Original Article

Assessing Quality of Life, Menopausal Symptoms, and Coping Strategies among Menopausal Women: A Cross-Sectional Study in Cumilla, Bangladesh

Mili JA[1], Munny M[2], Rahman D[3], Mazumder N[4], Nasreen SK ZA[5]

Abstract

Background: *Menopause is a natural biological transition that can significantly impact a woman's quality of life due to associated physiological, psychological, and social changes. In Bangladesh, there is a lack of awareness and understanding about menopause and its health implications. This study aimed to assess the health-related quality of life, prevalence of menopausal symptoms, coping mechanisms, and associated socio-demographic factors among menopausal women in the South Sadar region of Cumilla, Bangladesh.* ***Methods:*** *This cross-sectional, quantitative study was conducted at the Central Medical College & Hospital in Cumilla from October 2023 to March 2024. The sample included 400 women aged 40-59 years who had experienced natural menopause at least one year prior. Data was collected through face-to-face interviews using a structured questionnaire, the Menopausal Rating Scale (MRS) for assessing quality of life and symptom severity, and a coping mechanisms checklist. Descriptive statistics, chi-square, and Fisher's exact tests were used for data analysis.* ***Results:*** *This community-based study included 400 postmenopausal women aged between 40-59 years (mean 53.51 ± 3.43 years). The prevalence of menopausal symptoms based on the Menopausal Rating Scale (MRS) was high, with 75.5% experiencing somatic symptoms, 69.8% psychological symptoms, and 49.3% urogenital symptoms. The most common symptoms were joint/muscular discomfort (60.3%), anxiety (50.8%), and bladder problems (35.3%). The mean total MRS score of 9.5 ± 5.3 indicated a moderate-to-severe symptom burden. A staggering 70.25% of women had poor quality of life related to menopausal symptoms. Factors significantly associated with poor quality of life included rural residence (p=0.014), lower education (p<0.001), being a housewife or laborer (p=0.003), divorced/separated/widowed status (p=0.031), marriage before age 20 (p=0.009), lack of physical activity (p=0.018), and presence of chronic health problems (p=0.021). Commonly adopted coping strategies were dietary modifications (11.25%), physical activity (10%), yoga/meditation (6.25%), and Ayurvedic/herbal remedies (5%). However, 32.5% did not use any specific coping mechanism. The findings highlight the high burden of menopausal symptoms, suboptimal quality of life, and the influence of socioeconomic disadvantages on menopausal health in this population.* ***Conclusion:*** *The findings provide insights into the prevalence of menopausal symptoms, coping strategies, and the impact on health-related quality of life among postmenopausal women in South Sadar, Cumilla.*

Keywords: *Menopausal, MRS, Coping, Hot flush, Symptoms, Bangladesh*

Introduction: Menopause is an inherent biological process that occurs in women as a result of the steady decrease of primordial ovarian follicles associated with aging. Menopause is the permanent end of menstruation, characterized by 12 consecutive months without a period following the final menstrual cycle [1].

Menopause and its related physiological changes adversely affect the overall health, quality of life, and well-being of middle-aged women [2].

It signifies the complete loss of the ability to reproduce and indicates the onset of old age.

1. **Dr. Jasrin Akter Mili,** *Associate Professor, Department of Obstetrics & Gynaecology, Central Medical College, Cumilla, Bangladesh*
2. **Dr. Mashuma Munny,** *Resident Surgeon, Dhaka Medical College Hospital, Dhaka, Bangladesh*
3. **Dr. Dilara Rahman,** *Consultant, Ashulia Women and Children Hospital, Dhaka, Bangladesh*
4. **Dr. Nazma Mazumder,** *Medical Officer, Cumilla Medical College, Cumilla, Bangladesh*
5. **Prof. Dr. SK Zinnat Ara Nasreen,** *Professor, Dept. of Obs. & Gynae, ZH Sikder Women's Medical College, Dhaka, Bangladesh*

Correspondence : **Dr. Jasrin Akter Mili,** *Email: milijasrin@gmail.com Phone:+8801843040160*

It is linked to a physiological change in women that often results in uncomfortable sensations, prompting them to seek medical attention. This transition also indicates the shift in the health requirements of the lady. These demands might range from mild inconveniences like hot flushes to significant yet overlooked issues such as cardiovascular hazards and danger of fractures. Vaginal dryness, sleeplessness, lower urinary tract problems, and emotional lability are frequently observed in this group [3].

