

# Burgeoning menopausal symptoms: An urgent public health concern

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## ABSTRACT

**Introduction:** Demographic and epidemiological transitions have increased the life expectancy of people in India. This has resulted in higher burden of morbidities related to aging. The National Health programmes have focused mainly on the health of women in reproductive age groups and neglected their health thereafter. Thus, there is a need to explore the bio-social correlates of menopausal symptoms among women, which can influence their quality of life.

**Subjects and Methods:** This cross-sectional community-based study was conducted in the urban slum of Mysore for 3 months. A total of 100 postmenopausal women in the age group of 40–65 years residing in the field practice area of Urban Health Training Centre were selected by simple random sampling method from the database of households. Details regarding socio-demographic characteristics, postmenopausal symptoms, and factors associated with them were collected in a pretested structured pro forma by interview technique.

**Results:** Among 100 women included in the present study, mean age at menarche and menopause was  $13.45 \pm 1.72$  and  $46.7 \pm 5.2$  years, respectively. The most common postmenopausal symptom was joint pain (92%) followed by physical and mental exhaustion (84%), depression (76%), irritability (73%), hot flushes, and night sweats (65%). There was a significant positive correlation between age of the women, duration of life after menopause, and postmenopausal symptoms.

**Conclusion:** There is a high burden of postmenopausal symptoms which have shown an increasing trend with advancement of age. This calls for establishment of specific health interventions for postmenopausal women in the health-care settings.

**Key Words:** Health, menopause, menstruation, old age, postmenopausal symptoms

## INTRODUCTION

Menopause is a normal physiologic process, defined as the permanent cessation of menses for 12 months or more due to termination of ovarian hormone production.<sup>[1,2]</sup> The menopausal transition is a period of relatively large, multiple reproductive hormonal changes and helps to

define the window of time during which a woman is most likely to be symptomatic.

Menopause is a critical period in a woman's life that not only marks the end of reproductive ability but is also associated with multiple physical, vasomotor, psychological, and sexual complaints. The year immediately preceding and the decade afterward, however, are of much clinical significance.<sup>[3]</sup>

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**DOI:**  
10.4103/0976-7800.185329

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**How to cite this article:** Kulkarni P, Savitha Rani BB, Kumar DS, Manjunath R. Burgeoning menopausal symptoms: An urgent public health concern. J Mid-life Health 2016;7:83-7.

The immediate symptoms of menopause are effects of hormonal changes on various systems of the body, mainly cardiovascular and musculoskeletal systems, thus affecting their quality of life.<sup>[4]</sup> The common climacteric symptoms experienced by them can be grouped into vasomotor, physical, and psychological complaints.<sup>[5]</sup> There is a considerable variation in reporting of menopausal symptoms by women worldwide in different studies.

Age of onset of natural menopause also varies worldwide, with the international range being 44.6–52 years.<sup>[6]</sup> In India, the mean age  $\pm$  standard deviation (SD) is  $45.02 \pm 4.35$  years.<sup>[7,8]</sup> Southeast Asia reported joint and muscle pain as the most frequent complaint.<sup>[9-12]</sup>

Demographic and epidemiological transitions have increased the life expectancy of people in India. This has resulted in higher burden of morbidities related to aging. The National Health Programmes have focused mainly on the health of women in reproductive age groups and neglected their health after attaining menopause.

However, relatively little is known about the prevalence of symptoms in women in their fifth and sixth decades of life. Developing preventive strategies for such women who are undergoing social and physiologic transition requires understanding multiple factors that affect symptoms reporting in women from different socioeconomic and racial/ethnic backgrounds.

This study was aimed to determine the prevalence and factors influencing menopausal symptoms among women residing in urban Mysore, with various demographic parameters such as mean age at menarche and mean age at menopause.

## SUBJECTS AND METHODS

This cross-sectional community-based study was conducted in the urban field practice area of the Department of Community Medicine, JSS Medical College, Mysore, from May to July 2015.

Institutional Ethics Committee approval was obtained. Sample size was calculated based on the reported prevalence of postmenopausal symptoms to be 55.08% with 10% relative allowable error at 5% confidence level to be 98.96 which were rounded off to 100. The regularly updated database of JSS Urban Health Training Centre was utilized for the selection of study subjects. The database was filtered for gender and age group to prepare a sampling frame. Out of overall population of 12,445, the data filter ended up in short-listing 784 women above the age of

40 years. Random numbers were generated between 1 and 120 from MS Excel to select the study subjects.

A total of 100 postmenopausal women in the age group of 40–80 years were selected by simple random sampling method from the database of Urban Health Training Centre and were traced to their homes for data collection. Twenty extra random numbers were generated anticipating the migration or nonavailability of subjects during data collection. The final list of study subjects along with their contact information was prepared. The houses of these women were visited and details regarding their socio-demographic characteristics, various postmenopausal symptoms (menopause rating scale),<sup>[9]</sup> and factors associated with them were collected in a pretested structured pro forma by interview technique. Postmenopausal Rating Scale was used to assess the postmenopausal symptoms.

