

Prevalence and Severity of Menopausal Symptoms in Perimenopausal and Menopausal Women

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Received: 25-01-2024 / Revised: 23-02-2024 / Accepted: 25-03-2024

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Conflict of interest: Nil

Abstract:

Introduction: Menopause, marking the cessation of a woman's reproductive ability, heralds a significant transition often accompanied by distressing symptoms affecting quality of life. From hot flashes to emotional upheaval, menopausal symptoms stem from hormonal changes, notably declining estrogen levels. In India, despite healthcare advancements prolonging post-menopausal life, addressing menopausal symptomatology remains crucial for holistic well-being.

Material and Methods: This prospective observational study aimed to assess menopausal symptom frequency and severity in peri- and postmenopausal women using the Menopause Rating Scale (MRS). Enrolling 300 women aged 42 to 55 years, the study spanned six months and recruited participants from M P Shah Medical College & GG Government Hospital, Jamnagar. Data collection involved face-to-face interviews conducted in the local language to ensure accurate responses. The MRS, comprising subscales for psychological, somatic, and urogenital symptoms, was utilized, with scores ranging from 0 to 4. Descriptive statistics summarized participant characteristics, while inferential analyses compared MRS scores between peri- and postmenopausal groups. Results: The mean total response score of the perimenopausal group (22.05) was higher than the postmenopausal group (19.08). The mean score for somatic subscale and psychological scale was higher in perimenopausal women in comparison with postmenopausal women. The increase in psychological subscale was statistically significant ($P < 0.01$). However, the mean score for urogenital subscale was significantly higher ($P < 0.001$) in postmenopausal women. Hot flashes, cardiac symptoms, and sleep disturbances are prevalent, with a significant proportion experiencing severe symptoms. Joint and muscle discomfort, depression, irritability, anxiety, sexual problems, and physical and mental exhaustion are also common, albeit with varying severity. Bladder problems and vaginal dryness, while less frequent, still impact a notable proportion, highlighting the diverse and burdensome nature of menopausal symptoms.

Conclusion: During menopause, hormonal fluctuations, particularly in estrogen levels, lead to diverse symptoms. Perimenopausal women reported more severe symptoms, including fatigue, depression, anxiety, hot flashes, and sexual disturbances. Conversely, postmenopausal women showed decreased psychological symptoms but increased urogenital symptoms, fatigue, and body ache.

Keywords: Menopause, Hormonal Fluctuations, Symptoms, Transition.

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Introduction

Menopause, the biological milestone marking the cessation of a woman's reproductive ability, represents a significant transition in her life journey. [1] Yet, amidst the natural progression, menopause often accompanies a plethora of distressing symptoms that can profoundly affect a woman's quality of life. [2] From debilitating hot flashes and night sweats to disruptive sleep patterns, joint pains, and intimate health concerns

such as decreased libido and bladder incontinence, the spectrum of menopausal symptoms can be both broad and burdensome. These manifestations, while common, underscore the need for a nuanced understanding of their prevalence and severity among perimenopausal and menopausal women. [3]

At the core of these menopausal symptoms lies a hormonal upheaval, primarily characterized by a decline in estrogen levels, intricately linked to ovarian aging. [4] This hormonal shift not only triggers physical discomfort but also exerts significant influence on emotional well-being and psychological health. As women navigate through this transformative phase, grappling with the multifaceted challenges posed by menopausal symptoms becomes imperative for maintaining holistic wellness. [5]

In the context of India, the landscape of menopause is witnessing notable shifts in demographic patterns. Contrary to Western counterparts, Indian women are experiencing menopause at a younger age. [6] This divergence, coupled with advancements in healthcare and evolving lifestyle dynamics, has led to an extended post-menopausal phase, with women now spending a substantial portion of their lives in this stage. [7] Consequently, there arises a pressing need for a comprehensive understanding of the prevalence and severity of menopausal symptoms within the Indian context, addressing the unique sociocultural, economic, and healthcare dimensions shaping women's experiences during this critical phase of life.⁸ Simultaneously, advancements in healthcare and lifestyle changes have contributed to an increase in life expectancy, allowing women to live longer post-menopause.

