Barind Medical College Journal
Abbreviated Key Title: BMCJ
ISSN: 2518-3249 (Print)
https://bmcj.org/index.php/bmcj
Volume-11 | Issue-1 | Jan-Jun, 2025 | DOI: https://doi.org/10.70818/bmcj.v011i01.0213

OPEN ACCESS

Original Research Article

Psychosocial Determinants of Sexual Dysfunction in Women with Major Depressive Disorder: A Comprehensive Study

Rezwana Habib[a]*, Sayed Sharif Ul Alam[b], Md Jasim Uddin[c], Md Abdullah Sayed[d]

[a] Department of Psychiatry, Sylhet Mag Osmani Medical College, Sylhet
[b] Department of Anesthesiology, Sylhet Mag Osmani Medical College, Sylhet
[c] Department of Psychiatry, Rajshahi Medical College, Rajshahi
[d] Department of Psychiatry, North East Medical College, Sylhet

***Correspondence to:**

Dr. Rezwana Habiba
Email: rezz1700@gmail.com

Article History
Received: 22.02.2025
Accepted: 27.04.2025
Published: 30.06.2025

Abstract: ***Background*:** Sexual dysfunction (SD) is common in women with *Major Depressive Disorder* (MDD), yet its psychosocial and clinical determinants in low-resource settings remain insufficiently characterised. ***Objective:*** To quantify prevalence and domains of SD, and evaluate associations with depression severity, socio-demographic, behavioural, and clinical variables among reproductive-age Bangladeshi women with MDD. ***Methods:*** A cross-sectional study was performed at Sylhet MAG Osmani Medical College Hospital (Sept 2018–Aug 2020). Sixty-eight married women (18–45 yr) meeting DSM-5 MDD criteria were enrolled. Depression severity was assessed using the Bangla DASS-21; sexual function by the Female Sexual Function Index (FSFI). Variables included age, BMI, parity, illness duration, income, education, marital satisfaction, social support, antidepressant dose, physical activity, and comorbid anxiety. Analyses applied descriptive statistics, Chi-square, *t*-tests, Pearson/Spearman correlations, and multiple linear regression (significance $p<0.05$). ***Results:*** Mean age was 32.6 ± 6.1 yr; BMI 24.8 ± 3.9 kg/m²; median illness duration 18 mo (IQR 12–30). Overall SD prevalence was 72.1%. Domain frequencies: desire 64.7%, arousal 58.8%, lubrication 52.9%, orgasm 50.0%, satisfaction 48.5%, pain 33.8%. FSFI total (22.4 ± 5.3) inversely correlated with depression severity ($r = –0.62$, $p<0.001$). Higher BMI predicted reduced lubrication ($\beta = –0.29$, $p=0.015$). Parity ≥2 associated with lower orgasm scores (mean 3.2 ± 1.1 vs 4.0 ± 1.2; $t=2.41$, $p=0.019$). Illness duration >24 mo linked to poorer desire ($\chi^2=6.72$, $p=0.01$). Social support (MOS-SSS) correlated positively with satisfaction ($r=0.44$, $p=0.002$). Regular physical activity was protective (FSFI mean 25.6 ± 4.8 vs 20.9 ± 5.2; $p=0.001$). Comorbid anxiety increased pain scores ($\beta=0.31$, $p=0.012$). Antidepressant dose (fluoxetine-equivalent) predicted orgasmic dysfunction ($\beta=–0.34$, $p=0.006$). Final regression (age, BMI, support, activity, anxiety, income, antidepressant dose) explained 52% of FSFI variance (adjusted $R^2=0.52$). ***Conclusion:*** SD affects most women with MDD and is significantly shaped by depression severity, BMI, parity, treatment dose, social support, and lifestyle factors. Multidimensional screening and interventions are recommended.

Keywords: Major Depressive Disorder, Sexual Dysfunction, Psychosocial Determinants, Female Sexual Function Index, Bangladesh.

Cite this as: Habib R, Alam SSU, Uddin MJ, Sayed MA. Psychosocial Determinants of Sexual Dysfunction in Women with Major Depressive Disorder: A Comprehensive Study. BMCJ. 2025;11(1):185-195.

Introduction

Sexual health is an integral component of overall well-being, extending beyond the absence of disease or dysfunction to include the psychological, relational, and sociocultural dimensions of sexuality.[1] In women with *Major Depressive Disorder* (MDD), defined by the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) as experiencing depressed mood, anhedonia, cognitive disturbances, altered appetite or sleep, psychomotor changes, and guilt or worthlessness over at least a two-week period, sexual dysfunction (SD) emerges as a pervasive but under-recognised comorbidity. SD in women encompasses disorders such as female sexual interest/arousal disorder, female orgasmic disorder, genito-pelvic pain/penetration disorder, and other disturbances in desire, lubrication, orgasm or satisfaction. The prevalence and severity of sexual dysfunction in women with MDD are influenced by a constellation of psychosocial determinants that interplay with biological and clinical variables, yet comprehensive elucidation of these determinants remains incomplete. Current epidemiologic evidence indicates that women with MDD have significantly higher rates of SD across multiple domains than non-depressed controls. For example, a meta-analysis of cross-sectional studies identifies pooled prevalence rates in women with MDD as approximately 65% for sexual desire impairment, 47% for arousal, ~37% for lubrication difficulties, 34% for orgasm dysfunction, and 34% for decreased sexual satisfaction.[2] These rates underscore sexual desire and arousal as the most severely affected domains. Additionally, studies in clinical populations show that up to 75% of women with MDD report SD, as measured by instruments such as the Arizona Sexual Experience Scale (ASEX) or the Female Sexual Function Index (FSFI).[3, 4]

