

Original Article

SEXUAL FUNCTION AND QUALITY OF LIFE AMONG POSTMENOPAUSAL WOMEN

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ABSTRACT

Background: Menopause is often accompanied by symptoms that disrupt physical, psychological, and sexual well-being. Sexual dysfunction is particularly common in postmenopausal women and may contribute to reduced quality of life. However, this relationship remains underexplored in many developing-country settings.

Methods: This cross-sectional study was conducted in the Department of Gynecology and Obstetrics at Shaheed Suhrawardy Medical College Hospital, Dhaka, from January to December 2023. A total of 96 postmenopausal women attending the outpatient department were recruited using purposive sampling. Data were collected through face-to-face interviews using a semi-structured questionnaire. Sexual function was assessed using the Female Sexual Function Index (FSFI), and quality of life was evaluated with the Menopause-Specific Quality of Life (QoL) Questionnaire (MENQOL). Associations between FSFI total scores and MENQOL domain scores were examined using appropriate statistical tests, with statistical significance set at $p < 0.05$. Written informed consent was obtained from all participants.

Results: The mean age of participants was 53.7 ± 4.7 (SD) years. The prevalence of sexual dysfunction was 53.2%, with the lowest FSFI domain scores in arousal (1.89 ± 0.5) and desire (2.25 ± 0.6). The mean total FSFI score was 14.14 ± 1.5 . Poor QoL was reported by 56.2% of participants, with the highest impairment observed in vasomotor (3.1 ± 1.6) and sexual (2.02 ± 1.03) MENQOL domains. Sexual dysfunction was significantly associated with joint family structure ($p < 0.001$) and poor marital relationship ($p = 0.009$). Poor QoL was significantly linked with lower educational attainment ($p = 0.003$), joint family setting ($p = 0.011$), and negative spousal relationship ($p = 0.040$).

Conclusion: Sexual dysfunction and impaired quality of life were highly prevalent among postmenopausal women of this study. Socio-demographic and relational factors significantly influenced both outcomes. Addressing sexual health as part of comprehensive menopausal care may improve women's overall well-being and QoL in similar sociocultural settings.

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INTRODUCTION

Due to increased life expectancy, women spend more than one third of their lives in the postmenopausal stage, making quality of life during this period a significant public health concern (1,2). Menopause is

clinically defined as twelve consecutive months of amenorrhea (3) and this transition is typically occurs gradually over several years as a natural consequence of aging. Nevertheless, for many women, the physical and mental symptoms experienced during this period can impose a substantial burden on daily

functioning and overall well-being, leading to reduced quality of life (QoL). More than half of the women report menopausal symptoms such as hot flashes, night sweats, sleep disturbances, fatigue, and depression contributing to poorer QoL(2,4).

In addition to these symptoms, many postmenopausal women also experience changes in sexual health, with declining estrogen levels contributing to a range of sexual concerns. Sexual functioning comprises multiple domains, including desire, arousal, satisfaction, and the presence or absence of sexual pain(5). As a result, sexual dysfunction is particularly prevalent in postmenopausal women, with estimates ranging from 68% to 86.5%, compared with 25% to 63% among women overall (6). These concerns are clinically and socially important as sexual activity and functioning are recognized as important components of overall quality of life (QoL) and an essential dimension of social health, which is distinct from mental and physical health. The World Health Organization (WHO) reinforces this by defining sexual health as a state of physical, emotional, mental, and social well-being in relation to sexuality, rather than merely the absence of disease, dysfunction, or infirmity (7). And so, sexual functioning is an essential aspect of women's lives and has increasingly attracted attention within public health, pharmaceutical, and medical fields (8).

Several large cross-sectional surveys have investigated sexual dysfunction and QoL outcomes among postmenopausal women (6,9,10). Evidence suggests that poorer sexual function is associated with reduced and sexual function can significantly predict QoL. Such as, one point increase in the Female Sexual Function Index (FSFI) total score has been associated with a 0.395-point increase in the overall QoL (2). However, sexual functioning is closely linked to many of the same factors that influence global QoL and health-related quality of life (HRQL), including age, education, health status, lifestyle behaviors, psychological well-being, and relationship quality (11). In addition, the QoL of postmenopausal women is shaped by sociocultural and behavioral factors, which may be further influenced by health-related perceptions and health-seeking behaviors (12). As a result, it is essential to adjust for these potential confounders when evaluating the relationship between sexual function and QoL. In many settings, including our context, this relationship remains underexplored, highlighting the need for further investigation.