## Statistical analysis

The data collected were entered in MS Excel 2010 (Redmond, Washington: Microsoft, 2010. Computer Software) and analyses using SPSS version 22 (Chicago, IBM, SPSS Inc.). Descriptive statistics such as mean and SD were applied. Inferential statistical tests such as Chi-square test for association and Pearson's correlation were applied. The association and correlation were interpreted statistically significant at  $P < 0.05$ .

## RESULTS

Among 100 postmenopausal women included in the present study, majority, i.e. 40% were in the age group of 50–59 years, followed by 30% in 60–69 years age group. Nearly, 90% of the women were married, 35% of them were literate, and 95% were homemaker [Table 1].

Mean age at menarche and menopause was  $13.45 \pm 1.72$  and  $46.7 \pm 5.2$  years, respectively. Whereas mean age at marriage and first pregnancy was found to be  $17.45 \pm 3.93$  and  $21.9 \pm 20.6$  years, respectively [Table 2]. About 88 subjects had attained natural menopause and 12 women had undergone hysterectomy.

Out of 100 women included in the study, 95 were having one or the other postmenopausal symptoms. The most common symptoms were joint and muscular discomfort (92%) followed by physical and mental exhaustion (84%), depression (76%), irritability (73%), and vasomotor symptoms such as hot flushes and night sweats (65%), and heart discomfort (52%).

Most of the symptoms were common in the age group of 50–69 years, among which 52% had chest discomfort, 64% had sleep disturbance, 76% of them had depression,

**Table 1: Distribution of study subjects based on socio-demographic characteristics**

Socio-demographic characters	Number	Percentage
<b>Age in years</b>		
40-49	14	14.0
50-59	40	40.0
60-69	30	30.0
> 70	16	16.0
<b>Marital status</b>		
Married	90	90.0
Single	10	10.0
<b>Religion</b>		
Hindu	91	91.0
Muslim	04	4.0
Christian	05	5.0
<b>Education</b>		
Nonliterate	65	65.0
Primary	18	18.0
High school	15	15.0
PUC	02	2.0
<b>Occupation</b>		
Homemaker	95	95.0
Daily wage laborer	05	5.0
<b>Total</b>	<b>100</b>	<b>100</b>

**Table 2: Distribution of study subjects based on mean age at different life stages**

Study characteristics	Mean ± SD
Age (years)	59 ± 9.1
Age of menarche	13.4 ± 1.7
Age at marriage	17.4 ± 3.9
Age at first child	21.9 ± 2.6
Age of menopause	46.7 ± 5.2

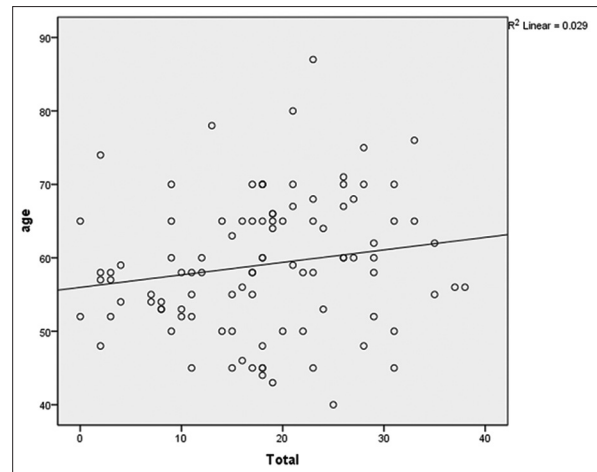
SD: Standard deviation

and 27% had sexual problems. There was a statistically significant association between age groups and these symptoms [Table 3].

There was a significant positive correlation between postmenopausal symptoms score with age of women ( $r = 0.65$ ,  $P = 0.01$ ), age at menopause ( $r = 0.56$ ,  $P = 0.032$ ), and duration of life after attaining menopause ( $r = 0.51$ ,  $P = 0.042$ ) [Figures 1 and 2].

## DISCUSSION

Aging is a reality of human existence on mother earth which nobody can escape. Menopause is an unspoken, unattended reality of life, the cause of which is still undeciphered completely by human beings. Menopause is one such midlife stage which might be overcome easily

**Figure 1: Correlation of postmenopausal symptoms with age**

or make a woman miserable depending on her luck. The present study was conducted to find the prevalence of postmenopausal symptoms and their bio-social correlates.

