



Quality Of Life (QOL) Among Postmenopausal (PMS) Women in Mohammadpur Geneva CAMP (MGC), Dhaka, Bangladesh: A Cross-sectional Study

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Abstract

Background: Menopausal symptoms can significantly impact women's quality of life (QoL).

Objectives: This study aimed to assess the presence and severity of menopausal symptoms and identify factors related to QoL among postmenopausal (PMS) women.

Methods: A purposive sample of 1200 PMS women, aged between 45 and 75 years with an average age of 54.46 (± 7.29) years, who experienced menopause at an average age of 46.29 (± 4.49) years and were at least two years PMS, were surveyed using a cross-sectional design from November to March 2019. The sample size of 1,200 was calculated using a 52.2% estimated prevalence of sleep problems among Malaysian PMS women, with a 95% confidence level and 5% margin of error. An additional 10% was added to account for nonresponse, ensuring adequate statistical power and representativeness. We assessed menopausal symptoms by employing the Menopause Rating Scale (MRS). Multivariable regression examined the relationship between QoL and other variables. Statistical tests were considered significant at P-values ≤ 0.05 .

Results: About 73% of women experienced hot flushes, sweating, sexual problems (24%), palpitation (74%), sleep disorder (83%), bladder incontinence (45%), dryness of the vagina (16%), depressive mood (91%), and joint and muscular discomfort (96%) during the age of 45-59, 60-69, and 70+ years old, respectively. According to the time since menopause ≤ 4 , 5 - 10, 11 - 15, and 16+, 78% suffered from hot flushes, sweating, 51% palpitation, 75% sleep disorder, 91% joint and muscular discomfort, and 81% depressive mood, respectively. In multivariable regression analysis, income and systolic blood pressure (SBP) were significantly ($P \leq 0.05$) associated with the somatic score. Time since menopause, education, occupation, marital status, and blood pressure (BP) played a significant ($P \leq 0.05$) role on the psychological and urogenital score.

Conclusions: The most commonly reported symptoms in this study were hot flushes, sweating, palpitations, sleep disorders, and joint and muscular discomfort. Age, education, occupation, income, and marital status were significantly associated with the QoL among PMS Bihari women. This study has limitations regarding generalizability. Since it was conducted in a single refugee camp (MGC) in Dhaka, the findings may not reflect the experiences of PMS women in other camps or marginalized areas. Socio-cultural, economic, and environmental conditions in MGC may differ significantly from those in different settings across Bangladesh.

Keywords: Quality of Life, Postmenopausal Women, Menopause Rating Scale (MRS), Mohammadpur Geneva Camp, Dhaka, Bangladesh

1. Background

Sociodemographic traits, cultural background, psychosocial factors, and lifestyle choices may influence the severity of menopausal symptoms (1). A study (2) has

indicated that North American and European women report higher rates of symptoms compared to Asian women. In Latin America (3) and Australia (4), menopause was linked to hot flushes, followed by sleep disturbances and night sweats. However, in Nigeria (5),

joint and muscular discomfort was the most commonly reported symptom. The most prevalent menopausal symptoms were joint pain, fatigue, headache, sleep disturbances, and physical and mental exhaustion among Egyptian (6) and Saudi women (7). Women from the East and South-East Asia (SEA) countries suffered from joint and muscle pain as the most frequent complaint (8). The menopausal symptoms mentioned above are the primary factors contributing to a decline in health-related quality of life (HR-QoL). The Menopause Rating Scale (MRS), an HR-QoL scale, has been used as an instrument to assess the frequency of menopausal symptoms among middle-aged women in Malaysia (9), Northern India (10), Sri Lanka (11), Pakistan (12), and Ecuador (13); one study (14) found in middle-aged Bangladeshi women using the MRS scale. The study participants were the Bihari women of the Mohammadpur Geneva camp (MGC) in Dhaka, Bangladesh. The Biharis, an Urdu-speaking minority group, including the Bihari women of the Geneva camp originally and mainly from the Indian province of Bihar, were the young Muslim refugees who migrated from India to East Pakistan (now Bangladesh) after the partition of 1947 to escape communal unrests and retain their religious identity (15). One clear sign of aging occurs when a woman's menstrual periods stop permanently. A woman enters this stage in middle age, and these women of our country are not getting enough support due to poor socioeconomic conditions, illiteracy, ignorance, and an inadequate healthcare system (16). During this period, women were not well accepted in society and family and considered themselves a burden. The middle-aged women from the Geneva camp in our country have already been leading wretched lives. The MRS can be used as a screening tool to identify women needing referral to a higher level of care for severe menopausal symptoms. Compared to mainstream Bangladeshi women, Bihari women have significantly less access to health-related interventions.