Menopause, caused by a reduction in estrogen levels, leads to various symptoms and complications in women such as the end of reproductive ability due to the complete stop of ovarian function, vasomotor instability, reduced cognitive function, memory loss, and vaginal and urinary tract infections [4]. Genetics, food choices, amount of activity, and regular workouts influence the variation in the natural age of menopause among different groups. Factors such as low self-efficacy, cultural conflicts, social inequalities, belief and gender disparities, understanding of menopause, and stresses have a major impact on menopausal Quality of Life (QOL) [5].

The World Health Organization (WHO) defines Quality of Life (QOL) as an individual's perception of their place in life within the cultural and value systems of their environment, including their objectives, expectations, standards, and worries. Quality of life is a complex and subjective notion influenced by an individual's physical health, psychological condition, amount of independence, social interactions, and connection to significant environmental factors [6].

Globally, the biological age for menopause is 45 to 55 years [7], with an average of 46.7 years in Bangladesh [8]. Menopausal symptoms negatively impact Health-Related Quality of Life (HRQoL) among women [9,10]. Poor health-related quality of life symptoms can be stressful for women since they coincide with their crucial societal roles in the household and job[11]. Many women face self-limiting, unpleasant, and often crippling symptoms of menopause[7]. The quality of life in menopausal women is crucial, and effectively managing menopausal symptoms improves their health-related quality of life. The Menopause Rating Scale (MRS) is a standardized instrument used to evaluate menopausal symptoms. It is commonly utilized to evaluate menopausal symptoms and their intensity in global populations [12]. Studies have shown a higher occurrence (40%–60%) of physical, psychological, vasomotor, and sexual issues in menopausal women. There is also a direct correlation between menopausal changes and Health-Related Quality of Life (HRQoL) [10]. For American women, the average Menopause Rating Score (MRS) was 11.3 ±8.5 (median 10) out of a total of 8373 participants. The somatic subscale had an average score of 4.1 ±3.4, the psychological subscale had an average score of 4.6 ±3.8, and the urogenital subscale had an average score of 2.5 ±2.7. Severely reduced health-related quality of life (total MRS score ≥17) was linked to the utilization of alternative treatments for menopause, mental medication usage, visits to a psychiatrist, postmenopausal status, age of 49 years or older, and residing in a high-altitude location [13]. Research has shown that Asian women tend to report more physical symptoms compared to psychological, vasomotor, and sexual issues [14]. The individual reaction to menopause varies substantially according to genetic, cultural, lifestyle, socioeconomic, education, behavioral and nutritional variables. Postmenopausal symptoms give rise to social implications which eventually damage their quality of life (QOL). The low QOL among high proportional of menopausal phase of women will create a major cost on public health care in under developed nations like Bangladesh. This study aims to generate new evidence and assess the health-related quality of life and the factors influencing it among menopausal women in South Sadar, Cumilla, Bangladesh.

Materials and methods
Study design
The study design was cross-sectional.

Study method
A quantitative study method was used for this study.

Study setting
The study was place at Central Medical College & Hospital in Cumilla, located in the South Sadar section of Cumilla District. The study was performed from October 2023 to March 1, 2024.

Study population
The research population consisted of women aged 40–59 who had undergone natural menopause and are now living in Cumilla area. Women between the ages of 40 and 59, who experienced their final menstrual cycle at least 1 year prior, were eligible for participation. Women who had undergone hysterectomy, were on contraceptives, or had life-threatening illnesses were excluded. Individuals who met the specified requirements were invited to take part in the research.

Sample size
Based on the previous publication, the prevalence of menopausal symptoms was 87.7% [15].

