

# Menopausal Symptoms Experienced by Women Attending a Tertiary Level Hospital

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## ABSTRACT

**Introduction:** Menopausal transition fuels various physical and psychological changes in women. No woman experiences the same symptoms as another woman. This study aimed to describe the variability and magnitude of menopausal symptoms experienced by Nepalese women aged over 40 years and to explore lifestyle factors associated with occurrence of these symptoms.

**Material and Methods:** A descriptive cross-sectional study was conducted among 215 women attending the clinic of Nobel Medical College Teaching Hospital. Symptomatic checklist questionnaire including symptoms commonly associated with menopause was used as instrument. Stages of Reproductive Aging Workshop+10 principal criteria were used to classify women of reproductive stage.

**Results:** The participants' response rate was 74.13%. The mean age at menopause was  $47.5 \pm 4.4$  years. Classical vasomotor symptoms, hot flushes (48.8%), vaginal dryness (12.1%) and night sweats (37.2%) were reported less than somatic symptoms and psychological symptoms. The most prevalent symptom reported was easy fatigue (87%), aching muscles and joints (80.9%), hair fall (80.9%). Significant difference in symptoms like sleep disturbances ( $p=0.04$ ), joint stiffness ( $p=0.00$ ) and tingling sensation of limbs ( $p=0.02$ ) was found across perimenopausal and postmenopausal group of women.

**Conclusion:** The variation in occurrence of "classical" and "non-classical" symptoms between Nepalese women and women of other regions demands more tailored interventions. Innovative, targeted preventative services like physiotherapy, rehabilitation, counselling, outreach clinics, awareness programs related to healthier perimenopausal lifestyle, health seeking and prospects of hormonal replacement therapy could be initiated at community levels to cater their needs.

**Keywords:** Menopause; Prevalence; Symptoms; Women



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## INTRODUCTION

Menopause is an unavoidable phase in women's life but when a woman undergoes menopause is difficult to predict.<sup>1-4</sup> Nepalese women attain menopause at around 48.7 years.<sup>5</sup> Symptoms experienced can affect different body systems and can be physical/ somatic, vasomotor, psychological and/or urogenital.<sup>6-8</sup> The symptoms experienced are different across races of Eastern, Western and Asian world, owing to various biological, psychological, social and cultural factors.<sup>1,4,6,9-16</sup>

The symptoms experienced during menopausal transition may resolve by themselves, but nonetheless can pose a challenge in women's sense of physical and mental wellbeing.<sup>4,8,17</sup> Consideration of menopausal symptoms as a natural phenomenon has led to negligence and reluctance in seeking health services among Asian Women.<sup>5,18-21</sup> Lack of due address to menopausal symptoms may have negative impact on quality of life.<sup>22</sup>

In 2011, 17.6% of women and in 2016, 27.4% of women in Nepal were above 40 years of age.<sup>23,24</sup> Current study may provide a baseline for the introduction of primary, secondary and tertiary prevention program catering their needs. With increased life expectancy of Nepalese women from 54.6 years in 1990 to 69 years in 2015 quality of life is becoming a major concern. To match up with the quality of life women are thriving for today, knowledge of symptoms they are likely to experience as they age, duration of those symptoms and awareness of preventive methods can be useful among women in promoting self-care. This study intended to describe the variability and magnitude of menopausal symptoms experienced by women aged over 40 years and to explore lifestyle factors associated with occurrence of these symptoms.

## MATERIALS AND METHODS

A cross-sectional study was conducted among women attending Outpatient Department (OPD) of Nobel Medical College Teaching Hospital (NoMCTH) from October 2019 to January 2020. Ethical clearance from the Institutional Review Committee of NoMCTH was obtained. Women aged 40 years or more (verified from OPD tickets) attending OPDs consenting to participate were selected as a sample for the study. Total of 215 women were interviewed using a symptomatic checklist interview questionnaire. The questionnaire consisted of two sections. Section one consisted of socio demographic variables and section two consisted list of menopausal symptoms and some lifestyle factors. The checklist encompassed symptoms involving vasomotor, urogenital, psychological, dermatological, musculoskeletal system. The quantification of the occurrence of symptoms was done on the basis of total score 30( 1 for each symptom present). Data was entered in Epidata and analyzed using SPSS version 22 software.

