Section: General Medicine

Original Research Article

SEXUAL DYSFUNCTION IN DYSGLYCEMIC FEMALES: A SINGLE-CENTRE, HOSPITAL-BASED, OBSERVATIONAL CROSS-SECTIONAL STUDY

Spandan Sunish Sharma[1], Narmada Prasad Patel[2], Bhupendra Ratre[2], Pritesh Goutam[3], Nitish Malhotra[1], Suryakant Sahu[1], Snigdha Rahim[1], Himanshu Tripathi[1]

[1]*Postgraduate Resident, Department of General Medicine, L.N. Medical College & Research Centre, Bhopal, Madhya Pradesh, India*
[2]*Professor, Department of General Medicine, L.N. Medical College & Research Centre, Bhopal, Madhya Pradesh, India*
[3]*Head of Department, Department of Psychiatry L.N. Medical College & Research Centre, Bhopal, Madhya Pradesh, India*

Received *: 05/06/2026*
Received in revised form *: 17/07/2026*
Accepted *: 01/08/2026*

Corresponding Author:
Dr. Spandan Sunish Sharma,
Postgraduate Resident, Department of General Medicine, L.N. Medical College & Research Centre, Bhopal, Madhya Pradesh, India.
Email: spandansharma98@gmail.com

DOI: 10.70034/ijmedph.2026.3.361

Source of Support: Nil,
Conflict of Interest: None declared

Int J Med Pub Health
2026; 16 (3); 2267-2273

ABSTRACT

Background: The present study was undertaken to evaluate the prevalence and pattern of sexual dysfunction in dysglycemic females and to examine its association with glycemic status, duration of disease, depression, comorbidities, age, and treatment profile. The study also aimed to identify whether dysfunction is already apparent at the stage of prediabetes, thereby supporting the concept that sexual health impairment may begin early in the metabolic disease continuum.

Materials and Methods: This observational cross-sectional study was conducted in the Department of Medicine, J.K. Hospital, Bhopal .324 dysglycemic women recruited from OPD and IPD services over the study period of 18 months. Sexual function was assessed using the Female Sexual Function Index (FSFI), depression was measured using the Hamilton Depression Rating Scale (HAM-D), and clinical and biochemical variables including age, body mass index, HbA1c, duration of disease, medication type, and comorbidities were documented. Statistical analysis was performed using SPSS version 22, with $p < 0.05$ considered significant.

Results: The cohort comprised women aged 18-50 years with a mean age of approximately 35 years. Prediabetes was present in 24.4% and diabetes in 75.6%, while 62.3% of participants were overweight or obese and the mean HbA1c was 7.61 ± 1.27%. Sexual dysfunction was present in 40.5% of prediabetic women and 62.0% of diabetic women, indicating that impairment begins before overt diabetes and becomes more frequent with worsening glycaemia. Depression was highly prevalent, and all FSFI domains showed significant negative correlation with HAM-D scores, demonstrating that greater depressive severity accompanies worse sexual function. Among the examined factors, duration of disease, glycaemic burden, depression severity, comorbidities, and treatment intensity showed statistically significant associations with sexual dysfunction, whereas BMI alone did not independently predict FSFI severity.

Conclusion: Female sexual dysfunction is a highly prevalent, early, and progressive complication of dysglycaemia that affects multiple domains of sexual life and extends beyond physical symptoms to psychological and relational well-being .The findings indicate that sexual dysfunction is not restricted to long-standing or poorly controlled diabetes alone, but may already be present in prediabetic women, reinforcing the need for earlier screening and intervention, A holistic model of diabetes care in which sexual health assessment, psychological evaluation, and optimized metabolic management are integrated into routine clinical practice is needed. Timely counselling, sensitive physician communication, lifestyle modification, glycaemic control, and multidisciplinary care may improve quality of life and reduce the persistent under-diagnosis of this neglected complication.

Keywords: Female sexual dysfunction; Dysglycaemia; Diabetes mellitus; Prediabetes; FSFI.