The sample size for the study was calculated by the following formula: here, z = 1.96 (for 95% confidence level), p = estimated prevalence of menopausal problem, d = precision of error. Considering this information, the calculated sample size was 400 assuming 20% non-response rate.

$$n = \frac{z_{\frac{\alpha}{2}}^2 p(1-p)}{d^2}$$

Here,
n= required number of patients to be interviewed
p= estimated prevalence of menopausal problems
zα/2 = level of confidence (1.96 for 95% confidence level)
d= precision of error

Research tools and their development
We employed a pre-tested structured interview schedule to get the information according to our aims. Health-related quality of life was evaluated using the Menopausal Rating Scale (MRS).

A systematic questionnaire was used to gather demographic characteristics (age, residence, education, occupation, marital status) and obstetric history (age at menarche, marriage, pregnancy, menopause) to define the research group and examine relationships with menopausal health markers.

The Menopause Rating Scale (MRS) is a health-related quality of life scale created in Germany by The Berlin Center for Epidemiology and Health Research in the early 1990s to address the absence of standardized measures for assessing the intensity of menopausal symptoms and their effect on HRQoL. The MRS has great reliability, validity, outstanding application, and strong repeatability [16].

Health-related quality of life was assessed using the English version of the Menopause Rating Scale (MRS) , Translated in Bengali back to back, consisting of 11 items with three dimensions.

Dimension 1: Somatic (4 items)
• Hot flushes
• Heart Discomfort
• Sleep problems
• Joint and muscular discomfort
Dimension 2: Psychological (4 items)
• Depressive mood • Irritability
• Anxiety
• Physical and mental exhaustion
Dimension 3: Urogenital (3 items)
• Sexual problems
• Bladder problems
• Dryness of vagina

The MRS scale consists of 11 symptoms, each of which can be scored from 0 (no complaints) to 4 (severe symptoms) based on the perceived severity reported by the women. The somatic domain ranges from 0 to 16, the urogenital domain from 0 to 12, and the psychological domain from 0 to 16. The total score varies from 0 and 44. The overall score indicates the impact on Quality of Life, categorized as none or minimal (score 0–4), mild (score 5–8), moderate (scoring 9–16), and severe (score 17–44). For analysis, moderate-to-severe deterioration in quality of life was considered as poor quality of life. The scores for each dimension were calculated by summing the ratings of each item within that dimension. The composite score is the total obtained by adding together the scores of each dimension [17].

Coping mechanisms for menopausal symptoms were assessed using a structured questionnaire listing various strategies: complementary/alternative therapies, lifestyle modifications, religious/spiritual practices, social support, home remedies, over-the-counter medications, and no specific coping. Participants indicated yes/no for using each strategy and could specify any unlisted approaches. Reasons for not using coping mechanisms were

explored through an open-ended question. Responses were coded to determine the prevalence of different coping strategies adopted.

The questionnaires on background information and self-reported health problems were developed after an extensive review of related literature and in consultation with the supervisor and research experts. The tool consisted of 3 parts as follows: Part 1: Socio-demographic factors
Part 2: Menopausal Rating Scale (MRS)
Part 3: Questions about Coping Mechanisms.

Pretesting, validity, and reliability
Pre-testing was conducted on a group of 20 menopausal women at the hospital. The researcher employed questions prepared through a detailed comparative literature analysis, in cooperation with the supervisor and research physicians, to assess the background information.

Data collection procedure
Data was collected through a face-to-face interview. The eligible women were questioned after obtaining both verbal and written consent. The research's goal and objectives were clearly outlined prior to obtaining consent. Confidentiality was upheld. They were guaranteed that participation would be voluntary.

Ethical consideration
All methods were performed in accordance with relevant guidelines and regulations. The informed consent was obtained from all women; they were informed about the confidentiality of the information and the project's purpose, and only if they would like, they were enrolled in the study. The Institutional Review Board of Central Medical College in Cumilla, Bangladesh, approved this study. A formal letter was provided as clarification for conducting this study.

Data analysis
The tool meticulously analyzed and documented the participants' responds. The data was inputted into Excel Data program and analyzed using the Statistical Package for Social Science (SPSS), version 25. Frequency distribution and cross-tabulation were used to analyze the relationship between dependent and independent variables in order to summarize participants' key backgrounds and characteristics. Descriptive data, such as frequency, percentage, mean, and standard deviation, were used to determine the overall quality of life. Chi-square analysis and Fisher's exact test were used to compare the frequency of categorical variables. Any analysis with a P-value < 0.05 was deemed significant.