For description and analysis purposes, respondents were classified into different groups based on STRAW+10 (Stages of Reproductive Aging Workshop) criteria. STRAW+10 have laid out criteria to classify women of reproductive stage into phases based principally on menstrual cycle changes.<sup>25</sup> Perimenopause, corresponds primarily to the time of menopausal transition and begins at Stage-2 and ends at stage +1a, 12 months after the cessation of menses (Figure 1). The reproductive status of respondents was categorized as per principal criteria of STRAW+10 into two groups perimenopausal (-2, -1 and +1a) and postmenopausal (+1b, +1c early and +2 late). Questionnaire used in this study was based on a similar study done by Rahman SA et al.<sup>26</sup>

STRAW +10 Classification

Menarche					FMP(0)					
Stage	-5	-4	-3 b	-3a	-2	-1	+1a	+1b	+1c	+2
	Reproductive				Menopausal transition		Post menopausal			
	Early	Peak	Late		Early	Late	Early		Late	
					Perimenopausal					
Duration	variable				variable	1-3 years	2 years (1+1)	3-6 years	Remaining lifespan	
Criteria										
Menstrual Cycle	Variable / regular	Regular	Subtle changes in flow / Length	Variable length Persistent $\geq 7$ days difference in consecutive cycles	Amenorrhea interval of $\geq 60$ days					

**Figure 1: The Stages of Reproductive Ageing Workshop +10 staging system for reproductive ageing in women. Source: Executive Summary of the Stages of Reproductive Aging Workshop +10 .<sup>25</sup>**

**RESULTS**

The respondents’ response rate was 74.13 %. Out of the total respondents (n=215), 78.1% respondents had experienced menopause. When classified as per STRAW +10 criteria 28.9% of respondents were peri-menopausal (around menopausal transition) and 71.1% were postmenopausal (Table 1).

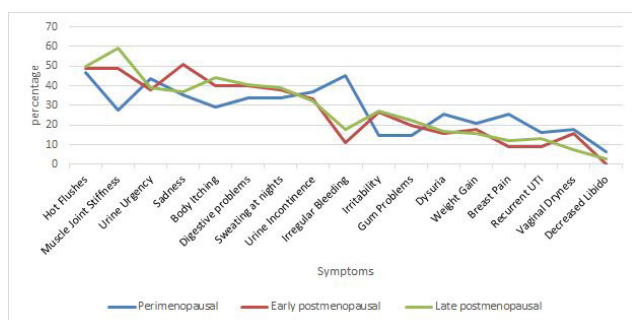
**Table 1. Socio-demographic Characteristics of the Respondents n=215**

Characteristics	Frequency	Percentage
Age completed in years (mean $\pm$ SD)	57.9 $\pm$ 9.4	
Menstrual status		
Perimenopausal	62	28.9
Postmenopausal	153	71.1
Age at menopause in years (mean $\pm$ SD)	47.55 $\pm$ 4.44	
Duration of menopause in years (mean $\pm$ SD)	13.23 $\pm$ 8.94	
Ethnicity		
Brahmin/ Chhetri	97	45.2
Adhibasi/ Janjati Terai	42	19.5
Janjati Hill	51	23.7
Others	25	11.6
Education level		
No formal education	195	90.7
Primary level	8	3.7
Secondary level and above	12	5.6
Smoking habit		
Yes	50	23.3
No	165	76.7

Among the respondents, physical and mental exhaustion was reported as most common symptoms experienced followed by hair fall, joint pain and forgetfulness. Findings suggest that age at menopause was not associated ( $p>0.05$ ) with smoking habit, ethnicity, dietary preference or physical activity. Variations in occurrence of symptoms have been revealed among respondents according to their stage in reproductive life (Table 2, Figure 2).