Although menopause has a substantial impact on women's health and sexuality, it remains underrepresented, under-researched, and taboo in

many societies. Most studies examining the quality of life of postmenopausal women have been conducted in developed countries, where sociocultural contexts may influence both perceptions of quality of life and experiences of menopausal symptoms. In contrast, evidence on the quality of life of postmenopausal women in developing countries remains limited. Given the strong links between sexual function, menopausal symptoms, and QoL, further research is needed to clarify these relationships while accounting for key confounders within diverse sociocultural settings. Therefore, this study aimed to find the association between sexual function and quality of life among postmenopausal women.

METHODS

Study Design and Setting

This cross-sectional study was conducted from January to December 2023 among postmenopausal women attending the Gynecology and Obstetrics outpatient department at Shaheed Suhrawardy Medical College Hospital, Dhaka, Bangladesh. Ethical approval was obtained from the Ethical Review Committee and Institutional Review Board of the National Institute of Preventive and Social Medicine (NIPSOM). Informed written consent was secured from all participants prior to enrollment.

Participants and Sampling

About 96 women who had experienced natural menopause were included in this study following inclusion and exclusion criteria. Inclusion criteria included cessation of menstruation for ≥ 12 months. Patients who underwent any surgical intervention or hormone therapy resulting in menopause were excluded from this study. Purposive sampling method was adopted.

Data Collection

A pretested semi-structured questionnaire was used for data collection containing socio-demographic and clinical data across three sections: a) participant characteristics; b) sexual function assessment and c) quality of life. Informed written consent was ensured from each participant before enrollment in this study.

Sexual Function Assessment

Female Sexual Function Index (FSFI), a validated 19-item instrument was used in this study. This tool assesses the sexual function across six domains over the history of past 4 weeks. For each domain, raw item scores (0-5 scale) were summed, then multiplied by domain-specific factors to yield standardized scores (0-6 range):

- Desire (Q1-2): sum × 0.6
- Arousal (Q3-6): sum × 0.3
- Lubrication (Q7-10): sum × 0.3
- Orgasm (Q11-13): sum × 0.4
- Satisfaction (Q14-16): sum × 0.4
- Pain (Q17-19): sum × 0.4

Total FSFI score (range 2-36) was calculated by summing domain scores. Postmenopausal sexual dysfunction was diagnosed using the cutoff value ≤14.0 which corresponds to the mean total score of the study participants.

Quality of Life Assessment

Quality of life was assessed through Menopause-Specific Quality of Life Questionnaire (MENQOL) tool. This tool evaluates 29 symptoms across four domains based on the experienced in the past month.

- Vasomotor domain (3 items: hot flushes, night sweats, sweating)
- Psychosocial domain (7 items: anxiety, depression, memory problems, impatience, social isolation, etc.)
- Physical domain (16 items: fatigue, joint pain, sleep difficulties, weight gain, urinary symptoms, skin changes, etc.)
- Sexual domain (3 items: decreased sexual desire, vaginal dryness, avoiding intimacy)

Each item uses a 7-point Likert scale (0 = symptom not present; 1-6 = bothersome if present). Absent symptoms score 1; present symptoms score 2 (not bothersome) to 7 (extremely bothersome). Domain scores represent the mean score of all items within that domain (higher scores = greater impairment). Only symptoms reported as present contribute to domain mean calculations, providing a

comprehensive measure of menopausal symptom impact on daily functioning.

Statistical Analysis

Statistical analysis was conducted using SPSS version 23.0. Categorical variables were presented as frequency (n) and percentage (%), while continuous variables were summarized as mean ± standard deviation. Chi-square tests assessed associations between socio-demographic characteristics and binary outcomes—sexual dysfunction (presence vs absent) and quality of life (good vs poor). Statistical significance was set at p < 0.05.

RESULTS

The mean age of participants was 53.7 ± 4.7 (SD) years, with most (70.8%) aged 45-55 years. Nearly half (45.8%) had only basic literacy, while most husbands had education up to class 8 (38.5%) or were literate only (28.1%). Over four-fifths were housewives (83.3%), and 54.3% reported good economic status. Participants predominantly lived in joint families (62.5%), with 50% having 3-4 children. Menopause duration was 2-5 years for 40.6% and >5 years for 30.2%. Oral contraceptive use was reported by 33.3%, and comorbidities included hypertension (31.3%) and diabetes (22.9%). Gynecological check-ups occurred annually for most (51%), every 6 months for 28.1%, less than yearly for 16.7%, and quarterly for 4.2%. Most rated their relationship with husbands as average (67.7%), followed by bad (21.9%) and good (9.4%).