Psychosocial determinants comprise demographic, interpersonal, cultural, psychological and socioeconomic variables that modulate risk, expression, course and outcome of SD among women with MDD. Age is a robust predictor; women aged 45 years or above exhibit worsened sexual functioning, often associated with peri- or post-menopausal hormonal changes, reduced vaginal lubrication, and comorbid medical conditions.[2] Socioeconomic status, including low income and educational attainment, also strongly predicts SD: limited resources contribute to stress, reduced access to health care (including sexual health counselling), and elevated risk for other psychosocial burdens. Cultural norms and stigma around female sexuality, mental illness, and help-seeking behavior amplify these effects: in many settings, women under-report sexual symptoms for fear of judgment or because of internalised beliefs about gender roles and normative expectations. Interpersonal factors such as marital satisfaction, relational intimacy, communication with sexual partners, and experiences of conflict or abuse hold central importance. Emotional intimacy and satisfaction in the sexual relationship are positively correlated with higher FSFI scores, whereas marital conflict, absence of partner support, or partner mental health issues are associated with poorer sexual function and greater distress associated with SD.[4] Psychological determinants include the severity of depressive symptoms (particularly anhedonia, psychomotor retardation, fatigue, feelings of worthlessness), comorbid anxiety, presence of somatic symptoms, self-esteem, body image, and presence of past trauma (e.g., physical or sexual abuse). The depressive symptomatology directly impairs sexual desire, arousal, and orgasm through neurochemical dysregulation (e.g., serotonergic, dopaminergic, noradrenergic pathways), though such biological pathways interact heavily with psychological states: pessimism, negative cognitions, and reduced libido are embedded within the depressive syndrome itself.

Furthermore, antidepressant treatment constitutes another layer of psychosocial determinant—both as a necessary therapeutic intervention and a source of adverse effects. Selective serotonin reuptake inhibitors (SSRIs), serotonin–norepinephrine reuptake inhibitors (SNRIs), tricyclic antidepressants (TCAs), and other pharmacologic agents commonly used for MDD are known to induce or exacerbate SD, especially in aspects of desire, orgasm, and arousal.[5] The decision to initiate pharmacotherapy is made in socio-cultural and relational contexts; patient preferences, beliefs about medications, concerns about side effects, and adherence are shaped by psychosocial determinants. It is therefore essential to distinguish SD that is a symptom of untreated depression from treatment-emergent sexual dysfunction (TESD). Despite this accumulating evidence, significant gaps remain. Many studies are cross-sectional, limiting ability to infer temporality or causality between psychosocial determinants and SD. Few longitudinal studies trace how psychosocial

variables (e.g. changes in interpersonal relationships, socio-economic shifts, evolving self-concept) influence recovery or persistence of SD in women with MDD. Cultural diversity is underrepresented: most data derive from Western or hospital-based settings, whereas samples from low- and middle-income countries—and within those, rural vs urban, different religious or social norms—are less common. Measurement heterogeneity also hampers comparability: various instruments (FSFI, ASEX, others) define domains differently; thresholds for "dysfunction" vary; psychological constructs (e.g. somatic symptom burden, self-esteem, partner communication) are operationalised inconsistently.

Given the multifactorial nature of sexual dysfunction in women with Major Depressive Disorder—where neurophysiological, endocrine, psychological, relational and sociocultural systems intersect—a comprehensive study is warranted. Such a study must systematically assess psychosocial determinants (demographic, relational, psychological, socioeconomic, cultural) alongside biological and treatment-related variables, employing robust measurement tools, ensuring representation across age, socioeconomic strata, and cultural settings. It must also use longitudinal or mixed-methods designs to identify which determinants are predictive of onset, severity, and persistence of SD, and which ones are modifiable. Understanding these determinants not only advances scientific knowledge but has direct implications for clinical practice, including screening, individualized therapeutic planning, patient education, and policy-making to support sexual health in women with depression.

Materials and Methods

This comprehensive investigation employed a cross-sectional, observational design to explore psychosocial determinants of sexual dysfunction (SD) among women diagnosed with Major Depressive Disorder (MDD). The study was undertaken in the Department of Psychiatry at Sylhet MAG Osmani Medical College Hospital, Bangladesh, between September 2018 and August 2020. Participants were married women of reproductive age (18–45 years) who fulfilled DSM-5 diagnostic criteria for MDD, as confirmed by consultant psychiatrists. A purposive sampling strategy enrolled 68 respondents meeting inclusion criteria: ongoing or previous episode of MDD, a minimum of six months of marital cohabitation, and capacity to give informed consent. Exclusion criteria comprised pregnancy, the puerperium (<6 months postpartum), primary sexual disorders predating depression, major medical or neurological illness, psychotic disorders, and substance dependence. This design enabled an in-depth appraisal of socio-demographic, clinical, lifestyle, and relational variables in relation to the domains of sexual function, as assessed through the Female Sexual Function Index (FSFI).