Results
The study included 400 postmenopausal women from both rural (66.25%) and urban (33.75%) areas (Table:1). The majority were in the 50-54 year age group (53.75%), with a mean age of 53.51 ± 3.43 years. Educational levels were generally low, with 29.75% illiterate, 31.75% having non-formal education, and only 3% completing higher education. Over half (52.5%) were housewives, while 13.5% were engaged in agriculture. Most women (69.25%) were married, while 30.75% were divorced, separated, or widowed. Obstetric and Menopause History The median age at menarche was 15 years, with 59.5% experiencing it before age 15. Early marriage (before age 20) was quite common at 62.75%. An overwhelming majority (92.25%) had been pregnant at some point. The mean age at menopause was 50.84 ± 2.39 years, with 73.75% experiencing it at or after this age. Lifestyle Factors and Health Physical activity levels were suboptimal, with only 9.25% exercising regularly (>3 times/week) and 20% being completely inactive. Alarmingly, 81.25% of participants reported having at least one chronic health problem, such as heart disease, cancer, diabetes, respiratory, musculoskeletal, or gastrointestinal issues.

Table 1: Socio- demographic, obstetric, lifestyle-related characteristics and health problems of the participants (n = 400).

Characteristic	Frequency (n)	Percentage (%)
Age		
40–44	18	4.5%
45–49	58	14.5%
50–54	215	53.75%
55–59	109	27.25%
Mean±S.D (53.51±3.43)		

Residence		
Rural	265	66.25%
Urban	135	33.75%
Education status		
Illiterate	119	29.75%
Non-formal education	127	31.75%
Basic education	77	19.25%
Secondary education	65	16.25%
Higher education	12	3%
Occupation		
Housewife	210	52.5%
Agriculture	54	13.5%
Labor and wages	17	4.25%
Job	10	2.5%
Others	109	27.25%
Marital Status		
Married	277	69.25%
Divorced/Separated & widowed	123	30.75%
Age at menarche		
<15	238	59.5%
≥15	162	40.5%
Median= 15		
Age at marriage		
<20	251	62.75%
≥20	149	37.25%
Median= 20		
Ever been pregnant		
Yes	369	92.25%
No	31	7.75%
Age of Menopause		
< 48	105	26.25%
≥ 48	295	73.75%
Median = 48 Mean = 50.84 ± 2.39		
Physical Activity		
Exercise >3 times per week	37	9.25%
Exercise <3 times per week	53	13.25%
Performed household chores	230	57.5%
No physical activity at all	80	20%

| Have any health problems currently (heart diseases, cancer, diabetes, respiratory, musculoskeletal, and gastro-intestinal problems)		
Yes	325	81.25%
No	75	18.75%

The prevalence and nature of menopausal symptoms among study participants were evaluated using the Menopausal Rating Scale (MRS), with findings summarized in Table 2. Somatic symptoms were pervasive, affecting 75.5% of women, with joint and muscular discomfort (60.3%) being the most prevalent. Notably, psychological symptoms were reported by 69.8% of participants, highlighting the psychosocial impact of menopause. Hot flashes and sweating (51.0%) emerged as prevalent vasomotor symptoms, while urogenital symptoms were also notable, with sexual problems (26.5%) and bladder problems (35.3%) reported by a significant proportion of women.