Table 1: Baseline characteristics of the study participants (n=96)

	Frequency (n)	Percentage (%)
Age group (years)		
45-55	68	70.8
56-65	28	29.2
Mean ± SD	53.7 ± 4.7	
Highest educational attainment (participant)		
Literate only	44	45.8
Up to class 8	33	34.4
Class 9 to 12	15	15.6
Graduate	4	4.2
Highest educational attainment (husband)		
Literate only	27	28.1
Up to class 8	37	38.5
Class 9 to 12	19	19.6
Graduate	13	13.5
Occupation		

Housewife	79	83.30
Professional	12	12.50
Service holder	3	3.10
Others	2	1.10
Economic status		
Very good	16	17.0
Good	51	54.3
Bad	27	28.7
Family type		
Nuclear	36	37.5
Joint	60	62.5
Number of children of the respondent		
1 to 2	34	35.4
3 to 4	48	50
5-6	14	14.6
Duration of menopause		
1 year	28	29.2
2-5 years	39	40.6
>5 years	29	30.2
History of OCP		
Yes	32	33.3
No	64	66.7
Presence of comorbidity		
HTN	30	31.3
Diabetes	22	22.9
HTN and diabetes	29	30.2
Asthma	9	9.4
Others	6	6.2
Gynecological check-up by respondents		
Every 3 months	4	4.2
Once every 6 months	27	28.1
Once a year	49	51
< Once a year	16	16.7
Respondents' relationship with husband		
Bad	21	21.9
Average	65	67.7
Good	9	9.4

OCP: Oral contraceptive pills, HTN: Hypertension

FSFI domain scores revealed severe sexual dysfunction across all domains, with total score 14.14±1.5. Lowest scores observed in arousal

(1.89±0.5) and desire (2.25±0.6) domain, while highest scores were observed in satisfaction (2.89±0.6) domain.

Table 2: Female sexual function index (FSFI) domain and total scores among postmenopausal women (n=96)

FSFI Domains	Mean score ± SD
Desire	2.25±0.6
Arousal	1.89±0.5
Lubrication	2.27±0.4
Orgasm	2.49±0.4
Satisfaction	2.89±0.6
Pain	2.29±0.6
Total score	14.14±1.5

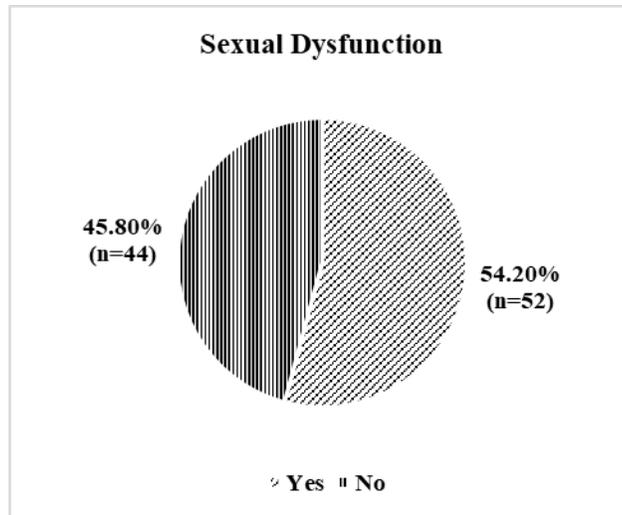


Figure 1: Presence of sexual dysfunction among study participants (n=96)

Prevalence of sexual dysfunction was 53.2% in study participants. Sexual dysfunction was significantly associated with joint family structure (78.8% vs

43.2%; $p < 0.001$) and having bad relationship with husband (25% vs 19.2%; $p = 0.009$).