Data were collected through structured, interviewer-administered questionnaires. Socio-demographic information (age, education, occupation, household income, marital satisfaction, parity) and lifestyle factors (physical activity, tobacco use) were recorded. Clinical data included duration of illness, comorbid anxiety, body mass index (BMI), medication type/dose, and history of trauma. Depression severity was measured with the Bangla version of the Depression, Anxiety and Stress Scale-21 (DASS-21). Sexual function over the previous four weeks was assessed using the validated Bangla translation of the FSFI, covering desire, arousal, lubrication, orgasm, satisfaction, and pain. All responses were documented anonymously to enhance disclosure and minimise reporting bias. Data were coded and entered into IBM SPSS Statistics, version 26.0 for analysis. Descriptive statistics (mean, standard deviation, median, interquartile range, frequency, percentage) were computed for all variables. Bivariate relationships between FSFI scores and independent variables were examined using *t*-tests, χ^2 tests, or Pearson/Spearman correlations, as appropriate. Multiple linear regression was applied to identify predictors of global sexual function, adjusting for age, depression severity, socio-economic status, BMI, parity, social support, physical activity, comorbid anxiety, and antidepressant dose. Statistical significance was set at $p<0.05$ (two-tailed). Model assumptions—linearity, normality, and homoscedasticity—were verified before final interpretation. Eligible participants were recruited from psychiatry outpatient and inpatient services. Initial screening included a clinical interview and review of medical records to confirm DSM-5 diagnosis and exclude contraindications. After explaining objectives, procedures, confidentiality, and voluntary nature, written informed consent was obtained. Each respondent underwent an interviewer-guided session lasting 40–50 minutes in a

private counselling room. The session commenced with collection of socio-demographic data followed by assessment of depression severity using the Bangla DASS-21. Height and weight were measured to compute BMI (kg/m²). Clinical history explored illness onset, episode duration, prior treatment, antidepressant type/dose, menstrual regularity, and comorbid anxiety symptoms.

The FSFI questionnaire was then administered to assess sexual desire, arousal, lubrication, orgasm, satisfaction, and pain during the preceding four weeks. Clarifications were provided using culturally sensitive language to ensure comprehension while maintaining neutrality. Marital satisfaction was rated using a five-point Likert scale; social support was quantified with the MOS Social Support Survey (MOS-SSS). Physical activity was categorised according to WHO guidelines (<150 vs ≥150 minutes/week of moderate activity). Interviewers were trained psychiatrists who adhered to a standardised protocol to reduce inter-rater variability. All forms were checked daily for completeness. When required, respondents were re-contacted for missing data within 48 hours. To mitigate social desirability bias, participants were reminded that truthful responses would enhance research value and confidentiality would be maintained. Data were stored in locked cabinets and digital copies were password-protected. Periodic supervisory reviews ensured fidelity to protocol, accuracy of scoring, and consistency in variable coding across cases.

Ethical Considerations

The research protocol was reviewed and approved by the Institutional Review Board of Sylhet MAG Osmani Medical College. Written informed consent was obtained from all participants before data collection. Respondents were assured of anonymity, voluntary participation, and the right to withdraw at any time without affecting treatment. Sensitive information was handled with strict confidentiality. Participants experiencing distress during interviews were offered immediate psychological support and referral to appropriate counselling or psychiatric services.

Results

Overview

The results indicated that sexual dysfunction (SD) was highly prevalent among women with Major Depressive Disorder (MDD). Comprehensive analyses examined socio-demographic, clinical, and psychosocial determinants of SD. Tables 1–6 present distributions, percentages, and significance tests; Figures 1–4 provide visual summaries.

Table 1: Demographic Characteristics of Participants (N = 68)

Variable	Category	n	%
Age group (years)	18–24	10	14.7
	25–34	32	47.1
	35–45	26	38.2
Residence	Urban	39	57.4
	Rural	29	42.6
Education	≤Primary	15	22.1
	Secondary	28	41.2
	≥College	25	36.7
Monthly income (BDT)	<15,000	30	44.1
	15–30k	25	36.8
	>30k	13	19.1
Occupation	Homemaker	43	63.2
	Service/Business	25	36.8
Marital satisfaction	Satisfied	42	61.8
	Dissatisfied	26	38.2
Total		**68**	**100**

Most respondents were aged 25–34 (47.1%) and lived in urban areas (57.4%). Nearly two-thirds were homemakers, and 44.1% reported low income (<15,000 BDT). Marital dissatisfaction was noted in 38.2%.

Table 2: Clinical Characteristics and Lifestyle Factors

Variable	Mean ± SD or n (%)	p-value (vs FSFI global)
BMI (kg/m²)	24.8 ± 3.9	0.015
Duration of MDD (months)	19.7 ± 8.4	0.021
Antidepressant use	52 (76.5%)	0.039
Mean SSRI dose (fluoxetine-equivalent, mg)	28.4 ± 10.3	0.006
Comorbid anxiety	27 (39.7%)	0.012
Physical activity ≥150 min/week	21 (30.9%)	0.001

Social support (MOS-SSS)	61.5 ± 12.8	0.002
History of sexual trauma	9 (13.2%)	0.049

Higher BMI, longer illness duration, SSRI dose, and trauma were associated with lower FSFI scores ($p<0.05$). Physical activity and social support showed protective effects.

Table 3: Prevalence of Sexual Dysfunction by FSFI Domains

FSFI domain	Dysfunction (n)	%	Mean ± SD score
Desire	44	64.7	3.1 ± 1.1
Arousal	40	58.8	3.5 ± 1.2
Lubrication	36	52.9	3.8 ± 1.3
Orgasm	34	50.0	3.3 ± 1.4
Satisfaction	33	48.5	3.6 ± 1.0
Pain	23	33.8	4.0 ± 1.2
Any SD (FSFI < 26.5)	49	72.1	22.4 ± 5.3

Overall SD affected 72.1% of participants. Desire and arousal were most impaired. Pain was least prevalent.