Material and Methods

This prospective observational study aimed to compare the frequency and severity of menopausal symptoms in peri- and postmenopausal women using the Menopause Rating Scale (MRS). The study enrolled 300 women aged between 42 and 55 years, encompassing both peri- and postmenopausal individuals. Participants were recruited from tertiary care center of M P Shah Medical College & GG Government Hospital, Jamnagar. Inclusion criteria comprised women within the specified age range experiencing menopausal transition or postmenopausal status. Exclusion criteria included women with a history of hormonal therapy in the past six months, significant medical comorbidities affecting menopausal symptoms, or inability to provide informed consent.

The data collection period spanned six months, during which participants were recruited and assessed for menopausal symptoms using the MRS. The Menopause Rating Scale (MRS) is a validated health-related quality of life measure designed to evaluate the severity of menopausal symptoms across three subscales: psychological, somatic, and urogenital, along with a total score. Each subscale and the total score range from 0 (no symptoms) to 4 (very severe symptoms), allowing for comprehensive assessment of menopausal symptomatology.

The MRS questionnaire was administered through face-to-face interviews conducted in the local language to ensure accurate responses and minimize language barriers. Trained interviewers conducted the interviews in a private and comfortable setting to facilitate open communication and ensure confidentiality. Participants were encouraged to provide honest and detailed responses regarding their experiences of menopausal symptoms.

Descriptive statistics were employed to summarize participant characteristics, including age, menopausal status, and demographic variables. Mean scores for each MRS subscale and the total score were calculated to assess the frequency and severity of menopausal symptoms among peri- and postmenopausal women. Inferential statistical analyses, such as t-tests or Mann-Whitney U tests, were conducted to compare MRS scores between peri- and postmenopausal groups, depending on the distribution of data. Statistical significance was set at $p < 0.05$.

Results

The mean total response score of the perimenopausal group (22.05) was higher than the postmenopausal group (19.08). The mean score for somatic subscale and psychological scale was higher in perimenopausal women in comparison with postmenopausal women. The increase in psychological subscale was statistically significant ($P < 0.01$). However, the mean score for urogenital subscale was significantly higher ($P < 0.001$) in postmenopausal women.

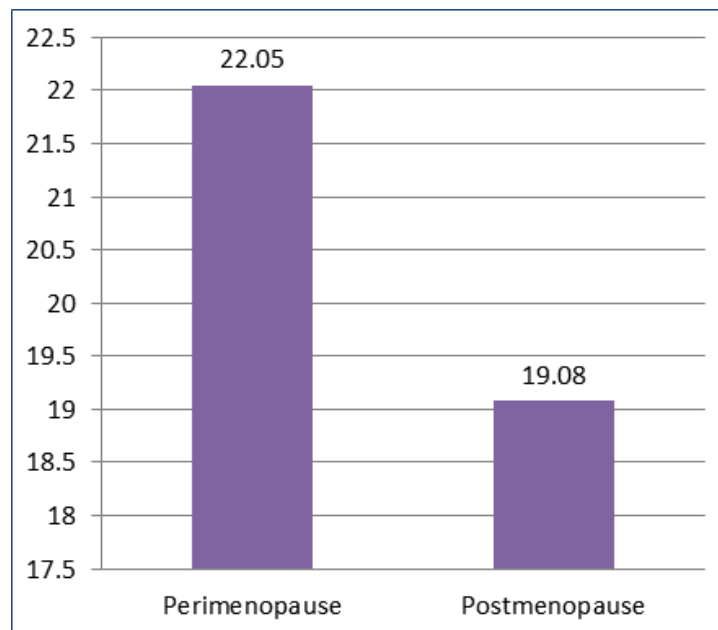


Figure 1: Mean total score of peri- and postmenopausal women on MRS

The figure 2 illustrates mean scores on the Menopause Rating Scale (MRS) for peri- and postmenopausal women, assessing symptom severity across somatic, psychological, and urogenital domains. Both groups show highest scores on the psychological subscale, indicating significant emotional symptomatology, followed by somatic symptoms and urogenital concerns. Perimenopausal women