Table 3: Relationship between socio-demographic characteristics and sexual dysfunction among the study participants (n=96)

Socio-demographic factors	Sexual dysfunction		p value*
	Yes n= 52 n (%)	No n=44 n (%)	
Age group			
45 to 55 years	38 (73.1)	30 (68.2)	0.656
56 to 65 years	14 (26.9)	14 (31.8)	
Highest education attainment (participant)			
Literate only	30 (57.7)	14 (31.8)	0.060
Up to class 8	14 (26.9)	19 (43.2)	
Class 9-12	7 (13.5)	8 (18.2)	
Graduate	1 (1.9)	3 (6.8)	
Highest education attainment (husband)			
Can sign only	15 (28.8)	12 (27.3)	0.230
Up to class 8	24 (46.2)	13 (29.5)	
Class 9-12	7 (13.5)	12 (27.3)	
Graduate	6 (11.5)	7 (15.9)	
Occupation			
Housewife	47 (90.4)	33 (75)	0.054
Professional	3 (5.8)	9 (20.4)	
Service holder	1 (1.9)	2 (4.6)	
Others	1 (1.9)	0	
Economic condition			
Very good	5 (9.6)	11 (25)	0.118
Good	31 (59.6)	24 (56.8)	
Bad	16 (30.8)	9 (20.5)	
Family type			
Nuclear	11 (21.2)	25 (5.8)	<0.001
Joint	41 (78.8)	19 (43.2)	
Number of children			

1-2	16 (30.8)	18 (40.9)	0.146
3-4	25 (48.1)	23 (52.3)	
5-6	9 (21.2)	3 (6.8)	
Duration of menopause			
1 year	16 (30.8)	12 (27.3)	0.684
2-5 years	19 (36.5)	20 (45.4)	
>5 years	17 (32.7)	12 (27.3)	
OCP intake for family planning			
No	36 (69.2)	28 (63.6)	0.665
Yes	16 (30.8)	16 (36.4)	
Presence of comorbidity			
HTN	17 (32.7)	13 (29.5)	0.390
Diabetes	13 (25)	9 (20.5)	
HTN and diabetes	14 (26.9)	15 (34.1)	
Asthma	3 (5.8)	6 (13.6)	
Others	5 (9.6)	1 (2.3)	
Frequency of gynecological checkup			
Every 3 months	2 (3.8)	2 (4.5)	1
Once every 6 months	15 (28.8)	12 (27.3)	
Once a year	26 (50)	23 (52.3)	
< once a year	9 (17.4)	7 (15.8)	
Relation with Husband			
Bad	11 (25)	10 (19.2)	0.009
Average/good	33 (75)	42 (80.1)	

*p value was determined by Chi-square test

Menopause-Specific Quality of Life Questionnaire (MENQOL) scores revealed worst score in vasomotor (3.1±1.6) and sexual domains (2.02±1.03). Lack of energy was reported by all participants

(100%) and most common symptoms after this included hot flushes (91.7%), vaginal dryness (95%), impatience (97.9%), flatulence (95.8%).

Table 4: Menopause-Specific Quality of Life Questionnaire (MENQOL) Domain Scores and Symptom Prevalence Among Postmenopausal Women (n = 96)

	Mean score ± SD	n (%)
Vasomotor domain		
Hot flushes	3.6±1.8	88 (91.7)
Night sweat	3.5±1.9	87 (90.6)
Sweating	2.2±1.8	71 (76)
Total	3.1±1.6	
Psychosocial domain		
Dissatisfaction with personal life	4.1±1.8	92 (95.8)
Feeling anxious or nervous	3.4±1.7	88 (91.7)
Experiencing poor memory	2.9±1.4	91 (94.8)
Accomplishing less than earlier	3.1±2.1	80 (83.3)
Feeling depressed or down or blue	2.6±1.7	79 (82.3)
Being impatience with other people	2.7±1.3	94 (97.9)
Feeling of wanting to be alone	2.7±1.4	93 (96.9)
Total domain score	2.6±1.1	96 (100)
Physical domain		
Flatulence or gas pains	4.1±1.8	92 (95.8)
Aching in muscles and joints	3.4±1.7	88 (91.7)
Feeling tired or worn out	2.9±1.4	91 (94.8)
Difficulty sleeping	3.1±2.1	80 (83.3)
Aches in back of neck or head	2.6±1.7	79 (82.3)
Decrease in physical strength	2.7±1.3	94 (97.9)

Decrease in stamina	2.7±1.4	93 (96.9)
Feeling lack of energy	2.6±1.1	96 (100)
Drying skin	1.6±1.8	63 (65.6)
Weight gain	1.1±1.2	60 (62.5)
Increased facial hair	0.7±1.2	44 (45.8)
Changes in appearance, texture, tone of my skin	1.6±1.6	72 (75)
Feeling bloated	4.1±1.9	92 (95.8)
Low backache	3.5±1.8	87 (90.6)
Frequent urination	2.5±1.6	78 (81.3)
Involuntary urination when laughing or coughing	2±1.5	69 (71.9)
Total domain score	2.57±0.75	
Sexual domain		
Change in your sexual desire	2.3±1.6	83 (86.5)
Vaginal dryness during intercourse	3.4±1.6	95 (95)
Avoiding intimacy	0.3±0.8	21 (21.9)
Total domain score	2.02±1.03	