INTRODUCTION

Diabetes mellitus has become one of the most important non-communicable diseases worldwide, affecting women across the reproductive lifespan and increasingly appearing at younger ages.The dysglycaemic spectrum extends from prediabetes to overt diabetes, and this continuum is characterized by progressive metabolic, vascular, hormonal, inflammatory, and psychological alterations that together influence quality of life in ways that are not always captured by conventional outcome measures While the classical complications of diabetes such as retinopathy, nephropathy, neuropathy, and cardiovascular disease are routinely evaluated, issues related to sexual well-being remain substantially under-recognized in women . This is particularly relevant in hospital-based Indian settings, where cultural inhibition, lack of physician enquiry, and social stigma often prevent discussion of intimate symptoms even when these symptoms cause major distress.

Female sexual dysfunction is a multidimensional disorder involving impairment in one or more domains including desire, arousal, lubrication, orgasm, satisfaction, and pain. In women with dysglycaemia, several mechanisms may contribute simultaneously. Chronic hyperglycaemia promotes endothelial dysfunction, autonomic neuropathy, and microvascular compromise, all of which may affect genital blood flow and vaginal lubrication. Metabolic disturbances may coexist with obesity, hypertension, thyroid disease, and polycystic ovarian syndrome, further amplifying physiological risk. In parallel, depression, anxiety, reduced self-esteem, relationship stress, and body image concerns can aggravate or even mediate sexual difficulties. Thus, female sexual dysfunction in dysglycaemia should not be viewed as a narrow gynecological complaint; rather, it reflects the combined impact of metabolic disease and psychosocial burden.

The prediabetic state deserves particular attention because it represents an opportunity for early detection and prevention. The attached study base emphasizes that sexual dysfunction may appear before the onset of overt diabetes, suggesting that subtle metabolic injury can affect sexual function earlier than often appreciated. If true, this has important clinical implications. It means that clinicians should not wait for advanced disease or overt complications before discussing sexual health. Instead, sexual symptoms may be considered an early warning sign of broader metabolic and psychological deterioration. In practical terms, identification of sexual dysfunction in women with dysglycaemia may prompt more comprehensive evaluation of glycaemic control, mental health, comorbidity burden, and lifestyle risk factors.

Another important issue is the bidirectional relationship between depression and sexual dysfunction. Women with diabetes commonly experience depressive symptoms due to chronic illness burden, treatment fatigue, social role conflict, body image disturbance, and fear of complications. Depression can lower desire, reduce arousal, blunt orgasmic response, and worsen relationship intimacy, while persistent sexual dysfunction can in turn deepen depressive symptoms and lower self-worth. Therefore, studying sexual dysfunction without accounting for depression provides an incomplete picture. The present study incorporated HAM-D assessment alongside FSFI scoring to better understand this interplay in dysglycemic women.

The current study was designed as a single-centre, hospital-based, observational cross-sectional study with the purpose to evaluate the prevalence and domain-wise pattern of sexual dysfunction in dysglycemic females and to examine associations with age, glycaemic profile, disease duration, treatment intensity, comorbidities, and depressive burden. By focusing on both diabetic and prediabetic women, the study seeks to broaden the clinical understanding of sexual health across the full dysglycaemic continuum. The findings are intended to support patient-centered diabetes care, encourage clinician sensitivity toward intimate symptoms, and highlight the need for early, multidisciplinary, and stigma-aware intervention.

MATERIALS AND METHODS

This study was a single-centre, hospital-based, observational cross-sectional investigation carried out in the Department of General Medicine, L.N. Medical College & Research Centre and associated J.K. Hospital, Bhopal, a tertiary-care institution in Madhya Pradesh. Ethical clearance was obtained from the Institutional Ethics Committee before initiation of participant recruitment, and the conduct of the study adhered to accepted ethical principles including confidentiality, privacy protection, voluntary participation, and informed consent, which were particularly important because of the sensitive nature of sexual health data.

The study period covered 18 months and included three phases: planning, participant recruitment with data collection, and analysis with report writing. All dysglycemic females attending the General Medicine outpatient and inpatient services during the study period constituted the study universe. The attached manuscript describes adult women with diabetes mellitus or prediabetes diagnosed according to ADA criteria as eligible for enrollment. Inclusion criteria were: female sex, age 18 years or older, diagnosis of diabetes or prediabetes, and willingness to provide written informed consent. Exclusion criteria were age below 18 years, postmenopausal status, and refusal to consent. Although one planning statement in the source mentions 200 intended participants, the analyzed results section consistently presents a final cohort of 324 women; all tabulations, percentages,

and interpretations in this manuscript are therefore based on the analyzed dataset of 324 participants.