While research on menopause and QoL has primarily focused on women in mainstream Bangladeshi society (14, 17-21), it is essential to examine the QoL of middle-aged Bihari women.

2. Methods

This descriptive cross-sectional study was conducted from November to March 2019 in the MGC, Dhaka. Considering the inclusion and exclusion criteria, this research used a convenient sampling technique to include 1,200 postmenopausal (PMS) women. Menopausal symptoms are key contributors to the decline in HR-QoL among PMS women. The sample size

for this study was determined based on the objective of assessing sleep disturbances, a common menopausal symptom. An estimated prevalence of 52.2% for sleep problems, reported in a previous study (9) among Malaysian PMS women, was used to guide the calculation. The sample size was calculated using the standard formula for estimating a proportion: $n = z^2pq/d^2$, where n = required sample size, z = standard normal deviate (1.96 for a 95% confidence level), p = estimated prevalence (0.522), $q = 1 - p$ (0.478), and d = margin of error (0.05). Substituting these values yielded the minimum required sample size. The sample size was increased to compensate for an anticipated 10% nonresponse rate. This adjustment ensured adequate statistical power even with participant attrition or exclusion. Ultimately, the sample size was rounded to 1,200 to maintain statistical validity and operational feasibility. The study included women aged 45 to 75 who experienced menopause within the last two years. Exclusions were made for women with other medical complications, recent antibiotic use, undergoing hormone replacement therapy (HRT), or unable to answer basic sociodemographic questions. We divided the questionnaire into three sections. Section 1 outlined the sociodemographic data, including age, marital status, educational level, occupation, and average household income. Section 2 included the time since menopause, BP, and women's body weight. Section 3 included the MRS questionnaire for assessing menopausal symptoms in this study. The MRS scale (22) is a self-administered instrument, and this scale is validated. Eleven items are present in the MRS scale, and it has three subscales: (1) Somatic-hot flushes, heart discomfort/palpitation, sleeping disorder, and muscle and joint problems; (2) psychological-depressive mood, irritability, anxiety, and physical and mental exhaustion; and (3) urogenital-sexual problems, bladder problems, and dryness of the vagina. Each item was graded by the PMS women from 0 (not present) to 4 (1 = mild, 2 = moderate, 3 = severe, 4 = very severe). A group of experienced health workers and language experts first translated the questionnaire into the local language (Bangla) and then back to English to validate the language validation. Thirty women participated in a pilot study to validate the translated MRS questionnaires. Finally, the reliability analysis was done on the modified MRS questionnaires with Cronbach's alpha. MRS questionnaires with Cronbach's alpha of somatic subscale was 0.71, psychological subscale 0.73, and urogenital subscale 0.82, respectively, in this study. Trained health personnel asked women about their experiences regarding the menopausal symptoms in the previous month (30 days); however, it has been noted

from the earlier study (9) that the women did not seem able to rate the scale by themselves. To minimize these difficulties, we conducted face-to-face interviews. We calculated the frequency for descriptive analysis. We performed multivariable regression analysis to identify the predictors of QoL among PMS women. Statistical tests were considered significant at P -values ≤ 0.05 . We conducted all statistical analyses using the software SPSS 22.0 for Windows (SPSS, Inc., Chicago, IL, USA). The Ethics and Research Review Committees of the BUHS (BUHS/BIO/EA/19/183) approved the study ethically.