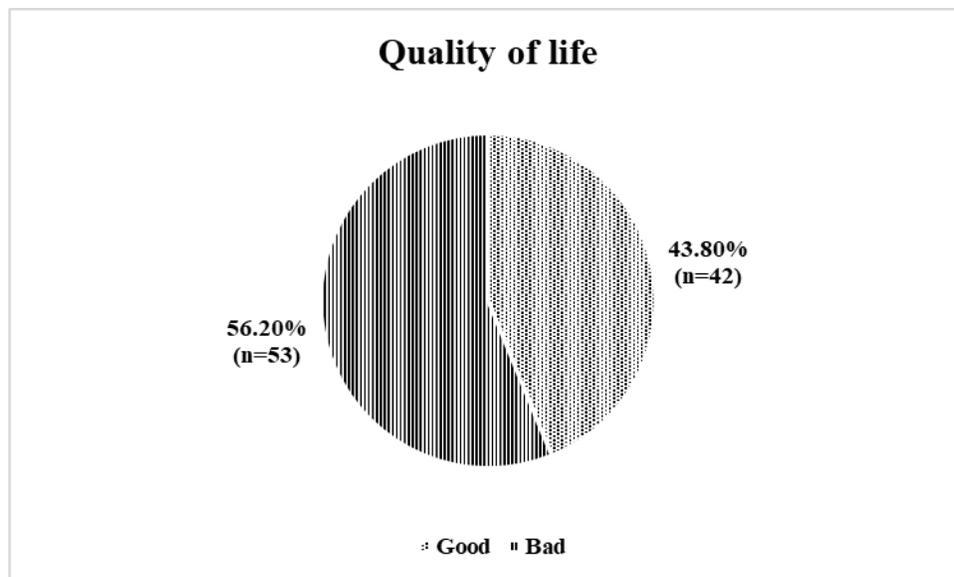


Figure 2: Quality of life among study participants (n=96)

About 56.2% of the study patients were observed with poor quality of life. Poor quality of life was significantly associated with lower levels of both participants' (59.3% vs 28.6%; p=0.003) and their

husbands' education (40.7% vs 11.9%; p=0.009), joint family structure (74.1% vs 47.6%; p=0.011), and bad relationship with relationship (18.5% vs 28.1%; p=0.040).

Table 5: Relationship between socio-demographic characteristics and quality of life among the study participants (n=96)

Socio-demographic factors	Quality of life		p value*
	Good n= 42 n (%)	Poor n=53 n (%)	
Age group			
45 to 55 years	32 (76.2)	36 (66.7)	0.369
56 to 65 years	10 (23.8)	18 (33.3)	
Highest education attainment (participant)			
Literate only	12 (28.6)	32 (59.3)	

Up to class 8	16 (38.1)	17 (31.5)	0.003
Class 9-12	10 (23.8)	5 (9.2)	
Graduate	4 (9.5)	0 (0)	
Highest education attainment (husband)			
Can sign only	5 (11.9)	22 (40.7)	0.009
Up to class 8	17 (40.5)	20 (37)	
Class 9-12	10 (23.8)	9 (16.7)	
Graduate	10 (23.8)	3 (5.6)	
Occupation			
Housewife	37 (88.1)	43 (79.6)	0.054
Professional	3 (7.1)	9 (16.3)	
Service holder	2 (4.8)	1 (1.8)	
Others	0 (0)	1 (1.8)	
Family type			
Nuclear	22 (52.4)	14 (25.9)	0.011
Joint	20 (47.6)	40 (74.1)	
Economic condition			
12 (28.6)	12 (28.6)	4 (7.4)	0.024
22 (52.4)	22 (52.4)	33 (61.1)	
8 (19)	8 (19)	17 (31.5)	
Number of children			
1-2	19 (45.2)	15 (27.8)	0.115
3-4	16 (38.1)	32 (9.2)	
5-6	7 (16.7)	7 (13)	
Duration of menopause			
1 year	15 (35.7)	13 (24.1)	0.362
2-5 years	17 (40.5)	22 (40.7)	
>5 years	10 (23.8)	19 (35.2)	
OCP intake for family planning			
No	25 (59.5)	39 (72.2)	0.275
Yes	17 (40.5)	15 (27.8)	
Frequency of gynecological checkup			
Every 3 months	1 (2.4)	3 (5.6)	0.472
Once every 6 months	15 (35.7)	12 (22.2)	
Once a year	19 (45.2)	30 (55.5)	
<once a year	7 (16.2)	9 (16.7)	
Relation with Husband			
Bad	12 (28.1)	10 (18.5)	0.040
Average/good	31 (73.8)	43 (79.6)	
Presence of comorbidity			
HTN	11 (26.2)	19 (35.2)	0.272
Diabetes	10 (23.8)	12 (22.2)	
HTN and diabetes	11 (26.2)	18 (33.3)	
Asthma	7 (16.7)	2 (3.8)	
Others	3 (7.1)	3 (5.5)	