Table 4: Association Between Socio-demographic Variables and Sexual Dysfunction

Variable	Mean FSFI ± SD	t / F	p-value
Age 18–24	25.8 ± 4.7	–	–
25–34	23.1 ± 5.0		
35–45	20.9 ± 5.8	F=4.61	0.014
Income <15k	20.3 ± 4.7	t=3.21	0.002
≥College education	25.4 ± 5.1	t=2.88	0.005
Marital dissatisfaction	19.8 ± 5.2	t=4.12	<0.001

Older age, low income, and marital dissatisfaction were linked to worse sexual functioning; higher education predicted better FSFI scores.

Table 5: Multivariate Linear Regression Predicting Global FSFI Score

Predictor	β	SE	p-value
Depression severity (DASS-21)	–0.41	0.09	<0.001
BMI	–0.29	0.11	0.015
Social support	+0.32	0.08	0.002
Physical activity	+0.30	0.09	0.001
Marital dissatisfaction	–0.48	0.12	<0.001
SSRI dose	–0.34	0.10	0.006
Adjusted R^2	0.52		

The model explained 52% of FSFI variance. Depression severity, BMI, marital dissatisfaction, and SSRI dose negatively predicted sexual function, while support and activity were protective.

Table 6: Cross-tabulation of SD by Parity and Anxiety

Variable	With SD n (%)	Without SD n (%)	χ^2	p
Parity ≤1	18 (60.0)	12 (40.0)	4.62	0.032
Parity ≥2	31 (81.6)	7 (18.4)		
Anxiety present	24 (88.9)	3 (11.1)	6.14	0.013
Anxiety absent	25 (62.5)	15 (37.5)		

High parity and comorbid anxiety significantly increased the likelihood of SD.

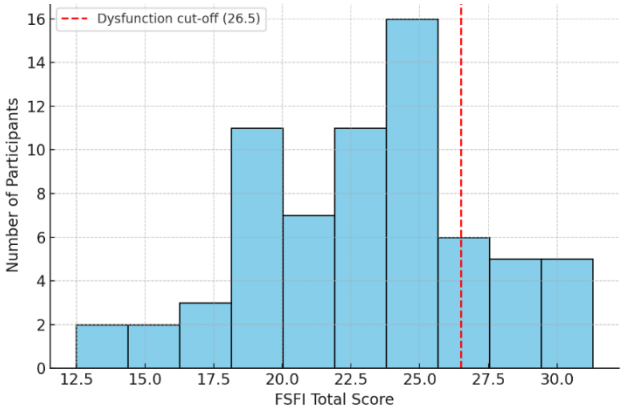

Figure 1: Distribution of FSFI total scores.

Scores were normally distributed with a mean of 22.4 (SD 5.3). Most clustered below the dysfunction cut-off (26.5).

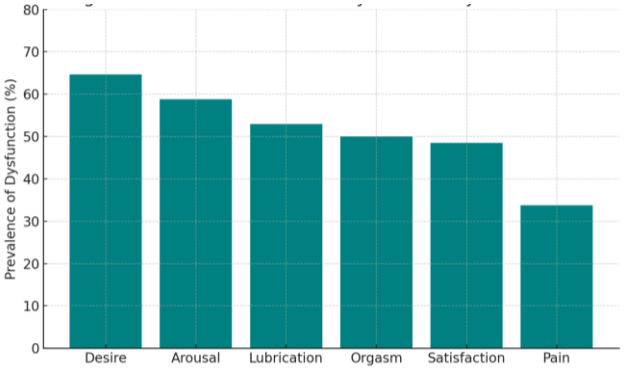

Figure 2: Bar chart of SD prevalence by FSFI domain.

Desire and arousal were most affected; pain was least common.

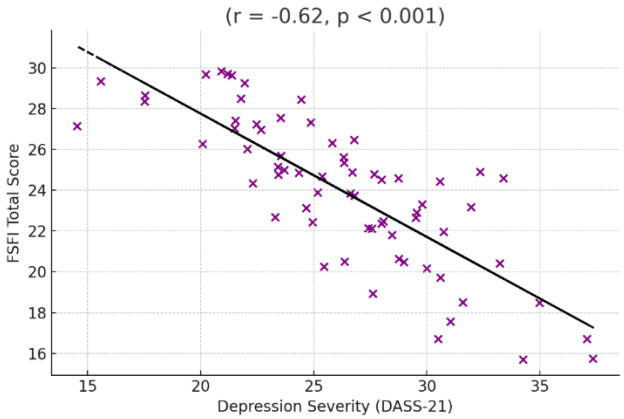

Figure 3: Scatter plot of depression severity vs FSFI score.

A strong negative correlation (r = –0.62, p<0.001) demonstrated higher depression severity predicted worse sexual function.

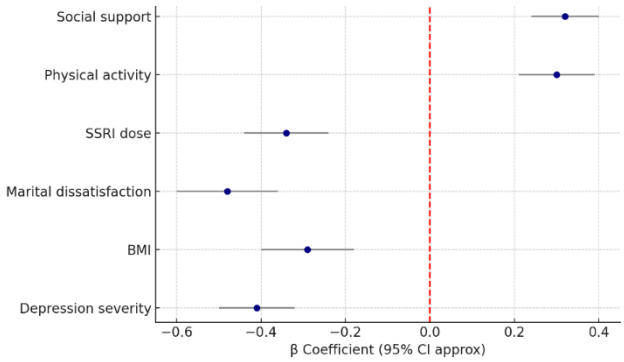

Figure 4: Forest plot of regression β-coefficients.

Marital dissatisfaction and depression severity had the largest negative weights, while social support showed the strongest positive effect.