exhibit slightly higher scores across all domains, suggesting a slightly heavier symptom burden during this transitional phase. Specifically, perimenopausal women average 6.25 on the psychological subscale, 6.07 on the somatic subscale, and 5.38 on the urogenital subscale, compared to 5.94, 5.15, and 4.48, respectively, for postmenopausal women.

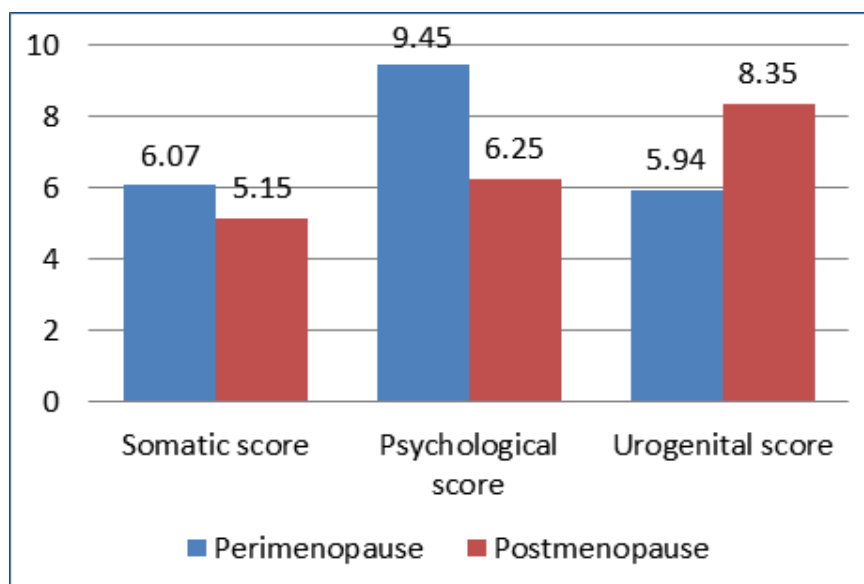


Figure 2: Mean score of subscales of peri- and postmenopausal women on MRS

The table outlines the prevalence and severity of menopausal symptoms among participants. Hot flashes and cardiac symptoms are most common, with significant proportions experiencing severe to very severe symptoms. Sleep disturbances affect over half of the women, predominantly at a severe level. Joint and muscle discomfort, depression,

irritability, anxiety, and sexual problems are also prevalent, with varying severity. Physical and mental exhaustion are reported by a quarter of women, mostly at a mild to moderate level. Bladder problems and vaginal dryness, though less common, have notable proportions experiencing severe symptoms.

Table 1: Menopausal Symptoms based upon severity

Menopausal Symptoms	Percentage (%)	Mild to Moderate (n) (%)	Severe to Very Severe (n) (%)
Hot Flashes	71%	115 (38%)	98 (32.66%)
Cardiac Symptoms	64.5%	125 (41.67%)	67 (22.33%)
Sleep Disturbances	52%	24 (8.00%)	132 (44.00%)
Joint & Muscle Discomfort	43%	64 (21.33%)	65 (21.67%)
Depression	35.3%	72 (24.00%)	34 (11.33%)
Irritability	42%	38 (12.67%)	88 (29.33%)
Anxiety	35.4%	72 (24.00%)	34 (11.33%)
Physical & Mental Exhaustion	24%	50 (16.67%)	12 (4.00%)
Sexual Problems	37%	60 (20.00%)	51 (17.00%)
Bladder Problems	23%	25 (8.33%)	44 (14.67%)
Vaginal Dryness	49%	63 (21.00%)	84 (28.00%)

Discussion

Understanding the prevalence and severity of menopausal symptoms is crucial for providing effective healthcare interventions and improving the quality of life for women transitioning through this phase. Our study's findings align with existing research, highlighting the pervasive nature of symptoms such as hot flashes, sleep disturbances, and psychological distress among peri- and postmenopausal women. Importantly, our data contribute to the broader literature by offering insights into the specific symptomatology experienced by women in our demographic context. By comparing our findings with those of other studies, we can identify common patterns and variations in symptom prevalence, severity, and associated factors across diverse populations.