After counselling regarding study purpose and confidentiality, written informed consent was obtained from all participants. Sociodemographic and clinical details were recorded, including age, body mass index, glycaemic status, HbA1c, duration since diagnosis, medication profile, and associated comorbidities. Glycaemic categorization included prediabetes and diabetes, with further stratification among diabetics according to glycaemic control status. Treatment status was classified into no pharmacologic therapy, oral hypoglycaemic agents only, insulin only, and combined insulin plus oral agents. Comorbidities such as hypertension, obesity, hypothyroidism, polycystic ovarian syndrome, hyperthyroidism, and others were also documented.

Female sexual function was assessed using the Female Sexual Function Index, a multidomain questionnaire covering desire, arousal, lubrication, orgasm, satisfaction, and pain. Domain scores and total scores were computed, and a total FSFI score below 26.55 was used to define sexual dysfunction, as reported in the attached study base. Depression was evaluated using the Hamilton Depression Rating Scale, and participants were categorized as normal, mild, moderate, or severe depression according to HAM-D score ranges provided in the source document. These standardized instruments allowed simultaneous assessment of sexual function and psychological burden within the same clinical cohort.

RESULTS

Table 1: Distribution Of Age Groups Among Study Participants

Age group	Frequency (n)	Percentage (%)
18-30 years	104	32.1
31-40 years	144	44.4
41-50 years	76	23.5
Total	324	100.0
Mean age ± SD	35.38 ± 6.82 years	Range: 18-50 years

Table 2: distribution of BMI categories among study participants

BMI category	Frequency (n)	Percentage (%)
Underweight (<18.5 kg/m²)	8	2.5
Normal (18.5-24.9 kg/m²)	114	35.2
Overweight (25.0-29.9 kg/m²)	116	35.8
Obese (≥30.0 kg/m²)	86	26.5
Total	324	100.0
Mean BMI ± SD	27.07 ± 5.78 kg/m²	Range: 17.2-39.8 kg/m²

Table 3: distribution of duration since disease diagnosis

Duration	Frequency (n)	Percentage (%)
<5 years	202	62.3
6-10 years	92	28.4
>10 years	30	9.3
Total	324	100.0
Mean duration ± SD	4.99 ± 3.49 years	

Table 4: distribution of glycemic status among study participants

Glycemic status	Frequency (n)	Percentage (%)
Prediabetes (HbA1c 5.7-6.4%)	79	24.4
Diabetes (HbA1c ≥6.5%)	245	75.6
Total	324	100.0
Mean HbA1c ± SD	7.61 ± 1.27%	Range: 5.7-11.4%

Table 5: glycemic control among diabetic participants

Glycemic control	Frequency (n)	Percentage (%)
Good control (HbA1c ≤7.0%)	65	26.5
Fair control (HbA1c 7.1-9.0%)	140	57.1
Poor control (HbA1c >9.0%)	40	16.3
Total (diabetics)	245	100.0

Table 6: FSFI domain scores and dysfunction prevalence

FSFI domain	Mean ± SD	Normal n (%)	Dysfunction n (%)	Cutoff
Desire	3.47 ± 1.83	142 (43.8)	182 (56.2)	≥3.3
Arousal	2.90 ± 1.54	117 (36.1)	207 (63.9)	≥3.9
Lubrication	2.96 ± 1.56	130 (40.1)	194 (59.9)	≥3.8
Orgasm	2.84 ± 1.51	108 (33.3)	216 (66.7)	≥3.9
Satisfaction	3.32 ± 1.74	157 (48.5)	167 (51.5)	≥3.8
Pain	3.16 ± 1.69	172 (53.1)	152 (46.9)	≥3.8
FSFI total	18.65 ± 9.80	140 (43.2)	184 (56.8)	≥26.55

A total of 324 dysglycemic females constituted the analyzed study cohort, with most participants belonging to the 31-40 years age group and a mean age of 35.38 ± 6.82 years. The sample represented predominantly reproductive-age women, indicating that sexual dysfunction in dysglycaemia is not confined to elderly females or advanced chronic disease alone. Diabetes constituted 75.6% of the cohort, whereas 24.4% had prediabetes, and the mean HbA1c was 7.61 ± 1.27%, reflecting a substantial burden of suboptimal glycaemic control. More than three-fifths of participants were overweight or obese, and hypertension was the most frequent comorbidity, highlighting the metabolically vulnerable profile of the study population.