Table 2: Prevalence of menopausal symptoms among menopausal women using the Menopausal Rating Scale (n=400)

Characteristics	Frequency (n)	Percentage (%)	Mean ± S.D
Somatic subscale	302	75.5	4.3 ± 2.6 (Median 4)
Hot flushes, sweating	204	51.0	1.0 ± 0.1
Heart discomfort	170	42.5	0.8 ± 0.9
Sleep problems	192	48.0	1.0 ± 1.0
Joint and muscular discomfort	241	60.3	1.6 ± 1.2
Psychological subscale	279	69.8	3.5 ± 2.4 (Median 3)
Depressive mood	176	44.0	0.8 ± 0.8
Irritability	175	43.8	0.9 ± 0.1
Anxiety	203	50.8	0.9 ± 0.8
Physical and mental exhaustion	194	48.5	0.8 ± 0.7
Urogenital subscale	197	49.3	1.7 ± 1.7 (Median 1)
Sexual problems	106	26.5	0.4 ± 0.6
Bladder problems	141	35.3	0.8 ± 1.0
Dryness of vagina	123	30.8	0.6 ± 0.8
Total Score			9.5 ± 5.3 (Median 9)

Fig1. Showing the prevalence of menopausal symptoms among study population showing significant frequency of joint and muscular discomfort (60.3%) and hot flashes, sweating (51%) as well with other domains.
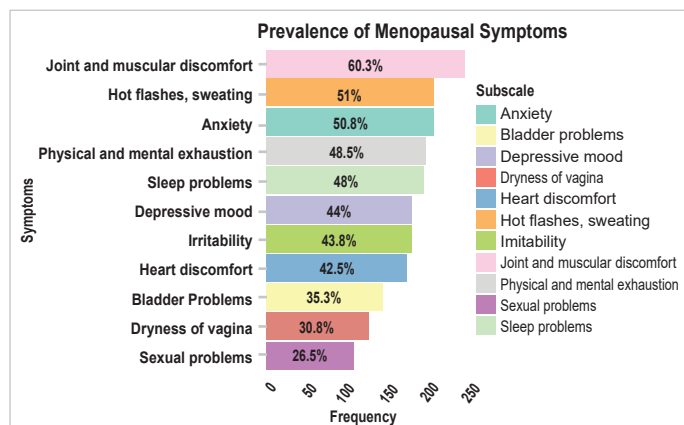
Quality of life during menopause, as gauged by the total MRS score, revealed nuanced outcomes, as illustrated in Table 3. A substantial majority (70.25%) of menopausal women exhibited a poor quality of life, as indicated by a total MRS score ≥ 9, suggestive of considerable symptom burden and functional impairment. In contrast, 29.75% demonstrated a comparatively favorable quality of life, with a total MRS score < 9, suggesting relatively milder symptomatology and better overall well-being.

Table 3: Quality of life among menopausal women using the Menopausal Rating Scale (MRS).

Characteristics	Frequency (n)	Percentage (%)
Quality of Life (QOL)		
Poor (Total MRS score ≥ 9)	281	70.25
Good (Total MRS score <9)	119	29.75

Association of Sociodemographic Variables with Quality of Life Categories in Table: 4.

Several sociodemographic factors showed a statistically significant association with quality of life categories based on the Menopausal Rating Scale (MRS) total scores. Women residing in rural areas had significantly poorer quality of life compared to those from urban areas (p=0.014). Only 12.6% of rural women had good QOL versus 42.7% of urban women.

There was a clear gradient effect of education on QOL. As education levels decreased, the proportion of women with poor QOL increased (p<0.001). For example, while 32.7% of illiterate women had poor QOL, this percentage was only 34.5% for non-formal education, 15.3% for basic education, and none of the higher education group had poor QOL.

Occupation was also significantly linked to QOL (p=0.003). The highest proportion of poor QOL was seen among housewives (62.3%) and agricultural workers (13.9%), while those with jobs had relatively better QOL (5.9%). Divorced/separated/widowed women fared worse, with 35.2% having poor QOL compared to 64.8% of married women (p=0.031). Early marriage before age 20 was associated with poorer QOL, with 63.3% in this group having poor QOL versus 36.7% of those married at older ages (p=0.009). Lack of physical activity showed a strong dose-response relationship with QOL. Only 1.7% of physically inactive women had good QOL, compared to 29.4% of those exercising regularly (p=0.018). The presence of any chronic health issues like heart disease, cancer, etc. was associated with significantly higher rates of poor QOL at 88.6.1% versus 11.4% in those without health problems (p=0.021).