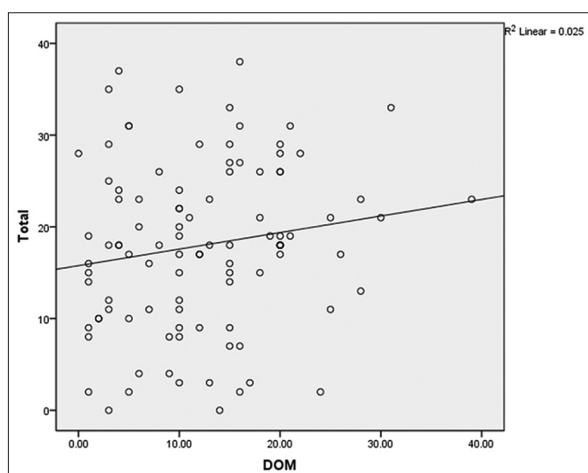
Mean age of menopause in the present study was  $46.7 \pm 5.2$  years. In a study conducted by Borker *et al.* in Kerala, they reported the age at menopause to be 48.26 years.<sup>[10]</sup> Peeyananjarassri conducted a survey among 270 women aged 45–65 years who attended the Gynecological and Menopause Clinic, Songklanagarind Hospital, and found that the average age at menopause of the postmenopausal women was 48.7 years (range: 40–57 years).<sup>[11]</sup> Khan and Hallad in their study reported that the mean age at menopause to be as low as 44.9 years.<sup>[12]</sup> Wider variation in the age at menopause may be due to factors such as region, socioeconomic status, environmental conditions, and genetic factors.

In the present study, 95% of the women had one or more postmenopausal symptoms. Similar observations were made by Borker *et al.* in Kerala where 90.7% of the women had one of the postmenopausal symptoms.<sup>[10]</sup> Singh and Pradhan in their study in New Delhi reported that 89.3% of the postmenopausal women experienced at least one or more menopausal symptom(s).<sup>[13]</sup>

The results showed that the most common symptoms associated with menopause were joint and muscular discomfort (92%), physical and mental exhaustion (84%), depression (76%), irritability (73%), and vasomotor symptoms such as hot flushes and night sweats (65%), and heart discomfort (52%). This is consistent with the study results in most Asian populations. These observations are similar to the study done at Udipi by Bairy *et al.*, among 352 postmenopausal women attending the out-patient clinics in a tertiary care hospital in South India, where there was a high prevalence of aching in muscles and

**Table 3: Association between postmenopausal symptoms and age groups**

Symptoms	Age group (years)				Total	$\chi^2$	P
	40-49	50-59	60-69	>70			
Heart discomfort	8	13	21	10	52	10.8	0.01
Sleep	10	18	23	13	64	10.7	0.01
Depression	12	25	24	15	76	7.7	0.05
Anxiety	8	21	17	11	57	1.23	0.7
Physical and mental exhaustion	11	33	25	15	84	1.5	0.6
Sexual problems	7	8	11	1	27	9.6	0.02
Bladder discomfort	4	18	16	12	50	7.1	0.06
Vaginal dryness	5	11	14	7	37	3.1	0.3

**Figure 2:** Correlation of postmenopausal symptoms with age with duration of menopause

joints (67.7%), feeling tired (64.8%), poor memory (60.5%), lower backache (58.8%), feeling bloated (55.1%), and difficulty in sleeping (51.7%) among the menopausal respondents.<sup>[14]</sup> In another study conducted by Lu *et al.*, the most frequent symptom reported was “feeling tired or worn out (86%),” followed by “aching in muscles and joints (85%).” The prevalence of the classical menopausal symptoms – hot flushes, night sweats, and vaginal dryness – in the women aged 45–65 years was 36.8%, 20.8%, and 55.3%, respectively.<sup>[15]</sup> Borker *et al.* in their study reported the most common symptoms to be emotional problems 90.7%, headache 72.9%, lethargy 65.4%, and dysuria 58.9%.<sup>[10]</sup> Singh and Pradhan in their study reported the most common complaints of postmenopausal women to be sleep disturbances (62.7%), muscle or joint pain (59.1%), hot flushes (46.4%), and night sweats (45.6%). Variation in these figures may be due to the type of scale used for assessing the symptoms, ability of subjects to comprehend to the symptom profiles in these scales, and most importantly, the recall capacity of the subjects.<sup>[13]</sup>

In the present study, there was a significant positive correlation between age and menopausal symptoms, age at menopause, and duration of life after menopause. These observations are similar to the results of a study conducted by Mahajan *et al.* in North India on health issues of menopausal women, where mean number of symptoms was found to be increasing linearly with rising age of the study subjects.<sup>[16]</sup>

## CONCLUSION

There is a high burden of postmenopausal symptoms which have shown an increasing trend with advancement of age. This calls for establishment of specific health interventions for postmenopausal women in urban area through the existing health centers by having geriatric clinics.

## Acknowledgments

The authors would like to extend their heartfelt gratitude to Dr. Rama, Medical Officer, UHC, and staff, study participants, and their family members.

## Financial support and sponsorship

Nil.

## Conflicts of interest

There are no conflicts of interest.

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