ORIGINAL ARTICLE

An epidemiological cross sectional study to estimate the prevalence of the postmenopausal symptoms and assess the health seeking behaviour amongst the post-menopausal women aged 46-60 years in the rural area of District Gautam Buddha Nagar, Uttar Pradesh

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ABSTRACT

Background: Menopause brings about various vasomotor, psychosocial and physical symptoms. **Aim and Objectives:** To estimate the prevalence of the postmenopausal symptoms and to determine health seeking behaviour for the postmenopausal symptoms. **Methodology:** It was done from March 2025 to June 2025 in rural area of District Gautam Buddha Nagar, Uttar Pradesh. The study participants who belonged to 46-60 years of age group and fulfilled inclusion criteria were selected by purposive sampling technique. The postmenopausal symptoms were assessed by Menopause-Specific Quality of Life (MENQOL). **Result:** Total of 318 study participants were interviewed, 34.9% were found to have vasomotor symptoms, 26.7% experienced psychosocial symptoms and 53.1% had physical symptoms. Health seeking behavior was found in 38.7% of the study participants. On studying the association for vasomotor symptoms, statistical association was seen with the age group, marital status, education, and menopause duration, while for the psychosocial symptoms, the association was seen only with the age group and for the physical symptoms the association was found with age group, education, co-morbidities, menopause duration and the health seeking behavior. **Conclusion:** Post-menopausal symptoms are not an unusual problem in the postmenopausal women, and further studies are needed in regards to post-menopausal symptoms amongst the postmenopausal symptoms.

KEYWORDS

Post-menopausal women; Postmenopausal symptom; Menopause-Specific Quality of Life (MENQOL).

INTRODUCTION

Menopause is defined as amenorrhea for 12 or more months, followed by permanent cessation of menstruation, in the absence of any other known pathological cause. Menopause, physiologically occurs between the age of 40 to 55 years. Perimenopause is related with various vasomotor, physical and psychosocial symptoms, which is experienced by the women of the menopausal age group.

The natural menopausal age of a woman serves as an indicator for subsequent disease prediction and mortality [1]. The average age of menopause of an Indian woman is 46.2 years. [2]

However, despite the growing recognition of menopausal health concerns, there remains gap in awareness and appropriate health-seeking behavior.[3].

Studies conducted in various parts of India found significant differences in the prevalence of the postmenopausal symptoms, often linked to geographic, cultural, and socioeconomic factor [4].

Screening for postmenopausal symptoms in rural women is crucial and hence early detection helps identify at-risk individuals, enabling timely interventions to prevent health deterioration.

AIM: To find the prevalence of postmenopausal symptoms and to determine the health seeking behavior amongst postmenopausal women.

OBJECTIVES

- To find the prevalence of post-menopausal symptoms.
- To determine health seeking behavior
- To find the various factors for the postmenopausal symptoms.

MATERIAL & METHODS

Study Design: The current study was a community based to find the prevalence of post-menopausal symptoms and determine the health seeking behaviour amongst the postmenopausal women.

Study Setting: The study was done in the rural area of District Gautam Buddha Nagar, Greater Noida, Uttar Pradesh which is the practice area of Community Medicine Department of a Medical College of Uttar Pradesh.

Study Population: Postmenopausal women aged 46–60 years staying in the study area for at least 6 months and fulfills the inclusion criteria.

Study Duration: This was conducted during the period of March 2025 to June 2025.

Study Methodology:

Sample size: Based on a study conducted by Goyal et al., regarding the morbidity pattern among postmenopausal women in rural Allahabad, the prevalence of joint pain was reported to be 57%, which was the maximum prevalence of the post-menopausal symptoms and it was considered for the current study for calculation of sample size [5].

Sample size calculation: $n=4pq/L^2$

'n' is represented as the sample size, prevalence is written as 'p', q=(100-p) and 'L' (10%) is the relative error. Substituting the values in the formula, [n=4x57x43/5.7x5.7], **n=318.** The total sample size comes to 318.

Eligibility Criteria:

Inclusion Criteria:

- Women aged 46–60 years who had attained natural menopause.
- Women whose last menstrual period occurred at least a year before collecting the data.
- Those who provided informed consent.

Exclusion Criteria:

- Women who were in the transitional period of menopause.
- Women who attained menopause due to surgical or medical intervention.
- Women with any pre-existing neuro-psychiatric illness.

