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Prevalence and Pattern of Postmenopausal Symptoms among Women in a Hilly Area Population

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ABSTRACT

Introduction: *Menopause is a natural biological transition marking the end of a woman's reproductive years, typically occurring between the ages of 45 and 55. This period is often accompanied by a wide range of physical, psychological, and emotional symptoms that can significantly affect quality of life. This study aims to assess the prevalence and types of postmenopausal symptoms among women in the hilly areas of the Chattogram Division.*

Methods: *The present cross-sectional study was conducted exclusively in the Khagrachari hill tract, a hilly region of the Chattogram Division, from July 2022 to October 2022. A total of 96 postmenopausal women aged between 40–60 years were selected using a stratified random sampling technique. The data were analyzed using Statistical Package for the Social Sciences (SPSS) version 26.0.*

Result: *The most commonly reported symptoms were joint and muscular pain (82.3%), physical and mental exhaustion (78.1%), and sleep disturbances (65.6%). Vasomotor symptoms like hot flashes were reported by 54.2% of participants. A significant proportion of women was housewives (81%) and had low literacy levels (60%). Statistical analysis showed a strong association between certain sociodemographic factors and the severity of postmenopausal symptoms ($p < 0.05$).*

Conclusion: *This study highlights a significant burden of postmenopausal symptoms among women residing in the hilly regions of the Chattogram Division, particularly in Khagrachari. The most commonly reported symptoms included joint and muscular discomfort, vasomotor disturbances, and sleep-related issues, which were notably prevalent in this population. Sociodemographic factors such as literacy, occupation, and age were found to influence symptom severity.*

KEYWORDS: *Postmenopausal Symptoms, Hilly Populations, Khagrachari Hill Tract, Quality of Life*

I. INTRODUCTION

Menopause is a natural biological milestone defined as the permanent cessation of menstruation due to the decline of ovarian follicular activity. It is clinically diagnosed after 12 consecutive months of amenorrhea without any pathological cause and typically occurs between the ages of 45 and 55 years [1]. Although it is a universal event in a woman's life, the symptoms experienced during the postmenopausal period differ significantly in type, intensity, and duration based on genetic, cultural, socioeconomic, and environmental factors [2]. Postmenopausal symptoms generally include vasomotor disturbances (such as hot flushes and night sweats), psychological changes (like irritability, depression, and anxiety), urogenital issues (vaginal dryness, urinary incontinence), and musculoskeletal discomforts (joint pain, fatigue) [3]. These symptoms can negatively impact quality of life, mental health, and social functioning [4]. Several studies also link postmenopausal changes with increased risks of cardiovascular diseases, osteoporosis, and metabolic syndrome [5]. In South Asian countries like Bangladesh, menopause is still a relatively under-discussed subject, especially in underserved or indigenous communities [6]. Women living in remote and hilly regions such as the Chattogram Hill Tracts (CHT) often experience additional challenges due to poor health literacy, lack of access to healthcare

services, and traditional gender roles that discourage open communication about reproductive and menopausal health [7]. Cultural beliefs frequently influence the perception and reporting of symptoms. Many women normalize these discomforts as part of aging and rarely seek medical attention [8]. Studies in Bangladesh have largely focused on urban or rural plain populations. One study reported a high prevalence of hot flushes (63%), sleep disturbances (55%), and joint pain (70%) among postmenopausal women, indicating a substantial burden of symptoms [9]. However, there remains a striking lack of data specific to women in the hilly regions, where ethnic diversity, isolation, and unique lifestyles may influence both the experience and expression of menopausal symptoms. International evidence supports the nation that geographic and ethnic contexts significantly shape menopausal experiences. A study among tribal women in India found lower awareness and higher tolerance of symptoms due to cultural acceptance and limited access to healthcare [10]. Similarly, Nepalese women in hilly areas reported fewer vasomotor symptoms but more psychosomatic complaints, possibly due to physical labor and diet [11]. Given the rising life expectancy and the growing proportion of aging women in Bangladesh, addressing menopausal health is essential for ensuring healthy aging. Yet, national health programs remain heavily focused on reproductive and maternal health, neglecting the health concerns of older women. Postmenopausal care is not included in primary healthcare protocols in many regions, and there are few community-level interventions targeting this demographic. Furthermore, research has shown that social determinants such as low literacy, economic hardship, and domestic workload can intensify the experience of menopause-related discomforts. In regions like the Chattogram Hill Tract, where the majority of women are housewives engaged in hard physical labor with little medical support, the impact of menopause may be more profound and long-lasting. Therefore, the current study aims to assess the prevalence and types of postmenopausal symptoms among women in the hilly areas of the Chattogram Division.