However, some variables like current age group, age at menarche, pregnancy history, and age at menopause did not demonstrate a statistically significant association with menopausal quality of life categories in this study population. In summary, Table 4 highlights how socioeconomic and lifestyle disadvantages like rural residence, lower education, unemployment, widowhood, early marriage, physical inactivity, and comorbidities significantly impacted quality of life among postmenopausal women. Addressing these risk factors is crucial for improving menopausal health in this population.

Table 4: Association of sociodemographic variables with quality of life categories

Sociodemographic variables	Good QOL (n=119)	Poor QOL (n=281)	Total (n=400), n (%)	χ2 (P)
Age group (years)				
40-44	8 (6.7%)	10 (3.56%)	18 (4.5%)	
45-49	16 (13.4%)	42 (14.9%)	58 (14.5%)	
50-54	60 (50.4%)	155 (55.16%)	215 (53.75%)	2.63 (0.452)
55-59	35 (29.4%)	74 (26.33%)	109 (27.25%)	

Residence				
Urban	15 (12.6%)	120 (42.7%)	135 (33.8%)	6.480 (0.014)*
Rural	104 (87.4%)	161 (57.3%)	265 (66.2%)	
Education Status				
Illiterate	27 (22.7%)	92 (32.7%)	119 (29.8%)	
Non-formal education	30 (25.2%)	97 (34.5%)	127 (31.8%)	8.707 (<0.001)
Basic Education	34 (28.6%)	43 (15.3%)	77 (19.2%)	
Secondary education	16 (13.4%)	49 (17.4%)	65 (16.2%)	
Higher or more	12 (10.1%)	0 (0%)	12 (3%)	
Occupation				
Housewife	35 (29.4%)	175 (62.3%)	210 (52.5%)	
Agriculture	15 (12.6%)	39 (13.9%)	54 (13.5%)	9.360 (0.003)*
Labor and wages	10 (8.4%)	7 (2.5%)	17 (4.2%)	
Job	7 (5.9%)	3 (1.1%)	10 (2.5%)	
Others	52 (43.7%)	57 (20.3%)	109 (27.2%)	
Marital status				
Married	95 (79.8%)	182 (64.8%)	277 (69.2%)	4.545 (0.031)*
Divorced/separated/widowed	24 (20.2%)	99 (35.2%)	123 (30.8%)	
Age at menarche				
<15	54 (45.4%)	184 (65.5%)	238 (59.5%)	0.808 (0.275)
≥15	65 (54.6%)	97 (34.5%)	162 (40.5%)	
Age at marriage				
<20	73 (61.3%)	178 (63.3%)	251 (62.8%)	6.789 (0.009)*
≥20	46 (38.7%)	103 (36.7%)	149 (37.2%)	
Ever been pregnant				
Yes	98 (82.4%)	271 (96.4%)	369 (92.2%)	1.244 (0.265)
No	21 (17.6%)	10 (3.6%)	31 (7.8%)	
Age of Menopause				
≥ 48	35 (29.4%)	70 (24.9%)	105 (26.2%)	0.015 (0.900)
< 48	84 (70.6%)	211 (75.1%)	295 (73.8%)	
Physical Activity				
Exercise >3 times per week	35 (29.4%)	2 (0.7%)	37 (9.2%)	
Exercise <3 times per week	24 (20.2%)	29 (10.3%)	53 (13.2%)	10.071(0.018)*
Performed household chores	58 (48.7%)	172 (61.2%)	230 (57.5%)	
No physical activity at all	2 (1.7%)	78 (27.8%)	80 (20%)	

Have any health problems currently(heart diseases, cancer, diabetes, respiratory, musculoskeletal, and gastro-intestinal problems)				
Yes	76 (63.9%)	249 (88.6%)	325 (81.2%)	5.327 (0.021)*
No	43 (36.1%)	32 (11.4%)	75 (18.8%)	

The study also examined the various coping strategies adopted by the postmenopausal women to manage their menopausal symptoms (fig 2).

