

Health Status of Perimenopausal and Postmenopausal Women at Mangalore, Karnataka, India

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Abstract

Objectives: Women spend approximately one-third of their lives postmenopausal due to increased life expectancy. In this study, the daily activities of the study participants were associated with menopausal symptoms. **Methodology:** The women aged between 40 and 60 years residing in Mangalore town were selected as subjects for the current community-based cross-sectional study. The study participants were either going through natural menopause or had attained natural menopause. The data include sociodemographic profile, marital history, obstetric history, history of contraceptive use, history of chronic diseases, habits, physical activity, menstrual history, and menopausal symptoms. In addition, the individual effect of these variables on daily activities was noted among the participants. The investigator also examined the patients and measured the relevant anthropometric measurements along with the record. **Results:** The total number of study participants in the current research was 364. The most prevalent menopausal symptoms are night sweats (72.8%), irritability (94.2%), vaginal dryness (76.7%), decreased libido (94.8%), and fatigue (88.7%). The common comorbidities were anemia (49.5%), dental caries (23.4%), and hypertension (23.1%). There is a significant association between age at menopause ($P < 0.05$) and factors such as religion, socioeconomic status, age at menarche, length of menstrual cycles, number of bleeding days per cycle, history of oral contraceptive pill use, parity, age at first childbirth, and occupation (beedi workers). The women's daily activities ($P < 0.05$) in this age group were affected by the most familiar menopausal symptoms, including fatigue and irritability.

Keywords: Perimenopausal women, postmenopausal women, psychological symptoms, sexual symptoms, somatic symptoms, urogenital symptoms, vasomotor symptoms

INTRODUCTION

The World Health Organization has defined menopause as “the permanent cessation of menstruation resulting from the loss of ovarian follicular activity.”^[1] Only human females have a complex cessation of reproductive capability. While the origin of menopause remains enigmatic, an understanding of the physiologic and social context of menopause is essential for three reasons. (a) With the decline in maternal mortality and infectious diseases, women's life expectancy increases; therefore, most women will spend approximately 20–30 years in the postmenopausal state; (b) The morbidity caused by menopause affects a significant proportion of women; (c) Menopause acts as a risk factor for earlier mortality from subsequent chronic diseases.

During the middle age, physiologically, menopause is the most notable event for women. The two most important hormones,

estrogen and progesterone, slow down and eventually stop altogether. It supposedly alters the human body's function, resulting in menopausal symptoms termed “menopausal syndrome.”^[2] The onset of this physiological development marks the end of women's fertility and introduces them to a new phase of life. Although menopause is a universal phenomenon, considerable variations are observed among women regarding the age of attaining menopause and the manifestation and severity of menopausal signs and symptoms. Various symptoms occur during the transition phase as part of

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this physiological process in women's lives. The symptoms include vasomotor, urogenital, psychosomatic, psychological, and sexual dysfunction.

The prevalence of each of these symptoms related to menopause varies with ethnicity, demography, sociocultural variables, and biological variables.^[3] Some of the menopausal symptoms experienced by these women can be severe enough to affect their normal lifestyle and quality of life. Conventionally, Asian women suffer more from the atypical symptoms and fewer, with lesser severity, from the typical psychological and vasomotor symptoms compared to those reported in Caucasian women in the West. These symptoms directly result from the depletion of estrogen levels as women approach the menopausal stage. Some of these women begin to experience these menopausal symptoms early in the perimenopausal phase.^[4]

The average life expectancy for women in developed countries ranges between 80 and 85 years and in developing countries ranges between 60 and 70 years. The average age at menopause is approximately 50 years, with a possible wide variation between developed and developing countries.^[5]

The people of postmenopausal women range from 5% to 8%, which makes up a relatively small proportion of the people in developing countries. At the same time, it makes up over 15% of the total population in industrialized countries. By 2030, a drastic increase is expected in this proportion of people worldwide. Therefore, indicating the immense need for the public health system for postmenopausal women.^[6]

