greater dysfunction rates. The greater impairment in quality of life in subjects with sexual dysfunction suggests that although various factors contribute to sexual dysfunctions, early recognition of sexual dysfunctions and appropriate treatment of depressed patients with sexual complaints will prevent progression from milder to more severe disorders.

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