One-third (32.5%) of the participants reported not using any specific coping mechanism to deal with their menopausal issues. However, the remaining women employed a range of approaches. Dietary modifications like increasing intake of fruits, vegetables and spices were the most commonly used coping strategy (11.25%). Physical activity in the form of walking or performing household chores was practiced by 10% of women. Complementary and alternative therapies were also popular, with 6.25% practicing yoga/meditation and 5% opting for Ayurvedic/herbal remedies to find relief from menopausal symptoms. Religious/spiritual practices such as prayer and temple visits were the coping mechanisms for 8.75% of the participants. Seeking social support from family and community members was reported by 7.5% of women. Some women (3.75%) relied on traditional home remedies like fenugreek seeds and turmeric milk to manage their symptoms. Another 5% used over-the-counter medications for symptomatic relief. Apart from the listed options, 10% of women reported using other unspecified coping strategies to deal with menopausal symptoms. The use of multiple coping mechanisms concurrently by some participants cannot be ruled out based on the provided data.
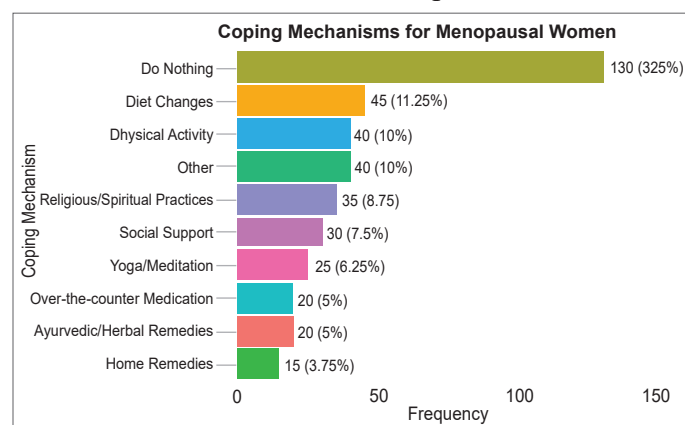

Figure 2 Coping mechanisms for menopausal women in study population

Overall, these findings highlight the diverse coping approaches adopted by postmenopausal women in this population, ranging from lifestyle modifications to complementary therapies and traditional remedies. However, a sizeable proportion did not employ any specific coping strategy, which may contribute to their decreased quality of life reported earlier. Culturally appropriate interventions promoting effective coping mechanisms could potentially improve menopausal experience in this study.

Discussion
This study aimed to evaluate the quality of life, characteristics related to it, and coping strategies among menopausal women in South Sadar Cumilla, Bangladesh, utilizing the Menopausal Rating Scale (MRS). The average age at menopause in the current study was 50.84 ± 2.39, consistent with previous research [18-21]. Our study results are consistent with a study conducted in Bangladesh[8].

Our research indicated that 70.25% of menopausal women had a low quality of life, similar to Meenakshi et al.'s [15] study where 70.2% were found to have poor quality of life. Our results differed from those of Abdullah et al.[22] and Samjhana et al.[17], who reported low quality rates of 52.3% and 51.4% respectively. The variation might stem from distinct symptom categories, research locations, and tools utilized to evaluate quality of life. Different studies showed varying levels of low quality of life among menopausal women, with over 37% experiencing it in Urban Puducherry, India[23], and over 65% in Bhubaneswar, India [24]. The disparities in outcomes can be explained by the cultural, socio-economic, geographical, and methodological variations across the research contexts.

The average (mean) total MRS score of this research was found to be 9.5 ±5.3, which is less than the mean score obtained from Ecuador (18 ±10.6) [25], Haryana, India (12.07 ±6.2)[15] Bhubaneswar, India (20.42 ±7.56) [24] and Iran (12.45 ±7.20) [26] and slightly higher than the study conducted on Egypt (9.11 ±5.76) [27] and Ecuador (9.1 ±6.4) [28]. Similarly, a study from Srilanka (10.98 ±6.90)[29] and America (11.3 ±8.5)[13] both showed a mean total MRS score a bit higherthan the current study. This study presented the mean scores of somatic, psychological, and urogenital subscales to be 4.3 ±2.6, 3.5 ±2.4, and 1.7 ±1.7, respectively. However, variation was found regarding the subscale score in many studies from Ecuador (S-score: 7.2 ±4.5, P-score: 6.9 ±4.8, U-score: 3.9 ±3.4) [25], Egypt (S-score: 4.12 ±2.22, P-score: 2.86 ±2.50, U-score: 2.13 ±1.04) [27], India (S-score: 8.24 ±3.13, P-score: 7.2 ±3.08, U-score: 4.98 ±2.21) [26], The discrepancy might be due to socio-economic positions, research setting, and methodological differences.

