J Nepal Health Res Counc 2026 Jan-March; 24 (70): 87-94

Prevalence and Associated Factors of Menopausal Symptoms Among Women

Rama Paudel,[1] Dilip KC,[2]Jeevan Gyawali,[3] Bhim Chauhan,[4] Agnimshwor Dahal,[5] Astha Thapa,[4] Jay Bhushan Jha[4]

[1]Central Institute of Science and Technology, Kathmandu, Nepal, [2]Nepal Health Research Council, Ramshah Path, Kathmandu, Nepal, [3]Chirayu National Hospital and Medical Institute, Kathmandu, Nepal, [4]Patan Academy of Health Sciences, School of Medicine, Lalitpur, Nepal, [5]Nepal Intensive Care Research Foundation, Kathmandu, Nepal.

ABSTRACT

Background: Menopause is the transitional change in women from the reproductive to non-reproductive stage, a phenomenon unique to women. A variety of symptoms are present as part of this transition, brought by changes in female reproductive hormones, estrogen and progesterone. These symptoms include a range of physical symptoms of hot flushes, night sweats, irregular menstruation to depression, and insomnia. This study aimed to find out the menopausal symptoms and its associated factors among women in Dhorpatan Municipality, Baglung, Nepal.

Methods: A cross-sectional study was conducted among menopausal women of three wards of Dhorpatan Municipality between the months of Chaitra and Bhadra, after approval from the Institutional Review Committee. A simple random sampling was used. This study involves 266 women who are willing to participate in the study and have given written consent.

Results: Among the 266 respondents, 52.3% were aware of their symptoms. Among those with menopausal symptoms, 25.9% experience hot flashes, 74.1% have sweating, 29.5% report vaginal dryness, 38.1% mention heart discomfort, 37.4% face anxiety, and 19.4% deal with depressive mood during menopause. Education, marital status, number of children, regular physical exercise, and utilization of health services were the factors that were significantly associated with menopausal symptoms.

Conclusions: About half of the respondents experienced menopausal symptoms, with most common being sweating, heart discomfort, anxiety, vaginal dryness, hot flashes and depression. Education, physical activity, and use of health services were linked to these symptoms. Local authorities should organize regular health camps, and women should be encouraged to discuss their issues.

Keywords: factors; menopause; menopausal symptoms; Nepal; prevalence.

INTRODUCTION

Menopause is a natural phenomenon. Menopause is the time of cessation of ovarian function resulting in permanent amenorrhea and cessation of the production of reproductive hormones from the ovaries for at least 12 consecutive months.[1] [2] Estrogen deficiency results in different menopausal symptoms like hot flushes, vasomotor symptoms, urogenital atrophy, osteoporosis, cardiovascular disease, cancer, psychiatric symptoms, cognitive decline, and sexual problems. [1,2] Increasing age and diminishing qualities in life make the condition difficult to handle in the absence of proper understanding.[3] Assessment of quality of life needs special attention, as women live about one-third of their lives with a hormone deficiency.[4]

In Nepal, several studies show that the majority of women suffer from menopausal symptoms. A previous study revealed that 41% of women had reached menopause, with an average age of menopause to be 48.7 years, and 59.2% of women were unaware of menopausal symptoms. [5]

Correspondence: Dr Jeevan Gyawali, Internal Medicine Department, Chirayu National Hospital and Medical Institute, Maharajgunj, Kathmandu, Nepal. Email: jya.jeevan@gmail.com Phone: +9779848163161.

This study aimed to identify various menopausal symptoms experienced by women and contribute to increasing knowledge and awareness about the menopausal symptoms and its management.

METHODS

A descriptive cross-sectional study was conducted over six months among menopausal women aged 45-65 years in the wards of Dhorpatan Municipality, Baglung District, after obtaining ethical approval from the Institutional Review Committee of Central Institute of Science and technology Pvt. Ltd. (IRC-CiST) (Reference number: 39/080/081). A simple random sampling was done.The sample size was 266

A structured questionnaire was developed after an extensive literature review and pretested in a similar setting. The questionnaire was then translated into clear Nepali language. Menopausal symptoms, age, occupation, education, marital status, ethnicirty, relifion, knowledge on menopause, physical activity, alcohol consumption, tobacoo consumption.