3. Results

Table 1 shows somatic symptoms were experienced among women in the form of hot flushes, sweating (73%), palpitation (74%), sleep disorder (83%), and joint and muscular discomfort (96%) during the age of 45 - 59, 60 - 69, and 70+ years old respectively. The highest number of women (91%) experienced depressive mood at the age of 70+. Anxiety (71%) was high in the 45 - 59 age-old. About 83% felt irritability in the 70+ age group, and 82% suffered from physical and mental exhaustion at 60 - 69 years old. Regarding the urogenital problem, 45% had bladder incontinence between the ages of 60 and 69. At the time since ≤ 4 , 5 - 10, 11 - 15, and 16+, somatic symptoms were experienced among women in the form of hot flushes, sweating (78%), palpitation (51%), sleep disorder (75%), and joint and muscular discomfort (91%) respectively. The highest number of women who experienced depressive mood (81%) and exhaustion (85%) had menopause of 16+.

We conducted multivariable linear regression analyses to identify the factors that might predict PMS women's QoL (Table 2). All eight parameters, namely, age, occupation, education, marital status, time since menopause, monthly income, systolic blood pressure (SBP), and diastolic blood pressure (DBP) were included simultaneously in the regression model. Time since menopause, education, occupation, monthly income, marital status, SBP, and DBP showed significant association with MRS subscale scores; three individual models were fitted separately for each considerable parameter. Predictions of the total somatic scores with sociodemographic and clinical characteristics achieved an R^2 of 0.023; $P = 0.0001$; respondents who were economically solvent had a significant negative association ($P = 0.03$; 95% CI: -0.672 to -0.019) with the hot flushes, palpitation, sleeping problem, and muscle and joint pain. SBP was positively and significantly ($P = 0.008$; 95% CI: 0.083 to 0.556) associated with somatic symptoms. Regression analysis also found significant predictions of respondents' psychological scores with

sociodemographic and clinical parameters ($R^2 = 0.081$; $P = 0.0001$). Occupation ($P = 0.0001$; 95% CI: 0.450 to 1.000) and marital status ($P = 0.001$; 95% CI: 0.220 to 0.872) had a positive significant association with psychological symptoms. Education ($P = 0.0001$; 95% CI: -2.284 to -0.913) and time since menopause ($P = 0.0001$; 95% CI: -0.607 to -0.188) were negatively significantly associated with depressive mood, irritability, anxiety, physical and mental exhaustion. However, SBP ($P = 0.0001$; 95% CI: 0.438 to 0.963) had a significant positive effect on the psychological scores, and in contrast, DBP ($P = 0.05$; 95% CI: -0.416 to 0.008) was significant and negatively associated with the scores after adjustment. The significant predictions of respondents' urogenital scores with sociodemographic and clinical parameters ($R^2 = 0.034$; $P = 0.0001$). Occupation ($P = 0.017$; 95% CI: 0.031 to 0.319) and education ($P = 0.001$; 95% CI: 0.265 to 0.983) significantly positively affected the urogenital scores. Marital status ($P = 0.001$; 95% CI: -0.458 to -0.117), SBP ($P = 0.007$; 95% CI: 0.051 to 0.326), and DBP ($P = 0.032$; 95% CI: -0.232 to -0.011) were significantly and negatively associated with the urogenital score after adjustment.

4. Discussion

The most stated symptoms among a sample of Bihari PMS women in the present study were hot flushes, sweating, palpitation, sleep disorder, joint and muscular discomfort, depressive mood, anxiety, physical and mental exhaustion, and bladder incontinence according to the age group and time since menopause. Ahmed et al. (21) reported that tiredness, dizziness, depression, hot flushes, osteoporosis, sweating at night, irritability, palpitation, and headache had the worst impact on QoL among early and late menopausal Bangladeshi women. Women in India (23, 24), Pakistan (25), and Saudi Arabia (7, 26) were also experiencing the symptoms mentioned above. However, PMS women from other Asian populations (8, 11) were similar to our results. It is important to note that although all women in the study were symptomatic, the QoL decreased when the severity of symptoms increased. Consequently, the severity of symptoms correlates with the QoL in reverse. Hot flushes and night sweats are related to hormonal changes during menopause, and menopause has changed the female reproductive system mainly by changing hormone levels. Joint and muscular discomfort occurred due to the deficiency of a balanced and calcium-rich diet.