Female sexual dysfunction was highly prevalent, affecting 56.8% of participants by FSFI total score criteria. Among individual domains, orgasm dysfunction was most common at 66.7%, followed by arousal, lubrication, desire, satisfaction, and pain. Sexual dysfunction was already present in 40.5% of prediabetic women but increased to 62.0% in those with diabetes, supporting the concept of an early metabolic influence on female sexual function. Disease duration demonstrated the strongest gradient, with dysfunction present in 41.6% of women with duration below 5 years, 76.1% with duration 6-10 years, and 100% among those with disease duration above 10 years.

Depression was also common, with moderate depression forming the largest HAM-D category and overall depressive symptomatology present in most participants. Mean FSFI scores declined as glycaemic control worsened and as depression severity increased, while HAM-D scores increased with poorer glycaemic status and longer disease duration. Women with sexual dysfunction had significantly higher HbA1c, longer disease duration, greater depressive burden, and older age than women without dysfunction, whereas BMI did not differ significantly between the two groups. Insulin-based therapy, hypertension, moderate-to-severe depression, and longer-standing disease were all associated with markedly greater prevalence of sexual dysfunction, underscoring that this condition is multifactorial and closely linked to cumulative metabolic and psychological burden.

Statistical analysis: For multi-group comparisons in the attached manuscript, one-way ANOVA was used in several tables to compare mean HbA1c, HAM-D, and FSFI values across categories. A p value below 0.05 was considered statistically significant. The collected data were summarized using frequency, percentage, mean, and standard deviation. Qualitative outcome measures were compared using Chi-square test or Fisher's exact test, while quantitative outcome measures were analyzed using independent t test. If data did not follow normal distribution, Mann-Whitney U test was used. For comparisons across multiple groups, one-way ANOVA was applied in the analyzed dataset to compare mean HbA1c, HAM-D, and FSFI values across glycaemic control, age, duration, and treatment categories. Statistical analysis was performed using SPSS version 22 software, and a p value of less than 0.05 was considered statistically significant.

DISCUSSION

The present study demonstrates that sexual dysfunction in dysglycemic females is common, clinically meaningful, and strongly associated with the severity and chronicity of metabolic disease. More than half of the analyzed women had overall sexual dysfunction, and abnormalities were documented across all six FSFI domains, with orgasmic and arousal disturbances being especially prominent. These observations indicate that female sexual health is deeply influenced by dysglycaemia and should no longer be treated as a peripheral or optional topic in routine diabetes care.

The present study adds to the growing evidence that female sexual dysfunction is a major but underrecognized complication of dysglycaemia. In our cohort of 324 women, more than half had sexual dysfunction by FSFI criteria, and dysfunction was already evident in 40.5% of prediabetic women and 62.0% of women with diabetes, showing that sexual impairment begins early in the metabolic continuum. This aligns with the broad literature indicating that sexual health is closely linked to overall health and well-being rather than being a separate or purely reproductive concern. Our findings also support the global burden described in diabetic populations, where sexual dysfunction is common and clinically relevant across settings.[1-3]

When compared with the pooled estimates from Gebeyehu et al., our overall prevalence of 56.8% is slightly lower than the global pooled female prevalence of 58.81% among diabetic patients, but it is still within the same range and reinforces that this problem is frequent in women with diabetes. The similarity between our results and the meta-analytic evidence suggests that our single-centre Indian hospital-based sample reflects a pattern seen internationally, despite differences in geography, case mix, and measurement methods. Importantly, our inclusion of prediabetic women extends the published evidence because many prior studies focused only on overt diabetes. This makes our study especially relevant for early screening, since the burden appears before long-standing disease develops.[1,3]