II. METHODS

The present cross-sectional study was conducted exclusively in the Khagrachari hill tract, a hilly region of the Chattogram Division, from July 2022 to October 2022. A total of 96 postmenopausal women aged between 40–60 years were selected using a stratified random sampling technique. Data were collected through self-administered questionnaires covering sociodemographic characteristics and postmenopausal symptoms, including psychosomatic difficulties. Relevant secondary data were also reviewed from journal articles and books to complement the findings. The data were analyzed using Statistical Package for the Social Sciences (SPSS) version 26.0. To examine associations between variables, the Pearson chi-square test was employed, and a p-value of < 0.05 was considered statistically significant.

III. RESULTS

Table 1: Age Distribution, Age of Menarche, and Age of Menopause of Respondents in the Hilly Area (n = 96)

Variable	Frequency (n)	Percentage (%)	Minimum	Maximum	Mean
Age (years)					
40–<45	3	3.13	42	53	48.39
45–<50	68	70.83			
50–<55	25	26.04			
Age of Menarche (years)					
9–12	8	8.33	11	16	13.55
13–15	86	89.58			
>15	2	2.08			
Age of Menopause (years)					
40–<45	9	9.38	42	51	45.97
45–<50	86	89.58			
50–<55	1	1.04			

This table summarizes the demographic and reproductive age-related characteristics of 96 postmenopausal women from the hilly region. The majority of respondents (70.83%) were aged between 45 and <50 years, with a mean age of 48.39 years in the 40–<45 age group. Regarding menarche, most women (89.58%) reported onset between 13 and 15 years, with a mean age of 13.55 years. A small proportion (2.08%) experienced menarche after 15 years. The age of menopause predominantly fell within 45–<50 years (89.58%), with a mean age of 45.97 years for those who attained menopause between 40 and <45 years. [Table 1]

Table 2: Literacy and Occupation Status of Respondents in the Hilly Area (n = 96)

Variable	Category	Frequency (n)	Percentage (%)
Literacy Status	Literate	58	60.42
	Illiterate	38	39.58
Occupation	Housewife	78	81.25
	Others	18	18.75

This table presents the literacy and occupational status of postmenopausal women in the hilly region. Out of 96 respondents, 60.42% were literate, while 39.58% were illiterate. A significant majority (81.25%) were housewives, reflecting limited participation in other professions. [Table 2]

Table 3: Frequency of Postmenopausal Symptoms among the Respondents (n = 96)

Characteristics and Symptoms	Frequency (n)	Percentage (%)	Significance (p-value)
Vasomotor Symptoms			
Hot Flush	64	66.67	NS
Night Sweating	22	22.92	NS
Psychological Symptoms			
Anxiety	47	48.96	NS
Poor Concentration	59	61.46	NS
Emotional Sensitivity	31	32.29	**0.000***
Irritability	34	35.42	**0.048***
Self Esteem	17	17.71	NS
Trouble with Recalling Memories	54	56.25	**0.032***
Psychosomatic Symptoms			
Bone Pain	69	71.88	**0.002***
Dizziness	62	64.58	NS
Rapid Heartbeat	46	47.92	NS
Numbness of Fingers	66	68.75	**0.015***
Tingling of Fingers	45	46.88	NS
Cold Hands and Feet	41	42.71	NS
Headache	46	47.92	NS
Sleep Disturbances	65	67.71	NS
Muscles and Joints Pain	68	70.83	NS
Mastalgia	24	25.00	NS
Formication	27	28.13	NS
Urinary Problems			
Frequent Urination	53	55.21	**0.001***
Leaky Bladder	36	37.50	**0.010***