Multivariable regression analysis also showed that the increase in the time since menopause significantly impacted the QoL. About sixty-five percent of women included in the present study have experienced

Table 1. The Proportion of Menopausal Symptoms Among Postmenopausal Women According to Their Age Group and Time Since Menopause (n = 1200) ^a

Menopausal Symptoms	Age Groups			Time Since Menopause (y)			
	45 - 59 (n = 813)	60 - 69 (n = 341)	70+ (n = 46)	≤ 4 (n = 463)	5 - 10 (n = 392)	11 - 15 (n = 150)	16+ (n = 195)
Somatic Symptoms							
Hot flushes, sweating	592 (73)	226 (66)	28 (61)	363 (78)	273 (70)	96 (64)	114 (59)
Palpitation	396 (49)	173 (51)	34 (74)	238 (51)	199 (51)	70 (47)	96 (49)
Sleep disorder	566 (70)	242 (71)	38 (83)	340 (73)	255 (65)	112 (75)	139 (71)
Joint and muscular discomfort	726 (89)	308 (93)	44 (96)	359 (78)	347 (89)	132 (88)	178 (91)
Psychological symptoms							
Depressive mood	621 (76)	268 (79)	42 (91)	359 (78)	299 (76)	116 (77)	157 (81)
Irritability	625 (77)	239 (70)	38 (83)	375 (81)	275 (72)	110 (73)	142 (73)
Anxiety	575 (71)	200 (59)	28 (61)	371 (80)	230 (59)	87 (58)	115 (59)
Physical & mental exhaustion	600 (74)	278 (82)	37 (80)	333 (72)	287 (73)	130 (87)	165 (85)
Urogenital symptoms							
Sexual problems	191 (24)	21 (6)	-	138 (30)	58 (15)	10 (7)	6 (3)
Bladder incontinence	332 (41)	153 (45)	14 (30)	204 (44)	155 (40)	58 (39)	82 (42)
Dryness of vagina	116 (14)	53 (16)	4 (9)	85 (18)	50 (13)	20 (13)	18 (9)

^a Values are presented as No. (%).

menopause for approximately a decade. Our results are in harmony with the Iranian studies (27) but did not match with other studies (28). This controversy happened because of the different data analysis methods and the study population. However, women became habituated to the menopause stage as time passed since menopause. Poor education led to depressive mood, irritability, anxiety, physical and mental exhaustion, and sexual problems. In contrast, different studies (23, 27) showed opposite results. The probable reasons are that educated people tend to have improved lives through their healthy behavior and positive lifestyles. Living conditions in the camps are unhygienic, water and sanitation systems are inadequate, and they have little chance to explore a better lifestyle. Economic conditions are equally important as education in one's professional and social life, which could also improve QoL. A cross-sectional survey in India by Kakkar et al. (10) indicated that non-working and sedentary women significantly suffer from higher psychosomatic and urogenital disorders, which is in line with our study findings. The PMS women who were homemakers in our study suffered from hot flushes, palpitation, sleeping disorder, depressive moods, irritability, anxiety, bladder incontinence, and dryness of the vagina. Nazarpour et al. (27), Fallahzade et al. (1), and Haghi et al. (29) found similar results in their studies. The probable cause is that employed women tend to have better mental health than stay-at-home ones. Given their time in social settings outside the home, they are better able to resist the symptoms of