Our domain-wise findings showed that orgasmic dysfunction was the most common abnormality, followed by arousal and lubrication problems, while pain was comparatively less frequent. This pattern is broadly consistent with the multidimensional nature of female sexual dysfunction described in clinical reviews, where desire, arousal, lubrication, orgasm, satisfaction, and pain are recognized as distinct but

overlapping domains. Kershaw and Jha emphasized that female sexual dysfunction should be understood as a syndrome affecting several phases of sexual response, and our results mirror that concept by showing impairment across all FSFI domains rather than a single isolated symptom cluster. Likewise, the Mayo Clinic overview notes that symptoms may involve reduced desire, difficulty with arousal, inadequate lubrication, orgasmic difficulty, and pain, all of which were represented in our cohort.[1]

The relationship between dysglycaemia and sexual dysfunction in our study is particularly important because sexual impairment was clearly worse with increasing glycaemic burden. Women with poorer glycaemic control had lower FSFI scores, and dysfunction increased progressively with higher HbA1c, indicating a dose-response pattern. This finding is consistent with the diabetes-focused reviews and observational studies that describe sexual dysfunction as a quality-of-life determinant in women with type 2 diabetes, especially when metabolic control is suboptimal. Rahmanian et al. and later observational reports also highlighted that female sexual dysfunction in diabetes is associated with worse disease control and greater symptom burden, which is directionally similar to our observations. Our data therefore strengthen the argument that HbA1c is not only a biochemical marker but also a proxy for broader functional well-being in women.[1,4-6]

A particularly notable contribution of the present study is the finding that prediabetes itself was associated with substantial sexual dysfunction. This extends earlier work that generally described diabetes as the clinical context for sexual problems, but not the prediabetic state. The implication is that metabolic injury affecting vascular, neuroendocrine, and psychological pathways may begin before frank diabetes is diagnosed. In practical terms, this means sexual health assessment should not be postponed until complications accumulate; instead, it may serve as an early indicator of deteriorating metabolic health. This early-stage signal is clinically useful in settings where prediabetes is often underestimated or managed conservatively.[1,5,6]

Duration of disease emerged in our study as one of the strongest determinants of sexual dysfunction, with a striking gradient across categories and very high prevalence among women with longer disease duration. This is in keeping with the chronic disease model proposed in diabetes-related sexual health literature, where prolonged exposure to hyperglycaemia contributes to endothelial dysfunction, autonomic neuropathy, vascular compromise, and cumulative psychological stress. Our findings are also consistent with observational studies from India and elsewhere showing that longer diabetes duration is associated with worse female sexual function . The steep rise in dysfunction with disease chronicity in our sample suggests that time since diagnosis should be considered a clinically meaningful marker when screening for sexual symptoms.[1,4,5]

Depression showed a strong negative association with FSFI scores in our study, and women with more severe depressive symptoms had worse sexual function across domains. This pattern closely parallels the broader evidence base, where sexual health and psychological well-being are repeatedly shown to be linked. Vasconcelos et al. reported strong correlations between positive sexual health indicators and lower depression, lower anxiety, and better quality of life across diverse populations. Arcos-Romero and Calvillo similarly concluded that women's sexual health is tightly associated with psychological well-being. Our data therefore fit well within this larger framework, but they also add disease-specific evidence showing that depression is not merely a comorbidity in dysglycaemic women; it appears to be one of the main amplifiers of sexual dysfunction.[1,2,7]

The psychological component of our findings is also consistent with Kırat's review on sexual dysfunction across the female life cycle, which emphasized important implications for psychological health. In our cohort, the coexistence of depressive symptoms and sexual dysfunction suggests a bidirectional relationship: dysglycaemia may worsen mood through chronic illness burden, while depression may reduce desire, arousal, satisfaction, and intimacy. This reinforces the argument that female sexual dysfunction should not be interpreted only through a vascular or hormonal lens. Rather, it should be approached as a biopsychosocial problem in which emotional distress, body image, relationship strain, and chronic disease interact.[1,7,8]