Sampling Technique: Eight villages are catered by Rural Health and Training Centre (RHTC) of Community Medicine Department of the Medical college. All the 8 villages were selected. In those 8 villages, participants were chosen by purposive sampling technique and those who fulfilled the criteria of inclusion were questioned face to face via semi-structured questionnaire.

Working Definition: Data was collected using a pre-structured questionnaire incorporating the Menopause-Specific Quality of Life (MENQOL) Scale to assess menopausal symptoms [6]. The symptoms included Vasomotor symptoms (Sweating, Hot flushes and Night sweats), Psychosocial symptoms (Accomplishing less than before, Feeling of anxious or nervous, poor memory, Dissatisfied with personal life and Feeling of Depressed, down or blue) and Physical symptoms (Aches in the joints or the muscles, Feeling of worn out or tiredness, Feeling of energy loss, Less physical stamina, Diminished physical strength, Weight gain, Aches in the neck region or head, Drying skin, Inadequate sleep, Low backache, Flatulence, Change in tone of skin and Involuntary urination or dribbling of urine during laughing or coughing). Modified B.G. Prasad Socioeconomic Scale of 2025 was used for calculation of socioeconomic status, [7].

Ethical consideration: The study proposal was cleared by the Institutional Ethical Committee (IEC).

Data Collection: Collection of data was done after the clearance from the Institutional Ethical Committee i.e. from March 2025 to June 2025. Informed consent of the participants was taken. Data was collected consisting of a semi-structured-questions. The time taken for the face-to-face interview was about 20 minutes.

Data Entry and Analysis: The data entered into Microsoft Excel was analysed using SPSS package version 20 using Chi-square statistical test.

RESULTS

TABLE NO:1 SOCIODEMOGRAPHIC CHARACTERSITICS OF THE STUDY PARICIPANTS (n=318):

Variable	Frequency (%)
Age group:	
46-50	94 (29.6%)
51-55	118 (37.1%)
56-60	106 (33.3%)
Religion:	
Hindu	265 (83.3%)
Muslim	53 (16.7%)

Marital Status:	
Married	249 (78.3%)
Widow	69 (21.7%)
Education:	
Illiterate	233 (73.3%)
Primary School	48 (15.1%)
Middle School	27 (8.5%)
High School	10 (3.1%)
Occupation:	
Homemaker	313 (98.4%)
Skilled	05(1.6%)
Family Type:	
Nuclear	76 (23.9%)
Joint	242 (76.1%)
Socioeconomic class (Modified B.G. Prasad Scale,2025):	
Lower Class	06 (1.9%)
Lower Middle Class	65 (20.4%)
Middle Class	131(41.2%)
Upper Middle Class	94 (29.6%)
Upper Class	22 (6.9%)

Table No 1 describes about the sociodemographic pattern of the study participants. Age wise distribution showed that 37.1% of the subjects belonged to the age group between 51-55 years. 83.3% study participants belonged to Hindu religion. Majority of the study participants i.e. 78.3% were married. Education status showed that 73.3% of the participants were illiterate. Participants in the current study were mostly homemaker i.e. 98.4%. As per the family type, 76.1% belonged to joint family. According to Modified B.G. Prasad Socioeconomic scale 2025, 41.2% of the study participants were from middle class.

TABLE NO: 2 COMORBIDITIES AND ADDICTIONS AMONGST THE STUDY PARTICIPANTS (n=318):

Variable	Frequency (%)
Co-morbidities:	
Present	220 (69.2%)
Absent	98(30.8%)
Addictions:	
Present	120 (37.7%)
Absent	198 (62.3%)

Table 2 describes about the comorbidities and addictions amongst the study Participants. The co-morbid data illness showed that majority i.e. 69.2% of the participants had the comorbidities. The most common comorbidity was Hypertension (22.64%). As far as addictions are concerned 62.3% of the participants didn't have any addictions. Out of those who gave history of addictions, most of them i.e. 17.6% were addicted to bidi smoking.

TABLE NO: 3 ONSET AND CESSATION OF MENSTRUATION AMONGST THE STUDY PARTICIPANTS (n=318):

Variable	Frequency (%)
Onset of menarche (in years):	
10-14	133 (41.8%)
15-19	185 (58.2%)
Duration of menopause (in years):	
1-5	167 (52.5%)
6-10	98 (30.8%)
11-15	30 (9.4%)
16-20	23 (7.3%)

Table 3 describes about the onset and cessation of menstruation amongst the study participants. Most of the study participants i.e. 58.2% had their menarche between 15-19 years of age, while 52.5% of the study participants had duration of menopause as 1-5 years.