Menopausal women aged 45-60 years of age included in the study. Women below 45 years old having menopause and women with physical and psychological disorders were excluded from the study. Eligible individuals who agreed to participate were invited to the study. Written informed consent was obtained from all studied populations before data collection.

The collected data were coded and entered into EPI-DATA 3.1. All data were checked for completeness, cleaned, and coded before being imported into SPSS version 22, and statistical analysis was done. Data was transformed based on the requirement and interpreted using tables and a graphical presentation. It was then summarized in terms of mean, median, proportion, and percentage as per the nature of the variables. Statistical tests like T-test, Chi-square test, **Phi/ Cramer's V** were used to find out the association.

RESULTS

Table 1 shows the socio-demographic characteristics of the menopausal women, out of the total (266) respondents, more than half (54.5%) were aged 45-55, followed by 45.5% aged above 55. There were 44.4% were housewives, 33.1% worked in agriculture, 15.8% were in business, and 6.8% were in services. The education levels varied, with 38.0% of respondents being illiterate and 43.2% being literate. Most respondents (85.3%) were married, while smaller percentages were widowed, separated, or divorced. Ethnically, 32.0% were Dalit, 14.7% were disadvantaged Janjatis, 11.7% were Relatively Advantaged Janjatis, and 41.7% were from Upper Caste Groups.. Regarding family size, 54.1% had three or fewer children, while 45.9% had more than three children (Table 1).

Table 1. Distribution of respondents by socio-demographic characteristics.

Variable	Number	Percentage
Age of respondents		
45-55	145	54.5
55 above	121	45.5
Occupation of respondent		
Housewife	118	44.4
Agriculture	88	33.1
Business	42	15.8
Services	18	6.8
Education of respondent Illiterate Literate Primary Lower secondary Secondary Higher Secondary	101 115 17 21 9 3	38.0 43.2 6.4 7.9 3.4 1.1
Marital status of respondent		
Married	227	85.3
Widow	25	9.4
Separated	11	4.1
Unmarried	2	.8
Divorced	1	.4
Ethnicity of respondent		
Upper caste groups	111	41.7
Dalit	85	32.0
Disadvantaged janjatis	39	14.7
Relatively advantaged janjaties	31	11.7
Religion of respondent		
Hinduism	252	94.7
Christianity	9	3.4
Buddhism	5	1.9
Number of Child		
Less than or equal to 3	144	54.1
More than 3	122	45.9

All respondents were aware of menopause. Concerning the age at which menopause occurs, 65.8% of respondents fell within the 35-50 years range, while 34.2% were in the 51-60 years range. Knowledge of menopausal symptoms: 52.3% were informed, while 47.7% had no menopausal symptoms. Among those suffering menopausal symptoms, the frequencies of specific symptoms were as follows: 25.9% experience hot flashes, 74.1% had increased sweating, 29.5% report vaginal dryness, 38.1% mentioned Chest discomfort, 37.4% faced anxiety, and 19.4% dealt with depressive mood during menopause (Table 2).

Table 2. Distribution of respondents by menopausal related information.

Variable	Number (n)	Percentage (%)
Knowledge about menopause		
Yes	266	100.0
Menopausal age		
35-50 year	175	65.8
51-60 year	91	34.2
Prevalence of menopausal symptoms		
Yes	139	52.3
No	127	47.7
Menopausal Symptoms		
Sweating	103	74.1
Chest discomfort	53	38.1
Anxiety	52	37.4
Dryness of vagina	41	29.5
Hot flashes	36	25.9
Depressive mood	27	19.4

Most respondents, 180 (67.7%), did not engage in physical exercise, 65 (24.4%) exercised sometimes, while only 18 (6.8%) of respondents exercised often. Regarding the duration of physical exercise, the majority 72 (83.7%) spent 30 minutes, 12 (14.0%) dedicated one hour, and 2 (2.3%) exercised for less than 30 minutes. These findings highlight varying levels of physical activity among the respondents, with a significant portion not participating in regular exercise.