Our study's findings, including a higher mean total response score in the perimenopausal group (22.05) compared to the postmenopausal group (19.08), resonate with existing literature. This contrasts with the findings of the Ahsan et al. [9] study, where the mean total score of symptoms was comparable between the perimenopausal group (21.4 ± 5.11) and the postmenopausal group (20.03 ± 3.99). Additionally, our study found a higher prevalence of somatic and psychological symptoms in perimenopausal women compared to postmenopausal women, which aligns with findings from other studies by Ahsan et al. [9], Inayat et al. [10], and Sivaprasad et al. [11]

Moreover, our study and Ahsan et al. [9] showed significantly higher urogenital symptom scores in postmenopausal women, while Sivaprasad et al. [11] found higher urogenital symptoms, especially bladder problems, in postmenopausal women. Inayat et al. [10] reported a higher incidence of palpitations and headaches in perimenopausal women compared to postmenopausal women, and the prevalence of irritability, anxiety, lethargy, and forgetfulness was also higher in perimenopausal women. These collective findings underscore the diverse symptomatology experienced by women

during the menopausal transition and postmenopausal period, highlighting the need for tailored healthcare interventions that address the specific needs of women across different stages of menopause.

Our study's findings shed light on the nuanced variations in menopausal symptoms experienced by women in India, reflecting the unique cultural, environmental, and physiological factors at play in this demographic context. Common menopausal symptoms in India exhibit differences compared to Western populations, and these variations may also manifest within different regions of the country. [12,13] The complexities arise from the diverse ways in which women experience reductions in estrogen levels, leading to significant interindividual variation in symptomatology. [14]

Hot flashes, a hallmark symptom of menopause, are influenced by various factors including hormone levels, ethnicity, climate, diet, lifestyle, smoking, and attitudes towards menopause. [15,16] Our study's data corroborate the notion that the intensity of hot flashes tends to decrease over time as estrogen fluctuations diminish. Furthermore, our findings underscore the potential impact of hot flashes on memory and cognition, attributed to decreased blood flow to the hippocampus during a hot flush. [17] Additionally, the severity of irritability, anxiety, and depression symptoms tends to decrease with advancing age, although fluctuating estrogen levels and apprehension towards menopause may contribute to mood disturbances as well. [4,18]

As women progress into postmenopausal age, further declines in estrogen levels contribute to urogenital symptoms such as vaginal atrophy and dryness. Our study aligns with existing literature highlighting the association between postmenopausal estrogen decline and urogenital symptoms, which predispose women to conditions like urinary tract infections (UTIs). [19,20] These findings underscore the multifaceted nature of menopausal symptomatology and emphasize the

importance of considering diverse factors when studying and interpreting the results, ultimately guiding the development of tailored interventions to support women's health and well-being during the menopausal transition and beyond.

One limitation of our study is its reliance on self-reported data, which may be subject to recall bias and individual interpretation of symptoms. Additionally, our sample size and demographic characteristics may limit the generalizability of our findings to broader populations. Furthermore, the cross-sectional design of the study restricts our ability to establish causality or track changes in symptomatology over time.

Conclusion

During the menopausal transition, women undergo hormonal fluctuations, primarily in estrogen levels, leading to diverse symptoms and conditions. These manifestations vary among individuals, highlighting the complexity of menopausal experiences. In our study utilizing the Menopause Rating Scale (MRS), we observed that the average age of menopause was 43.6 years. Perimenopausal women reported more frequent and severe symptoms, including fatigue, depression, anxiety, hot flashes, and sexual disturbances. Conversely, as women progressed to the postmenopausal stage, psychological symptoms like depression and irritability tended to decrease, while urogenital symptoms, fatigue, and generalized body ache became more prominent.