The study found that the average age of the participants was 53.51 ±3.43 years. The results were consistent with previous studies conducted by Meenakshi et al. [21] and Punia et al. [30], which reported mean participant ages of 53.6 ± 5.1 years and 52.49 ±6.18 years, respectively. Our study found that 75.5% of women experienced wide spread somatic symptoms, with joint and muscle soreness being the most common at 60.3%. 69.8% of subjects experienced psychological problems, emphasizing the psychosocial effects of menopause. Hot flashes and sweating were the most common vasomotor symptoms, affecting 51.0% of women. Urogenital symptoms, such as sexual issues (26.5%) and bladder problems (35.3%), were also reported by a considerable number of women. The results align with research[17,21] and are consistent with Krishnamoorthy et al.'s findings[31]. We observed increased prevalence across all areas of MRS.

Our study found no significant correlation between age and quality of life, which differs from the study in India that linked worse quality of life with younger age [24]. The discrepancy might be attributed to the varying age range of the subjects included.

The current research demonstrated a notable correlation between ethnicity and quality of life in menopausal women, consistent with previous studies conducted in Nepal [20, 32].

Research results indicated that women with formal education were more prone to experiencing a higher quality of life. This aligns with studies conducted in Iran [33] and America [34], which demonstrated that highly educated women were more likely to see an improvement in their quality of life compared to those with lower levels of education. Additionally,

more inclined to have a high quality of life, a conclusion consistent with previous research conducted in North India[35]. Additionally, women who engaged in physical activity were more inclined to have a high quality of life, as indicated by a study in England [36] showing that women who exercised regularly reported improved health-related quality of life ratings compared to those who did not exercise consistently. Increasing the amount of time spent on physical exercise each day can reduce the intensity of menopausal symptoms and lead to an enhanced quality of life [37].

The study found a correlation between health problems and quality of life in menopausal women, consistent with previous research indicating that menopausal women with health issues, especially chronic ones, had a detrimental impact on their quality of life [38,39].

Conclusion and Recommendation

This study revealed that more than three fourth of women felt the menopausal symptoms with almost two third having poor QOL. This study sheds light on the prevalence of menopausal symptoms, health-related quality of life, and coping mechanisms among menopausal women in Comilla, Bangladesh. Our findings underscore the significant burden of menopausal symptoms, including somatic and psychological issues, which adversely impact the quality of life of women in this population.

The diverse range of coping mechanisms observed highlights the need for tailored support services to address the unique needs of menopausal women. Despite the high prevalence of symptoms, many women resort to no specific coping mechanism, indicating a potential gap in support and resources in the community.

To achieve holistic care for menopausal women, it is imperative for primary healthcare providers to train women in managing symptoms through various modalities, including pelvic floor exercises, nutritious diet, increased physical activity, and meditation. While medical treatment such as menopausal hormone therapy (MHT) may be beneficial for those with significant symptoms, it should be individualized and tailored according to specific needs and symptoms.

By providing personalized care and empowering women with effective coping strategies, healthcare providers can significantly enhance the well-being and quality of life of menopausal women in Comilla, Bangladesh. Further research and initiatives are warranted to explore culturally sensitive interventions and improve access to healthcare services for menopausal women in this population.

Limitations

The study's applicability to broader populations may be limited, and there is a potential for recall bias among participants, particularly concerning events from their teenage years. Furthermore, due to the cross-sectional nature of the study, it was unable to examine how factors influence changes in quality of life over time, focusing instead on associations at a single point.

Declarations

Conflict of Interest:
The authors state that they have no known conflicting financial interests or personal relationships that may be seen as having influenced the work described in this study.

Ethics statement
The Institutional Review Board of Central Medical College in Cumilla, Bangladesh, approved this study. A formal letter was provided as clarification for conducting this study. Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

Data availability statement
Data will be made available on request.

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