**Table 2. Commonly Occurring Symptoms among Various Group of Respondents**

Symptoms	Overall Prevalence % (n= 215)	Perimenopausal % (n=62)	Early postmenopausal % (n=45)	Late postmenopausal % (n=108)
Easy Fatigue	87	80.6	91.1	88.9
Hair fall	80.9	83.9	77.8	80.6
Joint Pain	80.9	75.8	82.2	83.3
Forgetfulness	80	72.6	93.3	78.7
Dizziness	75.8	67.7	77.8	79.6
Headache	71.2	69.4	68.9	73.1
Mood Swings	67.9	66.1	77.8	64.8
Sleep Disturbances	63.3	48.4	66.7	70.4
Tingling Limbs	63.3	51.6	68.9	67.6
Palpitation	58.1	58.1	55.6	59.3
Bone Fragility	54.0	45.2	62.2	55.6
Abdominal Bloating	52.6	54.8	62.2	47.2
Anxiety	50.2	50	62.2	45.4



**Figure 2. Less Commonly Occurring Symptoms across Different Groups of Respondents**

Among perimenopausal women, hairfall was the commonest occurring symptoms, while in early postmenopausal women forgetfulness was most common and in late postmenopausal group easy fatigue was more prevalent. When the number of symptoms existent among women was analyzed, women had an average of  $13.57 \pm 4.47$  symptoms out of 30 symptoms. All of the respondents had experienced at least one or more symptoms. The number of symptoms experienced among respondents showed statistically significant association with educational level ( $p=0.02$ ). Further post hoc analysis revealed a significant difference in the number of symptoms experienced by women having no formal education and primary education. There was no significant association ( $p>0.05$ ) between quantity of symptoms and duration of menopause, current age, ethnicity and occupation. Also, lifestyle factors like smoking habit, dietary preference, physical activity and health seeking practice showed no significant association ( $p>0.05$ ) with quantity of symptoms.

**Table 3. Association of Symptoms with Menstrual Status among the respondents n=215**

Symptoms	Menstrual status	Present n (%)	Absent n (%)	p-value	Crude OR (95% CI)
Sleep disturbances					
	Postmenopausal	30 (48.4)	32 (51.6)	0.04	2.40( 1.31-4.40)
	Perimenopausal	106 (69.3)	47 (30.7)		Reference
Tingling sensation of limbs					
	Perimenopausal	32 (51.6)	30 (48.4)	0.02	1.99( 1.08-3.63)
	Postmenopausal	104(68.0)	49 (32.0)		Reference
Muscle and joint stiffness					
	Perimenopausal	17 (27.4)	45 (72.6)	0.00	3.39 ( 1.78-6.46)
	Postmenopausal	86 (56.2)	67 (43.8)		Reference

In the current study difference in prevalence of symptoms is noted among groups. When occurrence of symptoms were analysed, perimenopausal women were found to experience more irregular

bleeding ( $p=0.00$ ), sleep disturbances ( $p=0.04$ ), joint stiffness ( $p=0.00$ ), tingling limbs ( $p=0.02$ ) as shown in table 3. The habit of taking walks in sunlight and physical activity were found to be related with decreased occurrence of muscle and joint stiffness ( $p < 0.05$ ).

## DISCUSSION

Among the respondents, 78% had attained menopause which is higher than the findings of other studies,<sup>5,26,27</sup> but since the mean age of the respondents vary, it might be attributed to sampling difference. While studies have shown age at menopause ranges from 50.1 to 52.8 years in Caucasians, 42.1 to 49.5 years in Asians, different studies have shown that Nepalese women attain menopause at around 47 to 48 years<sup>1,5,9,12</sup> which is consistent with current study where age at menopause was reported to be 47.55 years  $\pm$  4.44 years. Though studies have suggested lower age at menopause among smokers, nulliparous, low socio economic status and low educational level, no statistically significant association was found between age at menopause and smoking habit, ethnicity, dietary habit, physical activity.<sup>2,4</sup> Nonetheless, study with different methodology or larger sample size might elucidate a clear association.