A substantial majority, 241 (90.6%), had never smoked, while 16 (6.0%) were past smokers, and 9 (3.4%) were current smokers. Among current smokers, 12 (48.0%) had been smoking for less than 10 years, while 13 (52.0%) had been smoking for more than 10 years. The majority, 252 (94.7%), had never consumed alcohol, and among those currently using alcohol, 7 (50.0%) had been doing so for less than 12 years, and the other 50.0% had a history of alcohol consumption for more than 12 years. These findings indicate that the majority of respondents had never consumed alcohol or smoked, but there was a small portion of both past and current alcohol users and smokers.

The primary source of their diet was rice, with 266 (100.0%) of respondents indicating rice consumption. Most of the respondents, 252 (94.7%) were aware of junk food, while 5.3% lacked this awareness. A minority, 10.2%, follow a vegetarian diet, while the majority, 89.8%, were non-vegetarian (Table 3). These findings highlight the dominance of rice in their diets, widespread knowledge about junk food, and diverse dietary preferences among the respondents.

Table 3. Distribution of respondents by food and Nutrition.

Variable	Number	Percentage
Respondent source of diet		
Rice	266	100.0
Wheat	173	65.0
Maize	103	38.7
Buckwheat	36	13.5
Others	1	.4
Knowledge on Junk Food		
Yes	252	94.7
No	14	5.3
Junk Food consume		
Yes	152	60.3
No	100	39.7
Duration of junk food Consumption		
Daily	4	1.5
Alternatively	43	16.2
Once a week	31	11.7
Twice a week	37	13.9
Once a month	22	8.3
Twice a month	15	5.6
Vegetarian	27	10.2
Non-Vegetarian	239	89.8

About 141 (53.0%) of respondents believed the menopause affected their quality of life. While rating their quality of life, half of the respondents, 50.0% considered it good, with smaller percentages rated variably as poor, neither poor nor good, or very good.

In terms of their health satisfaction, the majority 162 (60.9%) were satisfied, while only a small percentage were dissatisfied. A very small portion (3.8%) had taken oral contraceptive pills to delay their menstrual cycle. Most respondents (98.9%) had a normal delivery status. Regarding seeking treatment for symptoms, 28.6% visited modern medicine health facilities, and 33.5% consulted a physician or health worker about menstrual symptoms. A similar percentage (33.5%) underwent physical examination during menopause. Menopausal-related problems had varying impacts on daily activities and friendships, with most reporting minimal effects. The majority, 193 (72.6%), are satisfied with the support they receive from family and friends (Table 4). These findings offer insights into how menopause and related health aspects impact the respondents' lives.

Table 4. Distribution of respondents by health-related information.

Variable	Number	Percentage
Respondent thoughts on effect of menopause on quality of life		
Yes	141	53.0
No	125	47.0
Respondents rating on quality of life		
Poor	5	1.9
Neither poor nor good	124	46.6
Good	133	50.0
Very good	4	1.5
Respondent Satisfaction on their health		
Very dissatisfied	2	.8
Dissatisfied	52	19.5
Neutral	49	18.4
Satisfied	162	60.9
Very satisfied	1	.4
Taken oral contraceptives pills to delay menstrual cycle		
Yes	10	3.8
No	256	96.2
Respondent delivery status		
Normal	263	98.9
Cesarean	3	1.1

Table 4. Distribution of respondents by health-related information.

Variable	Number	Percentage
Place visited for treatment while experiencing symptoms		
Medical pharmacy	31	11.7
Modern medicine health facilities	76	28.6
Ever consulted physician or other health workers regarding menstrual symptoms		
Yes	89	33.5
No	177	66.5
Physical examination during menopausal		
Yes	89	33.5
No	177	66.5
Menopausal related problem affected daily activities and friends		
Not at all	129	48.5
A little	91	34.2
Moderately	45	16.9
Very much	1	.4
Satisfaction with the support get from their family and friends		
Dissatisfied	8	3.0
Neutral	49	18.4
Satisfied	193	72.6
Very satisfied	16	6.0

The result shows a statistically significant association between menopausal symptoms and education (p-value=0.002), and the association was strong (phi=0.190). There was also a statistically significant association between menopausal symptoms and the marital status of the respondent (p-value=0.004), and the association was strong (phi=0.178). The result shows that there was a significant association between No. of children (p-value=0.002) and menopausal symptoms. The children below or equal to 3 had a strong association (phi=0.193) (Table 5).