TABLE NO: 4 Post-menopausal symptoms amongst the study participants (n=318):

Variable	Frequency (%)
Vasomotor symptoms:	
Present	111 (34.9%)
Absent	207 (65.1%)
Psychosocial symptoms:	
Present	85 (26.7%)
Absent	233 (73.3%)
Physical symptoms:	
Present	169 (53.1%)
Absent	149 (46.9%)

Table 4 describes about the post-menopausal symptoms amongst the study participants using MENQOL [6]. Out of all the post-menopausal symptoms according to MENQOL [6], the most prevalent post-menopausal symptoms were the physical symptoms i.e. 53.1% followed by vasomotor symptoms i.e. 34.9% and lastly the psychosocial symptoms i.e. 26.7%.

TABLE NO: 5 Health seeking behavior for the post-menopausal symptoms amongst the study participants (n=318):

Variable	Frequency (%)
Visited Health care Facility:	
Yes	123 (38.7%)
No	195 (61.3%)

Table 5 describes about the health seeking behavior for the post-menopausal symptoms amongst the study participants. Majority of the study participants i.e. 61.3% did not visit any healthcare facility to seek relief from their post menopausal symptoms.

TABLE NO: 6 ASSOCIATION OF POST-MENOPAUSAL SYMPTOMS WITH THEIR VARIOUS FACTORS AMONGST THE STUDY PARTICIPANTS (n=318):

Sr. No.	Risk factors	Post-menopausal symptoms					
		Vasomotor		Psychosocial		Physical	
		Present	Absent	Present	Absent	Present	Absent
1.	Age Group:						
	46-50	50 (53.2%)	44 (46.8%)	11 (11.7%)	83 (88.3%)	28 (29.8%)	66 (70.2%)
	51-55	37 (31.4%)	81 (68.6%)	32 (27.1%)	86 (72.9%)	62 (52.5%)	56 (47.5%)
	56-60	24 (22.6%)	82 (77.4%)	42 (39.6%)	64 (60.4%)	79 (74.5%)	27 (25.5%)
	Chi square, df, p-value	21.504, 2, 0.000, **Significant**		19.84, 2, 0.000, **Significant**		40.077, 2, 0.000, **Significant**	
2.	Marital Status:						
	Married	100 (40.2%)	149 (59.8%)	65 (26.1%)	184 (73.9%)	131 (52.6%)	118 (47.4%)
	Widow	11 (15.9%)	58 (84.1%)	20 (29%)	49 (71%)	38 (55.1%)	31 (44.9%)
	Chi square, df, p-value	13.947, 1, 0.000, **Significant**		0..229, 1, 0.632, Not significant		0.132, 1, 0.717, Not Significant	
3.	Education: *						
	Illiterate	74 (31.8%)	159 (68.2%)	66 (28.3%)	167 (71.7%)	133 (57.1%)	100 (42.9%)
	>=Literate	37 (43.5%)	48 (56.5%)	19 (22.4%)	66 (77.6%)	36 (42.4%)	49 (57.6%)
	Chi square, df, p-value	3.79, 1, 0.05, **Significant**		1.135, 1, 0.287, Not Significant		5.426, 1, 0.020, **Significant**	
4.	Co-morbidities:						
	Present	80 (36.4%)	140 (63.6%)	61 (27.7%)	159 (72.3%)	133 (60.5%)	87 (39.5%)
	Absent	31 (31.6%)	67 (68.4%)	24 (24.55)	74 (75.5%)	36 (36.7%)	62 (63.3%)
	Chi square, df, p-value	0.668,1, 0.414, Not Significant		0.363, 1, 0.547, Not significant		15.39, 1, 0.000, **Significant**	
5.	Menopause duration: #						
	1-10 years	105 (37%)	179 (63%)	76 (26.8%)	208 (73.2%)	144 (50.7%)	140 (49.3%)
	11-20 years	06 (17.6%)	28 (82.4%)	9 (26.5%)	25 (73.5%)	25 (73.5%)	9 (26.5%)
	Chi square, df, p-value	4.991, 1, 0.025, **Significant**		0.001, 1, 0.971, Not Significant		6.353, 1, 0.012, **Significant**	
6.	Visited healthcare facility:						
	Yes	42 (34.1%)	81 (65.9%)	31 (25.2%)	92 (74.8%)	78 (63.4%)	45 (36.6%)
	No	69 (35.4%)	126 (64.6%)	54 (27.7%)	141 (72.3%)	91 (46.7%)	104 (53.3%)
	Chi square, df, p-value	0.051, 1, 0.822, Not Significant		2.39, 1, 0.625, Not Significant		8.496, 1, 0.004, **Significant**	

**,#, the data was pooled/clubbed for the purpose of the statistical analysis.*

Table 6 describes the association of post-menopausal symptoms with their various factors amongst the study participants. On studying the association for vasomotor symptoms, statistically significant association was seen with age group of the study participants, marital status, education, and menopause duration, while for the psychosocial symptoms, the statistically significant relation was seen with age group of the study participants and for the physical symptoms the association was found with age group, education, co-morbidities, menopause duration and the health seeking behavior.