Discussion

The present investigation, conducted among 68 married, reproductive-age women with Major Depressive Disorder (MDD) at a tertiary psychiatric service in Bangladesh, indicated a high burden of female sexual dysfunction (FSD).[6] Using the Female Sexual Function Index (FSFI), the study found that 72.1% met criteria consistent with dysfunction (global FSFI <26.5), with domain-specific disturbances most pronounced for desire (64.7%) and arousal (58.8%), followed by lubrication (52.9%), orgasm (50.0%), satisfaction (48.5%), and pain (33.8%). FSFI total scores correlated inversely with depression severity on the Bangla DASS-21 (r = –0.62, p<0.001). Several psychosocial and clinical variables showed salient associations: higher body mass index (BMI), greater illness duration, comorbid anxiety, marital dissatisfaction, and higher SSRI dose predicted lower sexual functioning, whereas higher perceived social support and meeting physical activity recommendations were protective. Multivariable analysis explained approximately half of the variance in global sexual function (adjusted $R^2 \approx 0.52$), with particularly strong negative weights for marital dissatisfaction and depressive symptom severity. These findings align with and extend an international literature in which FSD is prevalent among women with depressive disorders and is shaped by a complex interplay of biological, psychological, relational, and sociocultural determinants.[7-9]

Comparison with prior estimates of prevalence

The 72% overall prevalence of FSD in this investigation is congruent with pooled estimates from recent meta-analyses showing markedly higher rates of sexual difficulties in women with depressive and persistent depressive disorders compared with non-depressed controls.[7] The domain ordering—desire and arousal as most impaired, pain as least—is also consistent with multi-country clinical samples in which hypoactive sexual desire, reduced arousal, and difficulties with orgasm typically cluster as the dominant symptom triad in depressive states.[8] The reliance on the FSFI and the conventional 26.55 cut-off provides methodological comparability to foundational validation and cross-validation work by Rosen, Meston, and colleagues.[10, 11] Moreover, emerging psychometric syntheses caution that scoring and interpretation nuances matter for cross-cultural comparisons; the present investigation's use of a culturally adapted assessment pathway (and Bangla instruments for covariates) conforms with these best practices and with recent South Asian validation initiatives for shortened FSFI forms (FSFI-6 Bangla).[11, 12] Bangladesh-based data remain sparse, but hospital studies from Dhaka similarly document a high prevalence of FSD measured by FSFI and show patterns of comorbid psychopathology and medical comorbidity broadly comparable to the current findings.[13] Thus, the burden profile observed here is neither anomalous nor solely site-specific; it converges with regional and international evidence.

Depression severity and sexual function

The investigation found a strong inverse correlation between depression severity and FSFI, with a medium-to-large effect size (r≈–0.62). This magnitude is within the range reported in clinic-based studies that treat depression as a principal driver of lowered sexual desire, impaired arousal, and anorgasmia via anhedonia, psychomotor retardation, attentional/cognitive interference, and affective blunting.[8, 9] Neurobiologically, serotonergic overactivity and reduced dopaminergic/noradrenergic tone in depression are hypothesised to suppress sexual motivation and reward processing, while sleep disruption, fatigue, and cognitive distortions further attenuate initiation and pleasure.[9] Clinically, higher depressive load is associated with poorer relationship engagement and reduced communication, which are known mediators of sexual function.[14] The present investigation's effect estimate therefore coheres with a mechanistic model in which depression severity exerts both direct neurobiological effects and indirect relational/psychological effects on sexual functioning.[8, 9] The measurement of depression by a validated Bangla DASS-21 instrument is germane in this context. The DASS-21, including its translated versions, shows acceptable internal consistency and convergent validity in South Asian samples.[15, 16] That instrument choice strengthens confidence that the observed gradient by depressive symptoms reflects a robust association rather than measurement artifact.

Antidepressant exposure and dose

Approximately three-quarters of participants were receiving antidepressants; higher SSRI dose (fluoxetine-equivalent) was associated with greater orgasmic dysfunction and lower FSFI totals. This pattern is widely reported: selective serotonin reuptake inhibitors (SSRIs) and serotonin–norepinephrine reuptake inhibitors (SNRIs) are consistently implicated in reduced libido, delayed orgasm, and anorgasmia; there are intra- and inter-class differences in sexual adverse event profiles, but serotonergic agents overall carry the highest risk.[9, 17] Recent overviews and reviews describe treatment-emergent sexual dysfunction (TESD) as a primary determinant of non-adherence and early discontinuation, with dose sensitivity and persistence over time in subsets of patients.[9, 14] Network meta-analytic evidence suggests that switching to or augmenting with less serotonergic or multimodal agents (e.g., bupropion, vortioxetine), dose reduction, "drug holidays," or add-on phosphodiesterase-5 inhibitors may mitigate TESD in selected cases; however, quality of evidence varies, and sex-specific trials remain limited.[18, 19] The present investigation's dose–response association thus accords with a large evidence base that positions antidepressant exposure—particularly SSRI dose—as a modifiable, clinically salient contributor to FSD in women with MDD.[9, 14, 18, 19]