Table 5. Association between Socio-demographic characteristics and menopausal symptoms

Variable	Menopausal Symptoms		Chi square	P value	Phi/ Cramer's V
Age Group	**No (%)**	**Yes (%)**			
Age 45-55	64 (44.1%)	81 (55.9%)	1.662	0.197	
Age more than 55	63 (52.1%)	58 (47.9%)			
Occupation					
Housewife	56 (47.5%)	62 (52.5%)	0.007	0.933	
Other	71 (48.0%)	77 (52.0%)			
Education					
Informal Education	113 (52.3%)	103 (47.7%)	9.621	0.002*	0.190
Formal Education	14 (28.0%)	36 (72.0%)			
Marital status					
Married	100 (44.1)	127 (55.9)	8.457	0.004*	0.178
Other	27 (69.2	12 (30.8)			
Ethnicity					
Dalit	43 (50.6)	42 (49.4)	1.521	0.677	
Disadvantaged janjatis	20 (51.3)	19 48.7)			
Relatively advantaged janjatis	12 (38.7)	19 (61.3)			
Upper caste group	52 (46.8)	59 (53.2)			
Religion					
Hindu	123 (48.8)	129 (51.2)	2.177	0.140	
Others	4 (28.6)	10 (71.4)			
Number of child					
≤3	56 (38.9)	88 (61.1)	9.869	0.002*	0.193
>3	71 (58.2)	51 (41.8)			

There was significant association between menopausal symptoms and regular physical exercise (p-value= <0.001) and the association was very strong (phi=0.335) (Table 6).

Table 6. Association between menopausal Symptoms and lifestyle related variables.

Variable	Menopausal Symptoms		Chi square	P value	Phi/ Cramer's V
	No (%)	**Yes (%)**			
Regular physical exercise					
Yes	19 (22.9)	64 (77.1)	29.868	<0.001*	0.335
No	108 (59.0)	75 (41.0)			
Smoking habit					
Yes	119 (49.4)	122 (50.6)	2.742	0.098	
No	8 (32.0)	17 (68.0)			
Alcoholic practice					
Yes	120(47.6)	132(52.4)	0.030	0.862	
No	7(50.0)	7(50.0)			

Table 7 exhibits the association between menopausal symptoms regarding utilization of health service, Food, and nutrition. Results show that the association between menopausal symptoms regarding utilization of health service (p-value=<0.001) and the association was very strong (phi=0.662).

Table 7. Association between menopausal symptoms regarding utilization of health service, Food and nutrition

Variable	Menopausal Symptoms		Chi-square	p-value	Phi/ Cramer's V
	No (%)	Yes (%)			
Consumption of Junk food					
Yes	68(44.7)	84(55.3)	1.286	0.257	
No	59(51.8)	55(48.2)			
Dietary Intake					
Vegetarian	11(40.7)	16(59.3)	0.591	0.442	
Non-Vegetarian	116(48.5)	123(51.5)			
Consumption of oral pills					
Yes	2(20.0)	8(80.0)	3.206	0.106	
No	125(48.8)	131(51.2)			
Utilization of health service					
Yes	1(1.1)	88(98.9)	116.52	<0.001*	0.662
No	126(71.2)	51(28.8)			