Due to rapid urbanization, changing lifestyle, and increased longevity in urban Indian women evolving as a homogeneous group, menopause is emerging as a significant health issue. However, most remain ignorant of the short- and long-term implications of the morbid conditions associated with middle and old ages simply because of lack of awareness, unavailability, or the ever-increasing healthcare cost.^[7]

There is a difference in the prevalence of symptoms in Asian versus Western women. Further, wide variations have been evident in the subpopulation studies, including Indian women from selected regions. There is a growing menopausal women population in India due to increased life expectancy, prioritizing menopausal health.^[8]

According to the National Family Health Survey 3 data on menopause (natural and induced) for women aged 30–49 years in the whole country, <10% are menopausal in their thirties and one-fifth of the women aged 40–41 years have already reached menopause. The incidence of menopause increases rapidly after the age of 41 years. By 48–49 years of age, the prevalence rises quickly to 65%.^[9]

The total number of Indian women aged 50 years and over will increase from 95 million in 2010 to 168 million in 2030. Hence, menopausal health demand is a priority in the Indian scenario due to the growing population of menopausal women.^[10]

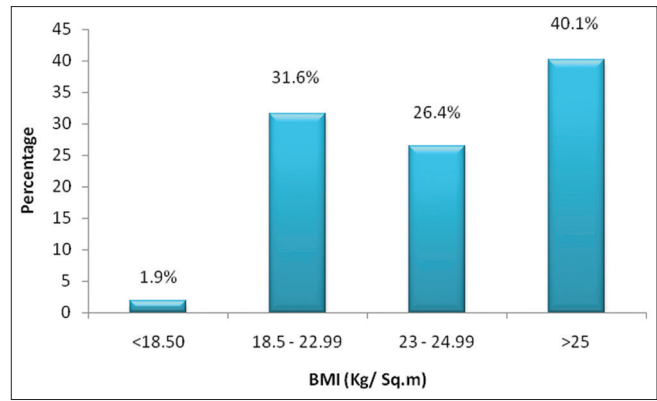


Figure 1: Body mass index of the study participants according to Asian classification

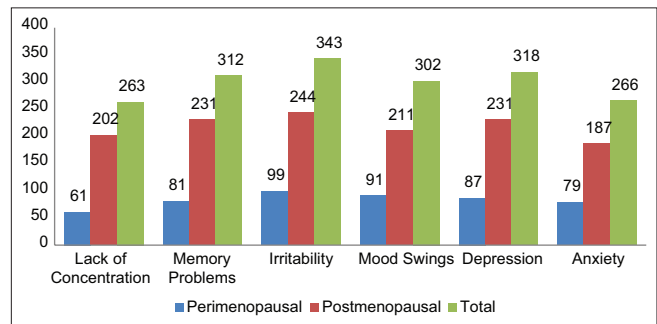


Figure 2: Psychological symptoms among the study participants

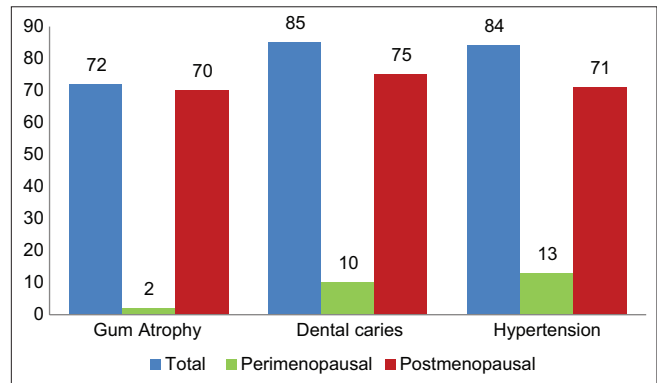


Figure 3: Most common comorbidities among the study participants

METHODOLOGY

The study design followed here is a community-based cross-sectional study. The principal investigator got ethical committee approval before starting the survey with the number: AJEC/Rev/177/2012-13. The total sample size is 364 participants undergoing a natural menopausal transition and attained natural menopause. The questionnaire collected the participants' details, including sociodemographic and other relevant data. After completing the questionnaire, an appropriate clinical examination for all the participants is done. Statistical method: The collected data are entered into Microsoft Excel and are analyzed using SPSS (IBM, New York, SPSS version 20.0). The analysis includes various statistical techniques.