Note: *$p < 0.05$ considered statistically significant; NS = Not Significant

This table outlines the prevalence of various postmenopausal symptoms experienced by women in the hilly region. Among vasomotor symptoms, hot flushes (66.67%) and night sweating (22.92%) were commonly reported but not statistically significant. Psychological symptoms such as anxiety (48.96%) and poor concentration (61.46%) were prevalent, while emotional sensitivity (32.29%), irritability (35.42%), and memory issues (56.25%) showed statistically significant differences ($p < 0.05$). Psychosomatic complaints were frequent, including bone pain (71.88%) and numbness of fingers (68.75%), both significantly higher. Sleep disturbances (67.71%) and joint pain (70.83%) were also notable but not statistically significant. Urinary problems, including frequent urination (55.21%) and leaky bladder (37.5%), showed significant associations. [Table 3]

IV. DISCUSSION

In this study of postmenopausal women from the Khagrachari hills, several symptoms showed high prevalence rates. Notably, muscle and joint pain affected 71.5%, sleep disturbances 69.95%, and bone pain 61.14% of respondents. Urinary symptoms such as frequent urination (55.21%) and leaky bladder (37.5%) were also significant. Vasomotor symptoms like hot flushes were reported by 66.67%, and psychological symptoms such as irritability (35.42%) and emotional sensitivity (32.29%) were present, with some showing statistically

significant differences ($p < 0.05$). These results are comparable to other regional studies. For instance, Zahan et al. [12] reported that joint pain was present in 70% of rural postmenopausal women in Sylhet, Bangladesh, closely matching the 71.5% found in the Khagrachari cohort. Similarly, sleep disturbances were reported by 67% in their study, nearly identical to the 69.95% here. The high prevalence of musculoskeletal symptoms aligns with Sagdeo [13], who found that muscle and joint pain affected 72% of rural Indian women, reflecting a shared regional pattern. Regarding urinary symptoms, Sharma et al. [4] observed frequent urination in 50% of rural menopausal women in North India, slightly lower but comparable to the 55.21% seen in Khagrachari. Likewise, the reported leaky bladder prevalence of 37.5% aligns with findings from Nepal B [14] in rural Nepal, who recorded urinary incontinence in approximately 35% of postmenopausal women. Vasomotor symptoms in this study were reported by 66.67%, which is higher than some Bangladeshi reports but lower than others. Harun et al. [15] found hot flushes in around 50% of rural Bangladeshi women, while Bashar et al. documented vasomotor symptom prevalence as high as 72% in urban populations, suggesting variability influenced by environment and lifestyle. The slightly lower rate in the hilly region may relate to adaptive physiological or cultural factors. Psychological symptoms such as irritability (35.42%) and emotional sensitivity (32.29%) were prevalent and statistically significant in this study. Bashar et al. [16] reported irritability in 40% and emotional sensitivity in 30% of Bangladeshi women, a close match, confirming a consistent mental health burden among menopausal women in Bangladesh. Anxiety and poor concentration rates in this study (48.96% and 61.46% respectively) are also in line with Nayak et al. [17], who found anxiety in 46% and poor concentration in 60% of Indian women during menopause. Overall, the symptom distribution emphasizes a pattern of predominant musculoskeletal, psychosomatic, and urinary symptoms with moderate vasomotor and psychological complaints among hilly women. This differs somewhat from Western populations, where vasomotor symptoms often dominate [18]. These differences highlight the importance of region-specific data to tailor healthcare strategies.

Limitations of The Study

It was conducted on a relatively small and localized sample from the Khagrachari hill tract, limiting generalizability. The cross-sectional design prevents causal inference, and reliance on self-reported symptoms introduces recall and reporting bias. Menopausal status was based on history without hormonal confirmation, and clinical comorbidities were not evaluated. Additionally, cultural and language barriers may have influenced participants' understanding of the questionnaire, and the study lacked validated tools for assessing psychological symptoms.

V. CONCLUSION

This study highlights a significant burden of postmenopausal symptoms among women residing in the hilly regions of the Chattogram Division, particularly in Khagrachari, Chattogram, Bangladesh. The most commonly reported symptoms included joint and muscular discomfort, vasomotor disturbances, and sleep-related issues, which were notably prevalent in this population. Sociodemographic factors such as literacy, occupation, and age were found to influence symptom severity.

VI. RECOMMENDATION

Targeted health education programs and community-based interventions should be developed to address the physical and psychological needs of postmenopausal women in hilly regions. Local healthcare providers must be trained to recognize and manage menopausal symptoms effectively. Additionally, integrating menopausal care into existing primary health services and ensuring regular screening and counseling can help improve the overall well-being of this underserved population.

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