*p value was determined by Chi-square test

DISCUSSION

Postmenopausal women face numerous health challenges that profoundly affect their quality of life, with female sexual dysfunction emerging as one of the most prevalent yet frequently overlooked issues (13,14). This condition, which tends to worsen with age through multiple contributing factors, commonly presents as difficulties with arousal, lubrication, or achieving orgasm even when stimulation is adequate.

This cross-sectional study sought to explore the connections between these sexual and reproductive health concerns and overall quality of life in a cohort of 96 Bangladeshi postmenopausal women, employing the well-validated Female Sexual Function Index (FSFI) and Menopause-Specific Quality of Life Questionnaire (MENQOL).

The average age of the study participants was 53.7 ± 4.7 (SD) years, with the majority (70.8%) falling

between 45 and 55 years old. This age profile closely mirrors findings from Nazarpour et al., who reported mean ages of 52.8 ± 3.7 years and 51.2 ± 3.5 years in their postmenopausal groups (10). Hence, the reported age in this study presents somewhat younger distribution compared to Parajuli et al., where women aged 55-64 years predominated, and to Ismail et al. reporting much younger reproductive-age participants averaging 32.94 ± 9.76 years (15,16).

Assessment with the FSFI captured a stark picture of sexual health, showing a mean total score of 14.14 ± 1.5 against our study-derived cutoff of ≤ 14.0 . This translated to an alarming 81.3% prevalence of sexual dysfunction—substantially higher than the 61.0% reported by Nazarpour et al. (10) and 67.8% reported by Ismail et al.'s (16). Arousal function was observed as the most compromised at 1.89 ± 0.5 , though even the highest-scoring satisfaction domain (2.89 ± 0.6) fell well into pathological territory. These results align with broader literature indicating postmenopausal FSD rates between 68% and 86.5% (17).

Quality of life fared similarly poorly on the MENQOL, with 56.2% of participants experiencing diminished well-being. Impairment was highest in the vasomotor domain with a mean of 3.1 ± 1.6 , where 91.7% reported hot flushes and in the sexual domain with a mean of 2.02 ± 1.03 where 95% reported vaginal dryness. Symptoms permeated daily life universally—100% reported energy depletion, 97.9% felt constant impatience, and 95.8% suffered flatulence—patterns that echo the symptom clusters identified by Mohamed et al. (18). Sexual dysfunction was associated with living in joint family structures and bad/average relationships with husbands. Poor quality of life was associated with limited education among both participants and husbands, alongside joint family living and bad/average relation with husband. Such patterns likely stem from Bangladesh's unique socio-cultural landscape. With joint families comprising 62.5% of households, women may face persistent privacy constraints and heightened psychosocial strain. Coupled with low educational attainment, health literacy remains constrained in ways not as pronounced in other settings. The participant characteristics including 83.3% housewives—further muted age or occupational influences seen in studies like Parajuli et al. (15).

Ultimately, this study uncovered a clear two-way street between sexual dysfunction and quality of life—profound sexual impairments erode overall well-being, even as relational and familial pressures deepen sexual difficulties (13,19). These insights call

for targeted, culturally attuned strategies in South Asian contexts—focusing on spousal communication, family dynamics, and basic health education—to better support postmenopausal women.

CONCLUSION

This study demonstrates high rates of sexual dysfunction (53.2%) and poor quality of life (56.2%) among postmenopausal Bangladeshi women, with severe impairments in arousal, desire, vasomotor, and sexual domains. Joint family structure, lower education, and poor spousal relationships were significantly associated with both outcomes. Routine sexual health screening, counseling, and lifestyle interventions are urgently needed to improve postmenopausal well-being in this under-researched population.

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