Although body mass index was high in much of our sample, BMI alone did not independently predict sexual dysfunction severity. This is an interesting point of contrast with literature linking obesity, body image, and sexual difficulties in middle-aged women. Afshari et al. found that body image correlates with sexual function, and obesity-related reviews also suggest that excess weight and comorbid conditions may contribute to sexual problems. In our study, however, metabolic burden, disease duration, and depression appeared more influential than BMI alone. This suggests that obesity may act indirectly through diabetes severity, psychosocial distress, or associated comorbidities rather than as a single independent driver in dysglycaemic women.[1,9,10-18]

Comorbidity burden and treatment intensity also mattered in our cohort, especially hypertension and insulin-based therapy, both of which were associated with higher dysfunction rates. This is compatible with the broader literature suggesting that sexual dysfunction in chronic metabolic disease often reflects cumulative systemic illness rather than one isolated factor. Di Francesco et al. noted that components of metabolic syndrome can adversely affect female sexual dysfunction, and our results support that multidisease burden perspective. Likewise, insulin use may be a marker of more

advanced or less controlled diabetes rather than a direct causal factor, which is a clinically plausible explanation for the severity seen in our sample.[1,5,11]

Our findings also fit well with the general position that sexual health is integral to overall health and well-being. The WHO-focused systematic review by Vasconcelos et al. found strong associations between sexual health and physical as well as psychological outcomes, including lower depression and higher quality of life. In our study, sexual dysfunction was not an isolated complaint but a marker of wider distress, involving mood, disease chronicity, and metabolic control. This supports the idea that clinicians should view sexual function as part of routine chronic disease assessment rather than as a secondary issue. Wood et al.'s postpartum review also highlights the importance of context-specific sexual health research in women, and our work contributes a similar women-centered perspective in dysglycaemic disease.[1,2,4,19-24]

Compared with observational studies from India, such as Gupta et al., Mukhopadhyay and Sinha, and Mohan et al., our prevalence estimates are broadly similar, but our study differs by including women with prediabetes and by explicitly analyzing depression alongside FSFI domain scores. That broader design helps explain why our discussion can go beyond prevalence alone and address early detection and psychological integration. Studies limited to diabetes-only cohorts are valuable, but they may miss the earlier point at which sexual dysfunction begins. Our sample therefore offers a more continuous view of dysglycaemia-related sexual impairment.[1]

The present study has practical implications for clinical care in India and other low-resource settings. AlShamlan's narrative review on female sexual dysfunction barriers in primary care and Kaundal et al.'s survey of medical fraternity barriers both highlight the persistent silence around sexual health. Our findings suggest that this silence may be costly, because sexual dysfunction is common, measurable, and linked to treatable factors such as glycaemic control and depression. Routine, sensitive screening could therefore improve detection and open the door to counseling, lifestyle modification, psychiatric assessment, and multidisciplinary management.[1,12]

This study also contributes to the wider evidence that sexual dysfunction carries consequences beyond the bedroom. The WHO systematic review found that sexual health is associated with better life satisfaction and lower psychological burden. Our results extend this by showing that, in dysglycaemic women, worse sexual function clusters with worse mood and greater metabolic disease burden, suggesting a substantial effect on daily functioning and quality of life. This is especially important in reproductive-age women, who formed the majority of our sample, because sexual well-being may influence relationships, self-esteem, and overall psychosocial health during highly active life stages.[1,2,13]

Finally, our study supports a shift from disease-centered diabetes care to person-centered care. Rather than treating HbA1c, comorbidity burden, and depression as separate issues, clinicians should recognize them as interlinked parts of a broader quality-of-life picture. The literature consistently shows that sexual health and well-being move together, and our findings confirm that this relationship is especially relevant in dysglycaemic women. In that sense, the present study does not just document prevalence; it argues for earlier, more holistic, and more compassionate care for women with metabolic disease.[1,2,7]

CONCLUSION

An important contribution of this study is the observation that sexual dysfunction was not limited to women with established diabetes. A substantial proportion of prediabetic participants also exhibited dysfunction, which suggests that sexual impairment may begin early in the course of metabolic dysregulation. This finding is clinically relevant because prediabetes is often perceived as a reversible or comparatively benign condition, yet the present data show that important quality-of-life domains may already be affected before the onset of overt diabetes. Early counselling, lifestyle intervention, risk-factor control, and sensitive enquiry into sexual symptoms may therefore be justified even at the prediabetic stage.