DISCUSSION

The study was conducted in the rural area of District Gautam Buddha Nagar, Greater Noida, and was

conducted during March 2025 to June 2025. It was aimed to estimate the prevalence of the post-menopausal symptoms and to assess the health seeking behavior amongst the post-menopausal women residing in the area which was considered for the study. A total of 318 participants were interviewed face to face. Findings of the study presented as results in the previous section are discussed in details with appropriate comparisons with findings of other relevant studies.

Socio-demographic pattern of the study participants.

In the current study, out of 318 study participants, majority i.e. 37.1% participants were in the age group between 51-55 years. In a study done by Nissy VL et.al. [8], 57.6% belonged to 56-60 years of age group. In the present study majority i.e. 83.3% were Hindus. In another study done by Dr. Saba et.al, 70.6% were Hindus [9]. Most of the participants i.e. 78.3% were married. In a study done by Sandip Kumar et.al. [10] 83.8% of the participants were married. The education status reveals that 73.3% of the participants were illiterate. The study done by Satapathy SP et.al. [11] shows that 79.4% of the participants were illiterate. Participants in our study were mostly homemaker i.e. 98.4%. Study done by Khan S et.al. [12], 78.5% of the participants were homemaker. In the present study 76.1% of the study participants belonged to joint family. In a study done by Dr. Saba et.al. [9], 79.6% of the participants belonged to joint family. In our study 41.2% of the study subjects were from middle class. In a study done by Sandip Kumar et.al.[10], 36.8% of the participants were from lower class.

Co-morbidities and addictions amongst the study participants.

In our study, out of 318 study participants, 69.2% of the study participants had one or the other comorbid illness. In a study done by Dr. Saba et.al.[9], 44.5 % of the participants had co-morbid illness. Distribution as per addictions shows that majority i.e. 62.3% of the study participants did not have any addictions. In another study done by Dr. Saba et.al.[9], 60% of the participants did not have any addictions.

Onset and cessation of menstruation amongst the study participants.

58.2% of the study subjects had their menarche in 15-19 years of age group in current study. Study done by Sivapragasam R et.al [13], shows the mean age of menarche as 14.68 years. Distribution as per the duration of menopause revealed that about 52.5% of the study participants had duration of menopause between 1-5 years. In another study done by Sheereen F et.al.[14] shows that 66.66% had duration of menopause less than 5 years.

Post-menopausal symptoms amongst the study participants.

In our study, out of all the post-menopausal symptoms according to MENQOL [6], the most prevalent post-menopausal symptoms were the physical symptoms i.e. 53.1% followed by vasomotor symptoms i.e. 34.9% and lastly the psychosocial symptoms i.e. 26.7%. Kalhan et.al.[15], study shows that post-menopausal symptoms were the psychosocial symptoms i.e. 88.2% followed by vasomotor symptoms i.e. 79% and lastly the physical symptoms i.e. 32.7%.

Health seeking attitude amongst the study participants.

In our study, majority of the study participants i.e. 61.3% did not visit any healthcare facility to seek relief from their post-menopausal symptoms while only 38.7% had health seeking behavior. In the study done by Apoorva MS et.al.[16], it was seen that 57.34% of the study participants had health seeking behavior for the post-menopausal symptoms while only 42.66% did not visit any healthcare to seek relief from the postmenopausal symptoms.

Association of post-menopausal symptoms with their various factors amongst the study participants.

The relationship of different variables with post-menopausal symptoms shows a significant statistical association between vasomotor (0.000), psychosocial (0.000) and physical symptoms (0.000) with age group. Gupta et.al.[17], study shows a significant statistical association between age group and vasomotor symptoms (<0.001), but no relationship was found between psychosocial (0.348) and physical symptoms (0.451) with age group. Study done by Sheereen F et.al.[14], a significant relationship was found between age group and psychosocial symptoms (0.046). However, there was no association found between vasomotor (0.071) and physical symptoms (0.356) with age group.