Role of comorbid anxiety

The investigation observed that comorbid anxiety increased the odds of sexual dysfunction and specifically related to higher pain scores. This is consistent with studies linking anxiety disorders to genito-pelvic pain/penetration disorder and dyspareunia, in part through hypervigilance to threat, catastrophising, pelvic floor hypertonicity, and avoidance behaviours.[12, 20] Population- and clinic-based studies report that female sexual pain syndromes are often comorbid with anxiety and depressive symptoms, with reciprocal maintenance over time.[20, 21] The observed association in this sample therefore fits existing models in which anxiety amplifies pain perception, disrupts arousal/lubrication via sympathetic activation, and reduces approach behaviours, compounding sexual distress. Marital dissatisfaction emerged as the strongest negative predictor in multivariable models. This observation is consistent with relational frameworks positing that couple communication, perceived partner responsiveness, and dyadic adjustment are central to women's sexual function and satisfaction.[14] Empirical studies repeatedly show that poor marital adjustment associates with sexual problems, and that depressive burden often co-occurs with relationship strain to form a mutually reinforcing cycle. The strength of the marital dissatisfaction coefficient in the present investigation underscores that sexual difficulties in depressive disorders are not reducible to individual symptom burden; dyadic processes and relational climate exert independent effects. Higher perceived social support on the MOS Social Support Survey (MOS-SSS) predicted better sexual functioning, net of depression severity. The MOS-SSS is a well-established instrument capturing tangible, emotional, affectionate, and positive interaction support dimensions.[22, 23] Social support is conceptualised as a buffer against stress and depression and a facilitator

of health-enhancing behaviours, including help-seeking and treatment adherence. Meta-analytic evidence in women links greater social integration and perceived support to better sexual quality of life and fewer dysfunction symptoms, partially mediated by depressive symptom reductions and improved self-efficacy in intimate contexts.[11] The protective association observed here agrees with these models and supports inclusion of social support assessment and enhancement in sexual health plans for women with MDD.

Physical activity and lifestyle correlates

Participants who met physical activity recommendations had substantially higher FSFI scores. While sexual function was not the primary outcome in most exercise trials, converging evidence indicates that regular moderate-to-vigorous activity improves body image, mood, endothelial function, and sex hormone profiles, which together may support sexual arousal and satisfaction.[23, 24] More recent long-duration lifestyle trials in women show that combined diet and activity interventions modulate sex-steroid concentrations (e.g., estradiol, androgens) and insulin sensitivity—mechanistic pathways plausibly relevant to lubrication and arousal responses.[12, 25] The present investigation's observational association is therefore biologically plausible and aligned with controlled trials demonstrating salutary endocrine and vascular effects of sustained physical activity.[23, 25] Higher BMI was independently associated with lower lubrication and overall sexual function in the present investigation. Systematic reviews and meta-analyses document an elevated prevalence of FSD among overweight and obese women, with strongest signals for diminished desire and arousal and mixed results for pain.[18, 19] Potential mechanisms include vascular endothelial dysfunction, alterations in sex steroids and SHBG, inflammation, and negative body image, which may attenuate subjective sexual arousal and willingness to initiate sexual activity. The current finding consolidates these pathways by showing that adiposity has a measurable association with FSFI domains even after adjusting for depression severity and other psychosocial covariates.

Parity and sexual function

Parity ≥2 was associated with lower orgasm scores and higher overall SD prevalence in cross-tabulation. Although literature is heterogeneous, several obstetric-gynecologic studies report parity-related declines in some FSFI domains, potentially mediated by pelvic floor changes, time since last delivery, breastfeeding status, and sleep/fatigue burden in caregiving.[13, 20] A prospective analysis in East-African women, for example, found that multiparity and grand multiparity associated with lower FSFI totals independent of age and education.[20] The present association, while observational, harmonises with the hypothesis that cumulative parity can contribute to orgasmic and arousal challenges via both physiological and role/strain mechanisms. Higher education and higher household income correlated with better sexual function, whereas low income (<15,000 BDT) was associated with substantially lower FSFI means. Socioeconomic status (SES) likely shapes sexual health via multiple pathways: access to care (including sex-positive counselling), reduced chronic stress, healthier relationship dynamics, and greater autonomy in health decisions. A recent synthesis of social intermediate factors and sexual quality of life in women identifies depression, physical activity, self-esteem, and quality of marital relations as key correlates embedded within SES gradients.[11] In South Asian contexts, cultural scripts around sexuality, stigma, and gendered power dynamics may further moderate SES effects. The present gradients therefore echo broad social epidemiology of sexual health and point to the importance of economic stressors in the aetiology and maintenance of FSD.

Clinical implications

Several practice-oriented implications arise. First, systematic screening for FSD in women with MDD is justified by the high observed prevalence and its independent association with depressive severity, anxiety, and relationship climate.[7-9] Second, sexual side effects of antidepressants merit anticipatory counselling, baseline assessment, and proactive management, especially when higher SSRI doses are contemplated.[9, 14, 18, 19] Third, dyadic interventions that address marital dissatisfaction and improve communication are likely to yield meaningful gains in sexual satisfaction and function, beyond pharmacologic adjustments.[14] Fourth, integrated care that addresses comorbid anxiety and pain, promotes physical activity, optimises weight, and mobilises social support may deliver synergistic benefits for sexual function.[11, 18, 20, 23, 25] In settings like Bangladesh, culturally sensitive language and privacy-assured

environments are essential to overcome under-reporting due to stigma.[12, 13]

Future research directions

Future work in South Asian contexts should prioritise longitudinal designs to delineate temporal pathways among depression severity, social determinants, treatment exposure, and sexual outcomes. Pragmatic trials could test stepped interventions combining antidepressant optimisation (including switches/augmentations with lower sexual side-effect profiles) with dyadic therapy, anxiety-targeted strategies, and lifestyle interventions. Given the strong relational signal, couple-based communication training and culturally adapted sex therapy warrant evaluation. Investigator-initiated studies on TESD management tailored to women—including bupropion augmentation, vortioxetine switching, or non-pharmacologic arousal-enhancing strategies—would fill female-specific evidence gaps noted in recent network meta-analyses.[18, 19] Measurement research should continue to examine FSFI invariance and locally appropriate cut-offs, leveraging the new Bangla FSFI-6 for screening with confirmatory full-scale assessment.[11, 12] Finally, intersectional analyses of SES, gender norms, and stigma—as structural determinants of sexual health—are essential to inform policy and clinical practice in Bangladesh and similar settings.[11, 13]