menopause; a job or responsibility in an organization increases confidence levels among middle-aged women and helps to improve their QoL. On the other hand, homemakers are less exposed to the social environment outside their homes. They are mainly occupied with household chores, personally carrying out many of the tasks employed, financially secured independent women often assign to others. Therefore, the side effects of menopause might be associated with the burdens of household chores, which further complicate matters and reduce QoL. Marital status had a significant ($P = 0.002$) positive association with QoL among women. Loneliness and lack of intimacy in relations with the partner can extend and prolong the time of experiencing depression. The belief that one is loved, important, understood, and surrounded by care may improve the symptoms experienced by enabling more effective coping with them and thus contribute to well-being. Women with psychological symptoms fail to recognize their symptoms of menopause. As we know, in any third-world country, women are the most vulnerable group, constantly fighting to find their feet. In addition, women's condition is exaggerated if supplemented by diasporic notions like statelessness, displacement, migration, and refugee identity. These psychological symptoms may result from physical and mental stress due to living experiences in the MGC during midlife. Therefore, the women might have overrated their symptoms when MRS administered them.

Table 2. Multivariable Regression Analysis of the Total Somatic, Psychological, and Urogenital Scores as Dependent Variables with Sociodemographic and Clinical Characteristics Among Postmenopausal Women (n =1200)

Predictor Variables		B ^a ± SE	Beta ^b	P-Value	95% CI for B	
					Lower	Upper
Somatic score ^c						
Present age (y)		0.0001 ± 0.17	0.0001	0.997	-0.336	0.337
Occupation		-0.038 ± 0.12	-0.01	0.764	-0.286	0.210
Level of education		-0.330 ± 0.32	-0.03	0.295	-0.948	0.288
Marital status		0.245 ± 0.15	0.05	0.103	-0.049	0.538
Time since menopause (y)		-0.013 ± 0.096	-0.004	0.889	-0.202	0.175
Monthly income (BDT)		-0.346 ± 0.16	-0.06	0.03	-0.672	-0.019
SBP (mmHg)		0.320 ± 0.121	0.104	0.008	0.083	0.556
DBP (mmHg)		0.120 ± 0.09	0.048	0.218	-0.071	0.311
Psychological score ^d						
Present age (y)		0.153 ± 0.19	0.023	0.423	-0.221	0.526
Occupation		0.725 ± 0.14	0.16	0.0001	0.450	1.000
Level of education		-1.59 ± 0.35	-0.128	0.0001	-2.284	-0.913
Marital status		0.546 ± 0.166	0.099	0.001	0.220	0.872
Time since menopause (y)		-0.398 ± 0.11	-0.104	0.0001	-0.607	-0.188
Monthly income (BDT)		0.029 ± 0.185	0.005	0.877	-0.334	0.391
SBP (mmHg)		0.701 ± 0.134	0.199	0.0001	0.438	0.963
DBP (mmHg)		-0.204 ± 0.108	-0.071	0.05	-0.416	0.008
Urogenital score ^e						
Present age (y)		-0.088 ± 0.10	-0.026	0.38	-0.28	0.11
Occupation		0.175 ± 0.073	0.076	0.017	0.031	0.319
Level of education		0.624 ± 0.183	0.098	0.001	0.265	0.983
Marital status		-0.287 ± 0.087	-0.102	0.001	-0.458	-0.117
Time since menopause (y)		-0.053 ± 0.056	-0.027	0.343	-0.163	0.057
Monthly income (BDT)		-0.003 ± 0.097	-0.001	0.977	-0.192	0.187
SBP (mmHg)		-0.189 ± 0.07	-0.105	0.007	0.051	0.326
DBP (mmHg)		-0.121 ± 0.057	-0.083	0.032	-0.232	-0.011

Abbreviations: SBP, systolic blood pressure; DBP, diastolic blood pressure.

^a Unstandardized sample regression co-efficient.^b Standardized sample regression co-efficient.^c Total as a dependent variable; adjusted R² = 2.3%; overall model F-test, P = 0.0001.^d Total psychological score as a dependent variable; adjusted R² = 8.1%; overall model F-test, P = 0.0001.^e Total as a dependent variable; adjusted R² = 3.4%; overall model F-test, P = 0.0001.