In the current study, the association between marital status and vasomotor symptoms was found to be statistically significant (0.000), while there was no significant association found between psychosocial (0.632) and physical symptoms (0.717) with marital status. The significant association between marital status and vasomotor symptoms was also observed by the study done by Gupta G et.al.[17], (0.019). However, it also couldn't find any significant association between psychosocial (0.112) and physical symptoms (0.092) with marital status. In a study done by Satapathy SP et.al.[11] statistically significant association was found

between vasomotor symptoms and marital status (0.005).

In our study a statistically significant association was found between vasomotor (0.05) and physical symptoms (0.02) with education but there was no significant association was found between psychosocial symptoms with education (0.287). In another study done by Sheereen F et.al. [14], no statistical association was seen between education with vasomotor (0.136), psychosocial (0.375) and physical symptoms (0.053). Binta Ali et.al.[18] study shows a statistically significant relationship between education with psychosocial (0.012) and physical symptoms (0.001) but not with the vasomotor symptoms (2.78).

In our study statistical association was found between physical symptoms and co-morbidities (0.000). But no statistically significant association was found between vasomotor (0.414) and psychosocial symptoms (0.547) with co-morbidities. In a study done by Gupta G et.al. [17], the significant association was found between co-morbidities with psychosocial (0.001) and symptoms of physical domain (<0.001) but not with vasomotor symptoms (0.109). In another study done by Nissy VL et.al.[8] statistically significant association was seen between co-morbidities with vasomotor (0.038), psychosocial (0.009) and physical symptoms (<0.001).

The current study shows statistically significant association between duration of menopause with vasomotor (0.025) and physical symptoms (0.012) and not with psychosocial symptoms (0.0971). In another study done by Singh et.al. [19], significant association between duration of menopause with psychosocial (0.000) and physical symptoms (0.000) was observed. In another study done by Nissy VL et.al.[8] significant association was found between menopause duration with vasomotor (0.004) and physical symptoms (0.036) and not with psychosocial symptoms (0.208).

Statistically significant relation was found between health seeking behavior and physical symptoms in the present study (0.004). However, no such significant association was found with vasomotor (0.822) and psychosocial symptoms (0.625). The study done by Vazirani A et.al. [20], no such significant association between health seeking behavior with vasomotor (0.56), psychosocial (0.22) and physical symptoms was observed (0.69).

CONCLUSION

The overall prevalence of postmenopausal symptoms i.e. vasomotor symptoms, psychosocial symptoms and physical symptoms was found to be 34.9%, 26.7% and 53.1% respectively and only 38.7% of the participants visited the health care facility to seek relief from the post-menopausal symptoms. Considering the less awareness and health seeking behavior towards the post-menopausal symptoms amongst the post-menopausal women, all health-care providers should first be trained and then spread awareness regarding post-menopausal symptoms. The government should make provision for health services to the post-menopausal women and this can be dealt by involving the components related to specific health needs of postmenopausal women in the national health programs.

RECOMMENDATION

Special clinics should be set up pertaining to the medical needs of postmenopausal women where more stress should be given on promotive and preventive measures and where counselling and treatment shall be available under one common roof. At community levels, social groups like mahila mandal should be formed so that social interactions can take place where all the women can discuss their problems and learn from each other's experiences and find solutions to their problems, this will also help them in dealing with feelings of loneliness and depression. Integration of services for postmenopausal women should be strengthened with the existing national health programmes

LIMITATION OF THE STUDY

Almost everyone in the study population had one or more symptoms. The questions regarding the sexual domain in our questionnaire were omitted.

RELEVANCE OF THE STUDY

The study adds to the current knowledge by providing insights into post-menopausal symptoms. Considering the less awareness and health seeking behavior towards the post-menopausal symptoms amongst the post-menopausal women, all health-care providers should first be trained and then spread awareness regarding post-menopausal symptoms.

AUTHORS CONTRIBUTION

MMG: Study concept and design, acquisition of data, analysis and interpretation of data, Manuscript writing and review. KB: Study concept and design, interpretation, manuscript editing and review. HM: Study concept and design, interpretation, manuscript editing and review. SS: Study concept, manuscript editing and review. SK: Manuscript editing and review. SS: Manuscript editing and review.

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Conflict of Interest
None

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Declaration of Generative AI and AI Assisted Technologies in the Writing Process
The authors haven't used any generative AI/AI assisted technologies in the writing process.

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