The study further establishes that duration of disease is one of the strongest determinants of female sexual dysfunction in this population. Women with disease duration beyond 10 years demonstrated extremely high domain-wise dysfunction rates, supporting the view that chronic exposure to hyperglycaemia results in cumulative neurovascular, hormonal, endothelial, and psychological injury. Poor glycaemic control also showed a clear dose-response pattern with worsening FSFI scores and increasing depressive burden. In this context, HbA1c should be interpreted not merely as a biochemical index of diabetes control but also as a meaningful clinical correlate of broader functional well-being.

The psychological dimension of the findings is equally notable. Depression was highly prevalent, and higher HAM-D scores correlated negatively with FSFI total and domain scores. This supports the understanding that female sexual dysfunction in dysglycaemia is not solely organic or vascular in origin, but arises from an interaction between body, mind, illness experience, and relationship context. Routine screening for mood symptoms in dysglycemic women presenting with sexual complaints may therefore improve case detection and management outcomes. Similarly, sexual health assessment in women with diabetes and depression may reveal an unrecognized source of distress that otherwise remains untreated.

Comorbidity burden and treatment intensity also influenced outcomes. Hypertension showed particularly high sexual dysfunction prevalence, while insulin-based therapy was associated with severe impairment across multiple FSFI domains. These patterns likely reflect more advanced systemic disease rather than a simple medication effect, and they reinforce the need to interpret sexual symptoms within the wider framework of cardiovascular risk, endocrine health, and chronic disease complexity. Notably, BMI alone was not an independent predictor of sexual dysfunction severity in this dataset, suggesting that glycaemic burden, disease duration, and depression may exert stronger direct influence than body weight alone.

Taken together, the findings support a holistic and multidisciplinary approach to the care of dysglycemic women. Physicians should actively but sensitively inquire about sexual concerns, normalize discussion of these symptoms, evaluate depressive burden, optimize glycaemic control, address comorbidities, and where needed collaborate with psychiatry, gynecology, endocrinology, and counselling services. Sexual dysfunction should be recognized as an important marker of cumulative disease burden and reduced quality of life in women with dysglycaemia. Integrating sexual health into routine metabolic care may help move practice from disease-centered treatment toward person-centered healing, where improvement is measured not only in glucose values but also in comfort, intimacy, confidence, and overall well-being.