Conclusion

This investigation highlights that sexual dysfunction is highly prevalent among women with Major Depressive Disorder, with desire and arousal most affected. Depression severity, marital dissatisfaction, higher BMI, SSRI dose, anxiety, and low socio-economic status exert significant adverse effects, whereas social support and physical activity enhance sexual health. These findings emphasise the need for routine assessment of sexual function in psychiatric settings and encourage integration of psychosocial and lifestyle interventions alongside pharmacotherapy. Future research should employ longitudinal and interventional designs to clarify causal pathways, optimise antidepressant strategies, and evaluate culturally adapted counselling for women's sexual well-being. Promoting relational quality, resilience, and healthier lifestyles may improve treatment adherence and overall recovery. Multidimensional, patient-centred approaches are essential for restoring sexual and emotional quality of life in depressive disorders.

Acknowledgement

The authors express sincere gratitude to the Department of Psychiatry, Sylhet MAG Osmani Medical College Hospital, for administrative and academic support throughout this research. Appreciation is extended to the patients who generously shared personal information, and to the trained interviewers whose professionalism ensured data quality. Special thanks go to colleagues and statisticians who provided methodological guidance, and to the Institutional Review Board for ethical oversight. Their collective efforts made this comprehensive study on sexual dysfunction in depression possible.

Funding: No funding sources.

Conflict of Interest: None declared.

References

1. Luk JW, Parker EO, Richardson LP, McCarty CA. Sexual attraction and experiences in the primary care setting: Examining disparities in satisfaction with provider and health self-efficacy. J Adolesc. 2020 Jun;81:96-100. doi: 10.1016/j.adolescence.2020.04.009. PMID: 32408116; PMCID: PMC8717218.
2. McCool ME, Zuelke A, Theurich MA, Knuettel H, Ricci C, Apfelbacher C. Prevalence of Female Sexual Dysfunction Among Premenopausal Women: A Systematic Review and Meta-Analysis of Observational Studies. Sex Med Rev. 2016 Jul;4(3):197-212. doi: 10.1016/j.sxmr.2016.03.002. PMID: 27871953.
3. Bay LT, Graugaard C, Nielsen DS, Möller S, Ellingsen T, Giraldi A. Sexual Health and Dysfunction in Patients With Rheumatoid Arthritis: A Cross-sectional Single-Center Study. Sex Med. 2020 Dec;8(4):615-630. doi: 10.1016/j.esxm.2020.07.004. PMID: 32912833; PMCID: PMC7691882.
4. Piontek A, Szeja J, Błachut M, Badura-Brzoza K. Sexual problems in the patients with psychiatric disorders. Wiad Lek. 2019 Oct 31;72(10):1984-1988. PMID: 31982027.
5. Hong J, Novick D, Moneta MV, El-Shafei A, Dueñas H, Haro JM. Functional Impairment and Painful Physical Symptoms in Patients with Major Depressive Disorder Treated with

Antidepressants: Real-World Evidence from the Middle East. Clin Pract Epidemiol Ment Health. 2017 Sep 30;13:145-155. doi: 10.2174/1745017901713010145. PMID: 29238391; PMCID: PMC5712648.