DISCUSSION

This cross-sectional study was conducted to identify the menopausal symptoms among women residing in selected wards of Dhorpatan Municipality. The study revealed that menopausal symptoms were found to be hot flashes (25.9%), sweating (74.1%), vaginal dryness (29.5%), heart discomfort (38.1%), anxiety (37.4%), and depressive mood (19.4%). In the Study of Women's Health across the Nation, a large U.S. multicenter cohort study, hot flushes were transient in most women, as more than 80% experience hot flushes during menopause. [6] A similar study in Nepal showed, half respondents were unaware of menopausal symptoms, and almost three-fifths reported that menopause related symptoms affected their daily work activities. [7] Hot flashes may occur earlier in Indian women compared to Western women. [8] The duration of Hot flashes varies across studies. One meta-analysis reported a mean duration of 5.2 years [9] while another, involving 35,455 participants, estimated the mean duration to be around 4 years. [10] In contrast, two separate studies found a median duration of 7.4 years for the presence of hot flushes [11], indicating that for many women, HFs can persist for a significant period during the menopausal transition. Vaginal symptoms (including dryness, discomfort, itching, and dyspareunia) were reported by about 30% of women during the early postmenopausal period and up to 47% of women during the later postmenopausal period. [12]

A community-based, cross-sectional study conducted on 683 women ages 45 to 60 years living in the district of Colombo, Sri Lanka, revealed that of the sample, 59.4% were postmenopausal and 18.4% were perimenopausal; 90% of the sample had one or more menopausal symptoms.[13] The most prevalent menopausal symptoms were joint and muscular discomfort (74.7%), physical and mental exhaustion (53.9%), and hot flushes (39.1%). Our study revealed similar findings with more than half of the respondents (52.3%) experiencing menopausal symptoms; however, most reported symptoms were sweating (74.1%), heart discomfort (38.1%), anxiety (37.4%), and hot flushes (25.9%).[13] The majority of these Sri Lankan women reported one or more menopausal symptoms. Chronic illness was significantly associated with these symptoms. Hot flushes, sleep problems, and joint/muscular discomfort had shown an increase in prevalence from the premenopausal category to the postmenopausal category ($P < 0.05$ for all). The presence of menopausal symptoms was significantly associated with a decreased health-related quality of life in the women.[6] In our study, more than half the respondents felt that menopause had affected their quality of life.

Similar findings was found in another study as they complained of having menopausal symptoms i.e hot

flushes (85.3%), backache (7.3%), sadness (48.6%), headache (8%), vaginal dryness (28.6%), mood swing (10%), sleep disturbances (29.3%) and irritability (58.6%).[8] The menopausal symptoms in Turkish women, the most frequently experienced menopausal symptoms in the study were feeling tired and worn out (79.2%), aches in the muscles and joints (79.1%) and low backache (77.8%), the least experienced symptom was an increase in facial hair (28.3%).[14]

Women with symptoms are associated with an increased burden of disease and healthcare utilization, including hospitalizations, Primary care physician visits, and gynecologist visits. and a greater likelihood of undergoing hysterectomy within one year of diagnosis.[15] Similarly, our study showed an association between menopausal symptoms regarding utilization of health service (p-value <0.001) and the association was very strong (phi=0.662).

In a study performed among Jordanian women, the severity of menopausal symptoms showed that 15.7%, 66.9%, and 17.4% were experiencing severe, moderate, and mild menopausal symptoms, respectively.[16] Vasomotor signs were reported to have the highest scores for severity as manifested by hot flushes and night sweats. In addition, women in the perimenopausal period complained more frequently of menopausal symptoms compared to premenopausal and postmenopausal women, except for vasomotor and sexuality symptoms, for which postmenopausal women reported higher scores. There was a significant relationship between the severity and occurrence of menopausal symptoms and age, family income, level of education, number of children, perceived health status, and menopausal status. Our study also found a significant association between education, marital status, number of children, and menopause.

CONCLUSIONS

This study showed the various menopausal symptoms, i.e. hot flushes, sweating, vaginal dryness, heart discomfort, depression, and anxiety symptoms experienced by menopausal women. The most prevalent menopausal symptoms was found to be sweating, heart discomfort, anxiety, and dryness of the vagina, hot flushes, and depression. In this study, education and physical activity were associated with menopausal symptoms. Similarly, utilization of health services was also positively associated with menopausal symptoms. Frequent educational and awareness programs on menopausal health and its management should be carried out by health facilities, FCHVs, and the municipality, along with regular health camps with periodic check-ups for these women.

COMPETING INTERESTS

The authors declare no competing interests.