REFERENCES

1. Vasconcelos P, Carrito ML, Quinta-Gomes AL, et al. Associations between sexual health and well-being: a systematic review. Bull World Health Organ. 2024;102(12):873-887D. doi:10.2471/BLT.24.291565
2. Wood SN, Pigott A, Thomas HL, Wood C, Zimmerman LA. A scoping review on women's sexual health in the postpartum period: opportunities for research and practice within low- and middle-income countries. Reprod Health. 2022;19:112. doi:10.1186/s12978-022-01399-6
3. Kırat S. Sexual dysfunction in the life cycle of women: implications for psychological health. Healthcare (Basel). 2025;13(11):1268. doi:10.3390/healthcare13111268
4. Kershaw V, Jha S. Female sexual dysfunction. Obstet Gynaecol. 2022;24(1):12-23. doi:10.1111/tog.12778
5. Alidost F, Pakzad R, Dolatian M, Abdi F. Sexual dysfunction among women of reproductive age: a systematic review and meta-analysis. Int J Reprod Biomed. 2021;19(5):421-432. doi:10.18502/ijrm.v19i5.9251
6. Navriya SC, Jain M, Yadav O, Chowdary RC. Sexual dysfunction in female patients with diabetes. In: Feingold KR, Ahmed SF, Anawalt B, et al., eds. Endotext. MDText.com, Inc.; 2000. Accessed August 27, 2025. http://www.ncbi.nlm.nih.gov/books/NBK612823/
7. Rogoznica M, Perica D, Borovac B, Belančić A, Matovinović M. Sexual dysfunction in female patients with type 2 diabetes mellitus—sneak peek on an important quality of life determinant. Diabetology. 2023;4(4):527-536. doi:10.3390/diabetology4040046
8. Hossain MJ, Al-Mamun M, Islam MR. Diabetes mellitus, the fastest growing global public health concern: early detection should be focused. Health Sci Rep. 2024;7(3):e2004. doi:10.1002/hsr2.2004
9. International Diabetes Federation. Facts & figures. Accessed August 27, 2025. https://idf.org/about-diabetes/diabetes-facts-figures/
10. Di Francesco S, Caruso M, Robuffo I, Militello A, Toniato E. The impact of metabolic syndrome and its components on female sexual dysfunction: a narrative mini-review. Curr Urol. 2019;12(2):57-63. doi:10.1159/000489420
11. Lim Y, Haq N, Boster J. Obesity and comorbid conditions. In: StatPearls. StatPearls Publishing; 2025. Accessed August 27, 2025. http://www.ncbi.nlm.nih.gov/books/NBK574535/
12. Afshari P, Houshyar Z, Javadifar N, Pourmotahari F, Jorfi M. The relationship between body image and sexual function in middle-aged women. Electron Physician. 2016;8(11):3302-3308. doi:10.19082/3302
13. Ahad AA, Sanchez-Gonzalez M, Junquera P. Understanding and addressing mental health stigma across cultures for improving psychiatric care: a narrative review. Cureus. 2023;15(5):e39549. doi:10.7759/cureus.39549
14. Arcos-Romero AI, Calvillo C. Sexual health and psychological well-being of women: a systematic review. Healthcare (Basel). 2023;11(23):3025. doi:10.3390/healthcare11233025
15. AlShamlan NA. Breaking the silence on female sexual dysfunction in Saudi Arabia: a narrative review of barriers to women's health services in primary care. Middle East Fertil Soc J. 2025;30(1):24. doi:10.1186/s43043-025-00239-4
16. Rahmanian E, Salari N, Mohammadi M, Jalali R. Evaluation of sexual dysfunction and female sexual dysfunction indicators in women with type 2 diabetes: a systematic review and meta-analysis. Diabetol Metab Syndr. 2019;11(1):73. doi:10.1186/s13098-019-0469-
17. Gupta M, Shukla R, Verma S, Kalhan A. Sexual dysfunction in women with type 2 diabetes mellitus: an observational study. J Diabetol. 2022;13(2):139. doi:10.4103/jod.jod_108_21
18. Mukhopadhyay U, Sinha A. Evaluation of female sexual dysfunction in diabetic women in a tertiary care medical college and hospital in Eastern India. IJAR. 2023:23-27. doi:10.36106/ijsr/0700836
19. Mohan G, Mann GS, Sikri T. Sexual dysfunction in diabetes mellitus—an observational cohort study. Apollo Med. 2024;21(1):41-47. doi:10.4103/am.am_36_23 [file:1]
20. Gebeyehu NA, Gesese MM, Tegegne KD, et al. Global prevalence of sexual dysfunction among diabetic patients from 2008 to 2022: systematic review and meta-analysis. Metabol Open. 2023;18:100247. doi:10.1016/j.metop.2023.100247
21. Pasaribu A, Astrella C, Kristanti M, et al. Prevalence and associated factors of female sexual dysfunction among type 2 diabetes patients in Indonesia: a systematic review and meta-analysis. Diabetes Metab Syndr. 2023;17(11):102878. doi:10.1016/j.dsx.2023.102878
22. Naz Masood S, Saeed S, Lakho N, Masood Y, Rehman M, Memon S. Frequency of sexual dysfunction in women with diabetes mellitus: a cross-sectional multicenter study. J Diabetol. 2021;12(3):357. doi:10.4103/JOD.JOD_31_21
23. Kaundal A, Renjhen P, Kumari R, et al. Female sexual dysfunction—knowledge, attitude, practices, and barriers encountered by medical fraternity across the country: a web-based cross-sectional study. J Family Med Prim Care. 2024;13(4):1284-1290. doi:10.4103/jfmpc.jfmpc_1013_23
24. Mayo Clinic. Female sexual dysfunction: symptoms and causes. Accessed September 2, 2025. https://www.mayoclinic.org/diseases-conditions/female-sexual-dysfunction/symptoms-causes/syc-20372549