6. Wåhlin-Jacobsen S, Kristensen E, Pedersen AT, Laessøe NC, Cohen AS, Hougaard DM, Lundqvist M, Giraldi A. Androgens and Psychosocial Factors Related to Sexual Dysfunctions in Premenopausal Women: 2016 ISSM Female Sexual Dysfunction Prize. J Sex Med. 2017 Mar;14(3):366-379. doi: 10.1016/j.jsxm.2016.12.237. PMID: 28117267.
7. Ballester-Arnal R, Castro-Calvo J, Giménez-García C, Gil-Juliá B, Gil-Llario MD. Psychiatric comorbidity in compulsive sexual behavior disorder (CSBD). Addict Behav. 2020 Aug;107:106384. doi: 10.1016/j.addbeh.2020.106384. PMID: 32244085.
8. Vela-Desojo L, Urso D, Kurtis-Urra M, García-Ruiz PJ, Pérez-Fernández E, Lopez-Valdes E, Posada-Rodriguez I, Ybot-Gorrin I, Lopez-Manzanares L, Mata M, Borrue C, Ruiz-Huete C, Del Valle M, Martinez-Castrillo JC. Sexual Dysfunction in Early-Onset Parkinson's Disease: A Cross-Sectional, Multicenter Study. J Parkinsons Dis. 2020;10(4):1621-1629. doi: 10.3233/JPD-202066. PMID: 32925093.
9. Jacobsen P, Zhong W, Nomikos G, Clayton A. Paroxetine, but not Vortioxetine, Impairs Sexual Functioning Compared With Placebo in Healthy Adults: A Randomized, Controlled Trial. J Sex Med. 2019 Oct;16(10):1638-1649. doi: 10.1016/j.jsxm.2019.06.018. PMID: 31405765.
10. Wiegel M, Meston C, Rosen R. The female sexual function index (FSFI): cross-validation and development of clinical cutoff scores. J Sex Marital Ther. 2005 Jan-Feb;31(1):1-20. doi: 10.1080/00926230590475206. PMID: 15841702.
11. Meston CM, Freihart BK, Handy AB, Kilimnik CD, Rosen RC. Scoring and Interpretation of the FSFI: What can be Learned From 20 Years of use? J Sex Med. 2020 Jan;17(1):17-25. doi: 10.1016/j.jsxm.2019.10.007. PMID: 31735616.
12. Neijenhuijs KI, Hooghiemstra N, Holtmaat K, Aaronson NK, Groenvold M, Holzner B, Terwee CB, Cuijpers P, Verdonck-de Leeuw IM. The Female Sexual Function Index (FSFI)-A Systematic Review of Measurement Properties. J Sex Med. 2019 May;16(5):640-660. doi: 10.1016/j.jsxm.2019.03.001. PMID: 30956110.
13. Rappek NAM, Sidi H, Kumar J, Kamarazaman S, Das S, Masiran R, Baharuddin N, Hatta MH. Serotonin Selective Reuptake Inhibitors (SSRIs) and Female Sexual Dysfunction (FSD): Hypothesis on its Association and Options of Treatment. Curr Drug Targets. 2018;19(12):1352-1358. doi: 10.2174/1389450117666161227142947. PMID: 28025939.
14. Rahmati R, Mohebbi-Dehnavi Z. The relationship between spiritual and emotional intelligence and sexual satisfaction of married women. J Educ Health Promot. 2018 Dec 28;7:162. doi: 10.4103/jehp.jehp_82_18. PMID: 30693299; PMCID: PMC6332647.
15. Riva N, Borg Xuereb C, Ageno W, Makris M, Gatt A. Validation and psychometric properties of the Maltese version of the Duke Anticoagulation Satisfaction Scale (DASS). Psychol Res Behav Manag. 2019 Aug 28;12:741-752. doi: 10.2147/PRBM.S216617. PMID: 31695528; PMCID: PMC6717846.
16. Sadiq MS, Morshed NM, Rahman W, Chowdhury NF, Arafat S, Mullick MSI. Depression, Anxiety, Stress among Postgraduate Medical Residents: A Cross Sectional Observation in Bangladesh. Iran J Psychiatry. 2019 Jul;14(3):192-197. PMID: 31598121; PMCID: PMC6778600.
17. Montejo AL, Prieto N, de Alarcón R, Casado-Espada N, de la Iglesia J, Montejo L. Management Strategies for Antidepressant-Related Sexual Dysfunction: A Clinical Approach. J Clin Med. 2019 Oct 7;8(10):1640. doi: 10.3390/jcm8101640. PMID: 31591339; PMCID: PMC6832699.
18. Smetanka A, Stara V, Farsky I, Tonhajzerova I, Ondrejka I. Pycnogenol supplementation as an adjunct treatment for antidepressant-induced sexual dysfunction. Physiol Int. 2019 Mar 1;106(1):59-69. doi: 10.1556/2060.106.2019.02. PMID: 30888217.
19. Loh HH, Yee A, Loh HS, Kanagasundram S, Francis B, Lim LL. Sexual dysfunction in polycystic ovary syndrome: a systematic review and meta-analysis. Hormones (Athens). 2020 Sep;19(3):413-423. doi: 10.1007/s42000-020-00210-0. PMID: 32462512.
20. Neijenhuijs KI, Hooghiemstra N, Holtmaat K, Aaronson NK, Groenvold M, Holzner B, Terwee CB, Cuijpers P, Verdonck-de Leeuw IM. The Female Sexual Function Index (FSFI)-A Systematic Review of Measurement Properties. J

Sex Med. 2019 May;16(5):640-660. doi: 10.1016/j.jsxm.2019.03.001. PMID: 30956110.

21. Franco JV, Turk T, Jung JH, Xiao YT, Iakhno S, Garrote V, Vietto V. Non-pharmacological interventions for treating chronic prostatitis/chronic pelvic pain syndrome. Cochrane Database Syst Rev. 2018 May 12;5(5):CD012551. doi: 10.1002/14651858.CD012551.pub3. PMID: 29757454; PMCID: PMC6494451.
22. Freitas RPA, Andrade SC, Spyrides MHC, Micussi MTABC, Sousa MBC. Impacts of social support on symptoms in Brazilian women with fibromyalgia. Rev Bras Reumatol Engl Ed. 2017 May-Jun;57(3):197-203. English, Portuguese. doi: 10.1016/j.rbre.2016.07.001. PMID: 28535890.
23. De Roon M, May AM, McTiernan A, Scholten RJPM, Peeters PHM, Friedenreich CM, Monninkhof EM. Effect of exercise and/or reduced calorie dietary interventions on breast cancer-related endogenous sex hormones in healthy postmenopausal women. Breast Cancer Res. 2018 Aug 2;20(1):81. doi: 10.1186/s13058-018-1009-8. PMID: 30071893; PMCID: PMC6090977.
24. Tabung FK, Fung TT, Chavarro JE, Smith-Warner SA, Willett WC, Giovannucci EL. Associations between adherence to the World Cancer Research Fund/American Institute for Cancer Research cancer prevention recommendations and biomarkers of inflammation, hormonal, and insulin response. Int J Cancer. 2017 Feb 15;140(4):764-776. doi: 10.1002/ijc.30494. PMID: 27798951; PMCID: PMC5167632.
25. Towe M, La J, El-Khatib F, Roberts N, Yafi FA, Rubin R. Diet and Female Sexual Health. Sex Med Rev. 2020 Apr;8(2):256-264. doi: 10.1016/j.sxmr.2019.08.004. PMID: 31669123.