The present findings indicate potential declines in physical health due to menopausal symptoms, increased vulnerability to mental health issues like depression and anxiety, and impaired social functioning stemming from stigma or limited support. Early identification of health issues can significantly improve HR-QoL in PMS women, who spend about one-third of their lives in this stage. Post-menopause technically begins after menstruation ends, with endocrine changes stabilizing within ten years, after which aging effects dominate. Many women in Geneva Camp experienced early menopause due to prolonged birth control use and were unaware of their last

menstruation. They and their families often lack knowledge about the importance of a balanced diet, calcium, and sunlight. These factors, along with physiological changes, may lower their QoL. Providing proper nutrition and timely medical referrals could help them manage menopause better.

The findings of this study are subject to certain limitations in terms of generalizability. As the research was conducted within a single refugee camp in Dhaka, the results may not be representative of all PMS women living in other camps or marginalized settings across Bangladesh. The unique socio-cultural, economic, and environmental conditions of MGC could differ

significantly from those of different refugee camps or underprivileged communities. To enhance the external validity of this research, future studies should consider replicating this investigation in other refugee settlements, urban slums, and marginalized populations in Bangladesh. Comparative studies across different camps could provide a more comprehensive understanding of the factors influencing QoL among PMS women and help design more targeted and culturally sensitive interventions.

The cross-sectional design did not account for the confounding effects of aging on symptom experience. An interviewer-administered questionnaire was used, leading to unavoidable recall bias. While this method was necessary due to the high illiteracy rate among participants, it introduced potential limitations discussed earlier in the method section. Additionally, participants' illiteracy resulted in a wide age range. The widespread illiteracy within the study population contributed to challenges in precisely determining participants' ages. Many respondents could not provide official documentation or exact birth dates, resulting in a broad and somewhat inconsistent age range among the study sample. These factors may have affected the precision of the data. A further limitation was the lack of comparable research involving women from other refugee camps.

The study found that the most commonly reported symptoms among PMS women were hot flushes, excessive sweating, palpitations, sleep disturbances, joint pain, depression, anxiety, fatigue, and bladder incontinence. QoL was significantly associated with factors such as education, occupation, income level, and marital status. Community-based health education programs focusing on menopause awareness, symptom management, and mental health support could empower women with knowledge and coping strategies. Training community health workers to address the specific needs of PMS women and integrating menopause care into existing primary healthcare systems can also make a noteworthy impact. These measures would improve health outcomes and promote dignity and well-being among this underserved population. Further research is recommended to enhance the well-being of PMS women across different Bihari communities in Bangladesh. In particular, future studies should adopt longitudinal designs better to explore the causal relationships between menopausal symptoms and QoL.

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Footnotes

Authors' Contribution: F. S.: Acquisition of data; N. S.: Analysis and interpretation of data; F. S. and N. S.: Drafting of the manuscript; N. S.: Critical revision of the manuscript for important intellectual content; F. S.: Statistical analysis; F. S.: Study supervision; F. S.

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References

1. Fallahzade H, Dehghani Tafti A, Dehghani Tafti MH, HF S HH. [Factors associated with quality of life in postmenopausal women in Yazd in 2008]. *J Shahid Sadoghi Yazd Univ Med Sci*. 2011;**18**(6):552-8.
2. Ayranci U, Orsal O, Orsal O, Arslan G, Emeksz DF. Menopause status and attitudes in a Turkish midlife female population: an epidemiological study. *BMC Womens Health*. 2010;**10**:1. [PubMed ID: 20064263]. [PubMed Central ID: PMC2822813]. <https://doi.org/10.1186/1472-6874-10-1>.
3. Chedraui P, San Miguel G, Avila C. Quality of life impairment during the female menopausal transition is related to personal and partner factors. *Gynecol Endocrinol*. 2009;**25**(2):130-5. [PubMed ID: 19253110]. <https://doi.org/10.1080/09513590802617770>.
4. Berecki-Gisolf J, Begum N, Dobson AJ. Symptoms reported by women in midlife: menopausal transition or aging? *Menopause*. 2009;**16**(5):1021-9. [PubMed ID: 19546824]. <https://doi.org/10.1097/gme.0b013e3181a8c49f>.
5. Olaolorun FM, Lawoyin TO. Experience of menopausal symptoms by women in an urban community in Ibadan, Nigeria. *Menopause*. 2009;**16**(4):822-30. [PubMed ID: 19242385]. <https://doi.org/10.1097/gme.0b013e318198d6e7>.
6. Sweed HS, Elawam AE, Nabeel AM, Mortagy K. Postmenopausal symptoms among Egyptian geripausal women. *East Mediterr Health J*. 2012;**18**(3):213-20. [PubMed ID: 22574473]. <https://doi.org/10.26719/2012.18.3.213>.
7. AlDughaiter A, AlMutairy H, AlAteeq M. Menopausal symptoms and quality of life among Saudi women visiting primary care clinics in Riyadh, Saudi Arabia. *Int J Womens Health*. 2015;**7**:645-53. [PubMed ID: 26111111].