Bibliography

- Field-Springer K, Randall-Griffiths D, Reece C. From menarche to menopause: Understanding multigenerational reproductive health milestones. *Health Commun.* 2018;33(6):733–42.
- De Salis I, Owen-Smith A, Donovan JL, Laylor DA. Experiencing menopause in the UK: the interrelated narratives of normality, distress, and transformation. *J Women Aging.* 2018;30(6):520–40.
- World Health Organization. Men, ageing and health: Achieving health across the life span. World Health Organization; 2001.
- Velasco-Téllez C, Cortés-Bonilla M, Ortiz-Luna G, Sánchez-Zelayeta L, Méndez-Serrano H, Salazar-Jiménez C, et al. Quality of life and menopause. In: *Quality of Life-Biopsychosocial Perspectives.* IntechOpen; 2020.
- Nash JM, Thebarg RW. Understanding psychological stress, its biological processes, and impact on primary headache. *Headache J Head Face Pain.* 2006;46(9):1377–86.
- Pitkin J. Cultural issues and the menopause. *Menopause Int.* 2010;16(4):156–61.
- Lock M. Menopause: lessons from anthropology. *Health Psychol.* 2016;29–44.
- Krajewski S. Killer Whales and Killer Women: Exploring Menopause as a ‘Satellite Taboo’ that Orbits Madness and Old Age. *Sex Cult.* 2019;23(2):605–20.
- Ahsan M, Mallick AK, Singh R, Prasad RR. Assessment of menopausal symptoms during perimenopause and postmenopause in tertiary care hospital. *J Basic Clin Reprod Sci.* 2015;4(1):14–9.
- Inayat K, Danish N, Hassan L. Symptoms of Menopause in peri and postmenopausal women and their attitude towards them. *J Ayub Med Coll Abbottabad.* 2017;29(3):477–82.
- Sivaprasad S. A Cross sectional Study on Prevalence of Menopausal Symptoms in A Tertiary Care Hospital, Telangana, India. *Int J Pharm Sci Rev Res.* 2022 Mar;7(22):129–33.
- Obermeyer CM. Menopause across cultures: a review of the evidence. *Menopause.* 2000;7(3):184–92.
- Palacios S, Henderson V, Siseles N, Tan D, Villaseca P. Age of menopause and impact of climacteric symptoms by geographical region. *Climacteric.* 2010;13(5):419–28.
- Rivera-Woll L, Papalia M, Davis SR, Burger HG. Androgen insufficiency in women: diagnostic and therapeutic implications. *Hum Reprod Update.* 2004;10(5):421–32.
- Melby MK, Lampl M. Menopause, a biocultural perspective. *Annu Rev Anthropol.* 2011; 40:53–70.
- Dias JM, Subu MA, Abraham MS, Al Yateem N. Women's midlife health: Risk factors and disease burden for global health. In: *Handbook of Global Health.* Springer; 2021. p. 1013–42.
- Thurston RC, Maki PM, Derby CA, Sejdíć E, Aizenstein HJ. Menopausal hot flashes and the default mode network. *Fertil Steril.* 2015;103(6):1572–8.
- Soares CN, Prouty J, Born L, Steiner M. Treatment of menopause-related mood disturbances. *CNS Spectr.* 2005;10(6):489–97.
- Hu KK, Boyko EJ, Scholes D, Normand E, Chen CL, Grafton J, et al. Risk factors for urinary tract infections in postmenopausal women. *Arch Intern Med.* 2004;164(9):989–93.
- Jung C, Brubaker L. The etiology and management of recurrent urinary tract infections in postmenopausal women. *Climacteric.* 2019; 22(3): 242–9.