REFERENCES

1. Kavya G, Sharma S. Review of Clinical Studies on Rajonivritti Avastha & Rajo Nivritti Vyapad. Int J Med Res Pharm Sci. 2016;3(9).[Download PDF]

2. Peacock K, Carlson K, Ketvertis KM. Menopause. In: StatPearls. StatPearls Publishing; 2025. Accessed November 22, 2025. http://www.ncbi.nlm.nih.gov/books/NBK507826/

3. Santwani K, Shukla VD, Santwani MA, Thaker G. An assessment of Manasika Bhavas in menopausal syndrome and its management. Ayu. 2010;31(3):311-318. doi: https://doi.org/10.4103/0974-8520.77156

4. Nisar N, Sohoo N. 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 Intern Med Public Health. 2010;2.[Download PDF]

5. Rajbhandari S, Subedi RK, Dangal G, Phuyal A, Vaidya A, Karki A, et al. Menopausal health status of Nepalese women. JNMA J Nepal Med Assoc. 2017;56(205):107-111.doi: https://doi.org/10.31729/jnma.2907

6. Bansal R, Aggarwal N. Menopausal Hot Flashes: A Concise Review. J -Life Health. 2019;10(1):6-13. doi: https://doi.org/10.4103/jmh.JMH_7_19

7. Sharma S, Adhikari L, Karmacharya I, Kaphle M. Menopausal Symptoms among Postmenopausal Women of a Selected Municipality: A Cross-sectional Survey. JNMA J Nepal Med Assoc. 2021;59(243):1155-1160. doi: https://doi.org/10.31729/jnma.7052

8. Ahuja M. Age of menopause and determinants of menopause age: A PAN India survey by IMS. J -Life Health. 2016;7(3):126. doi: https://doi.org/10.4103/0976-7800.191012

9. Col NF, Guthrie JR, Politi M, Dennerstein L. Duration

of vasomotor symptoms in middle-aged women: a longitudinal study. Menopause. 2009;16(3):453. doi: https://doi.org/10.1097/gme.0b013e31818d414e

10. Politi MC, Schleinitz MD, Col NF. Revisiting the Duration of Vasomotor Symptoms of Menopause: A Meta-Analysis. J Gen Intern Med. 2008;23(9):1507-1513. doi: https://doi.org/10.1007/s11606-008-0655-4

11. Hunter MS, Gentry-Maharaj A, Ryan A, Burnell M, Lanceley A, Fraser L, et al. Prevalence, frequency and problem rating of hot flushes persist in older postmenopausal women: impact of age, body mass index, hysterectomy, hormone therapy use, lifestyle and mood in a cross-sectional cohort study of 10 418 British women aged 54–65. BJOG: An International Journal of Obstetrics & Gynaecology. 2012 Jan;119(1):40-50. doi: https://doi.org/10.1111/j.1471-0528.2011.03166.x

12. Grady D. Management of Menopausal Symptoms. N Engl J Med. 2006;355(22):2338-2347. doi: https://doi.org/10.1056/NEJMcp054015

13. Waidyasekera H, Wijewardena K, Lindmark G, Naessen T. Menopausal symptoms and quality of life during the menopausal transition in Sri Lankan women. Menopause N Y N. 2009;16(1):164-170. doi: https://doi.org/10.1097/gme.0b013e31817a8abd

14. Ceylan B, Özerdoğan N. Menopausal symptoms and quality of life in Turkish women in the climacteric period. Climacteric J Int Menopause Soc. 2014;17(6):705-712. doi: https://doi.org/10.3109/13697137.2014.929108

15. Sharman Moser S, Chodick G, Bar-On S, Shalev V. Healthcare Utilization and Prevalence of Symptoms in Women with Menopause: A Real-World Analysis. Int J Womens Health. 2020;12:445-454. doi: https://doi.org/10.2147/IJWH.S246113

16. Gharaibeh M, Al-Obeisat S, Hattab J. Severity of menopausal symptoms of Jordanian women. Climacteric J Int Menopause Soc. 2010;13(4):385-394. doi: https://doi.org/10.3109/13697130903050009