- 26170720]. [PubMed Central ID: PMC4493969]. <https://doi.org/10.2147/IJWH.S84709>.
8. Bairy L, Adiga S, Bhat P, Bhat R. Prevalence of menopausal symptoms and quality of life after menopause in women from South India. *Aust N Z J Obstet Gynaecol*. 2009;**49**(1):106-9. [PubMed ID: 19281589]. <https://doi.org/10.1111/j.1479-828X.2009.00955.x>.
 9. Rahman SA, Zainudin SR, Mun VL. Assessment of menopausal symptoms using modified Menopause Rating Scale (MRS) among middle age women in Kuching, Sarawak, Malaysia. *Asia Pac Fam Med*. 2010;**9**(1):5. [PubMed ID: 20175928]. [PubMed Central ID: PMC2834580]. <https://doi.org/10.1186/1447-056X-9-5>.
 10. Kakkar V, Kaur D, Chopra K, Kaur A, Kaur IP. Assessment of the variation in menopausal symptoms with age, education and working/non-working status in north-Indian sub population using menopause rating scale (MRS). *Maturitas*. 2007;**57**(3):306-14. [PubMed ID: 17408889]. <https://doi.org/10.1016/j.maturitas.2007.02.026>.
 11. Waidyasekera H, Wijewardena K, Lindmark G, Naessen T. Menopausal symptoms and quality of life during the menopausal transition in Sri Lankan women. *Menopause*. 2009;**16**(1):164-70. [PubMed ID: 18703984]. <https://doi.org/10.1097/gme.0b013e31817a8abd>.
 12. Mazhar SB, Rasheed S. Menopause Rating Scale (MRS), A simple tool for assessment of climacteric symptoms in Pakistani women. *Ann Pak Inst Med Sci*. 2009;**5**(3):158-61.
 13. Chedraui P, Aguirre W, Hidalgo L, Fayad L. Assessing menopausal symptoms among healthy middle aged women with the Menopause Rating Scale. *Maturitas*. 2007;**57**(3):271-8. [PubMed ID: 17329046]. <https://doi.org/10.1016/j.maturitas.2007.01.009>.
 14. Rahman S, Salehin F, Iqbal A. Menopausal symptoms assessment among middle age women in Kushtia, Bangladesh. *BMC Res Notes*. 2011;**4**:188. [PubMed ID: 21672258]. [PubMed Central ID: PMC3127963]. <https://doi.org/10.1186/1756-0500-4-188>.
 15. Khan AR. Gender and Diaspora: The Bihari Community in Bangladesh. *NIDA Case Res J*. 2015;**7**(2):84-96.
 16. Harun MGD, Salema U, Chowdhury A, Haque MI, Kafi MAH, Shahajahan M, et al. Knowledge and attitudes associated with menopause among women aged 45 to 60 years: a pilot study among rural and urban women in Bangladesh. *Menopause*. 2020;**27**(6):648-57. [PubMed ID: 32217893]. <https://doi.org/10.1097/GME.0000000000001525>.
 17. Amin MA, Mozid NE, Ahmed SB, Sharmin S, Monju IH, Jhumur SS, et al. Status of female sexual dysfunction among postmenopausal women in Bangladesh. *BMC Womens Health*. 2022;**22**(1):401. [PubMed ID: 36195886]. [PubMed Central ID: PMC9533598]. <https://doi.org/10.1186/s12905-022-01991-9>.
 18. Ara RF, Alam MJ, Yusuf MA. Menopause-Related Symptoms and Help Seeking Behavior among Women Attended at a Tertiary Care Hospital in Bangladesh. *Open J Obstetrics Gynecol*. 2018;**8**(4):376-84. <https://doi.org/10.4236/ojog.2018.84042>.