Variations in prevalence of symptoms ranging from 10.9% to 76.4% has been reported by various studies conducted around the globe.<sup>1,6,9,19,27,28</sup> Studies done have revealed that 97.1% of women in Nepal and 98.4% of women in India have at least one problem.<sup>9,19</sup> This is a likely scenario in low and middle income countries, where the health system has not yet been able to shift its focus from infectious disease and malnutrition towards non communicable reproductive problem of women and associated quality of life.<sup>4</sup>

Significant difference in number of symptoms among women having no formal education and

primary education was revealed in the study which is in accordance to a study where education level and employment have been independently associated with symptoms of menopause.<sup>16</sup> Though difference in metabolism of lipids and hormones between ethnic groups may be expected, the limited sample of this study was not able to capture the statistical variation between symptoms and ethnicity.<sup>4,6</sup>

Variation in symptoms (vasomotor, urogenital, psychological or somatic) across reproductive sub-stages has been asserted by various studies. Multiple studies support current finding where perimenopausal women were found to have more symptoms than premenopausal and postmenopausal women.<sup>6,28-31</sup> In current study, the presentation of "classical" menopausal symptoms; hot flushes, sweating and night sweats were noted to be lower (48.8% and 37.2% resp.) as compared to western women who reported to be from 45% to 75%, however, current finding of lower menopausal classical symptoms were shared by studies done in other Asian countries.<sup>4,6,7,9,14,15,19,20,29</sup> Though occurrence of "classical" symptoms of menopause are more commonly reported globally, this study presents occurrence of "nonclassical" symptoms like fatigue and exhaustion, hair fall, joint pain, forgetfulness as rather common in more than 80 percent of women.<sup>6,10</sup> This finding asserts the remark of Avis et al.<sup>6,10</sup> which stated that vasomotor symptom follows unique pattern and calls upon experts to determine whether the spectrum of symptoms have changed with environmental/ genetic changes underway or the current studies include wider variety of women which were not simply accessed during research in previous studies.

In the current study, somatic and psychological subscales of symptoms were experienced most frequently by women (87% to 63%). Similar findings were also noted in studies conducted among Asian and Caucasian women.<sup>6,7,9,15,19,20,29,30</sup> The somatic or



psychological symptoms experienced by the middle aged women could also result from other physical, psychological or health related problems related to aging or other life events which can be confused with menopausal symptoms and can be cleared by a controlled group/ comparative study.<sup>6,10</sup>

Likewise, genitourinary symptoms like decreased libido, vaginal dryness, dysuria and breast pain which account for commonly reported symptom worldwide were not reported much by the current study which is similar to a few other Asian studies.<sup>9,12,14,15,19,29,30,31</sup> This may be partly explained by the conservative notion among women of not speaking about their private parts in the light of social desirability.

Supporting the fact that calcium intake, regular physical exercise, vitamin D increase bone health, in the current study the habit of taking walk in sunlight and physical activity were also found to be associated with absence of muscle and joint stiffness symptom.<sup>4</sup> Though this demands further research to establish definitive relationship, focus on imparting awareness among women along with interventional programs targeting lifestyle and dietary modification can benefit this group of women.

### Limitations of the study

Being a cross sectional study, this study cannot exclude the confounding effects of the natural ageing process that may influence experience of symptoms. Owing to the sampling technique used, the sample selected might not have been representative of the population. Women were asked to provide some retrospective information, such as menopausal symptoms experienced in the preceding one month, last menstruation date etc., recall bias is unavoidable, especially for some elderly women, thus some subjects could have been misclassified into the another subgroup.

### CONCLUSION

The occurrence of “classical” and “non-classical” patterns of symptoms is different in Nepalese women than that of women from other regions. Thus, to prevent the negative impacts in the quality of life of women, different preventive programs like outreach clinics, physiotherapy centre, rehabilitation centres, counselling sessions, awareness programs related to healthy lifestyle, dietary habits and hormonal replacement therapy might be launched by individuals, consumer groups, governmental and non-governmental agencies. Further research regarding the prospects of Hormonal Replacement Therapy, Women’s Self Help Group, home based remedy of symptoms, biomarkers/ hormonal assays etc. can help in developing interventions tailored to the specific needs of the target population.

### Conflict of Interest: None

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