 19. Bashar M, Ahmed K, Uddin MS, Ahmed F, Emran AA, Chakraborty A. Depression and Quality of Life among Postmenopausal Women in Bangladesh: A Cross-sectional Study. *J Menopausal Med*. 2017;**23**(3):172-81. [PubMed ID: 29354617]. [PubMed Central ID: PMC5770527]. <https://doi.org/10.6118/jmm.2017.23.3.172>.
 20. Tasnim S, Parvin R, Afrin T, Nazmeen S. Determinants of Intrapartum Still Birth and Early Neonatal Death in a Periurban Hospital. *Bangladesh J Obstetrics Gynaecol*. 2023;**36**(1):10-7. <https://doi.org/10.3329/bjog.v36i1.65931>.
 21. Ahmed K, Jahan P, Nadia I, Ahmed F, Abdullah Al E. Assessment of Menopausal Symptoms among Early and Late Menopausal Midlife Bangladeshi Women and Their Impact on the Quality of Life. *J Menopausal Med*. 2016;**22**(1):39-46. [PubMed ID: 27152312]. [PubMed Central ID: PMC4854658]. <https://doi.org/10.6118/jmm.2016.22.1.39>.
 22. Kamal NN, Seedhom AE. Quality of life among postmenopausal women in rural Minia, Egypt. *East Mediterr Health J*. 2017;**23**(8):527-33. [PubMed ID: 29105043].
 23. Ganapathy T, Al Furaikh S. Health-related quality of life among menopausal women. *Arch Med Health Sci*. 2018;**6**(1). https://doi.org/10.4103/amhs.amhs_122_17.
 24. Karmakar N, Majumdar S, Dasgupta A, Das S. Quality of life among menopausal women: A community-based study in a rural area of West Bengal. *J Midlife Health*. 2017;**8**(1):21-7. [PubMed ID: 28458476]. [PubMed Central ID: PMC5367220]. https://doi.org/10.4103/jmh.JMH_78_16.
 25. Nisar N, Sohoo NA. Severity of Menopausal symptoms and the quality of life at different status of Menopause: a community based survey from rural Sindh, Pakistan. *Int J Collab Res Internal Med Public Health*. 2010;**2**(5):118.
 26. Mohamed H, Lamadah S, Zamil L. Quality of life among menopausal women. *Int J Reproduction, Contraception, Obstetrics Gynecol*. 2014:552-61. <https://doi.org/10.5455/2320-1770.ijrcog20140906>.
 27. Nazarpour S, Simbar M, Ramezani Tehrani F, Alavi Majd H. Factors associated with quality of life of postmenopausal women living in Iran. *BMC Womens Health*. 2020;**20**(1):104. [PubMed ID: 32410601]. [PubMed Central ID: PMC7227259]. <https://doi.org/10.1186/s12905-020-00960-4>.
 28. Kabodi S, Ajami E, Zakiei A, Zangeneh A, Saeidi S. Women's Quality of Life in Menopause with a Focus on Hypertension. *J Obstet Gynaecol India*. 2019;**69**(3):279-83. [PubMed ID: 31178645]. [PubMed Central ID: PMC6531587]. <https://doi.org/10.1007/s13224-018-1172-y>.
 29. Haghi HB, Hakimi S, Mirghafourvand M, Mohammad-Alizadeh S, Charandabi MF. Comparison of quality of life between urban and rural menopause women and its predictors: a Population Base study. *Int J Women Health Reproduction Sci*. 2017;**5**(2):137-42.