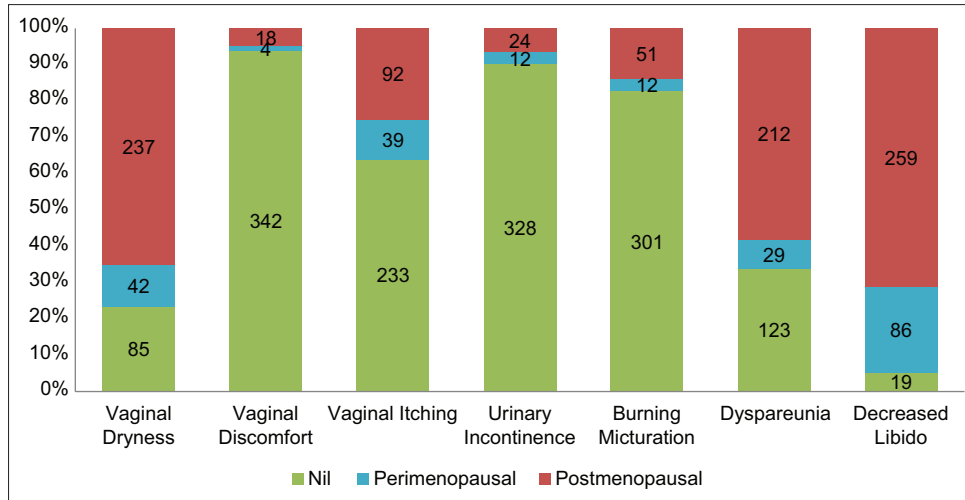


Figure 4: Urogenital symptoms experienced by the study participants

Table 1: Representation of the sociodemographic details of the study participants

Variable	Response	Frequency (%)
Occupational status	Housewife	196 (53.80)
	Beedi-worker	133 (36.50)
	House maid	20 (5.50)
	Tailor	9 (2.50)
	Clerk	5 (1.40)
	Nurse	1 (0.30)
Marital status	Unmarried	1 (0.30)
	Married	332 (91.20)
	Separated	2 (0.50)
	Widowed	29 (8)
	Divorced	0
Habits	Tobacco	68 (18.70)
	Snuff	5 (1.40)
	Nil	291 (79.90)

RESULTS

Among the 364 study participants, 105 (28.8%) and 259 (71.2%) participants were in the perimenopausal and postmenopausal groups. The study population’s mean age is 50.72 ± 5.69 years, and the median age is 51 years. The mean age at menopause is 48.31 ± 4.068 years, and the median age at menopause is 48 years. In this study, among the study subjects, 299 (82.1%) were Hindus, 49 (13.5%) were Muslims, and 16 (4.4%) were Christians; 92 (26.6%) of them were illiterate, and 267 (73.4%) were literates Table 1. Three hundred and thirty-two (91.2%) were married, 29 (8%) were widowed, two (0.5%) were separated, and one (0.3) was unmarried. One hundred and ninety-six (53.8%) were homemakers, 133 (36.5%) were beedi workers, 20 (5.5%) were housemaids, nine (2.5%) were tailors, five (1.4%) were clerks, and one (0.3) was a home nurse. As per the standard of living index, socioeconomic classification showed that 10 (2.7%) belonged to the upper-high class, 229 (62.9%) belonged to the high class, 94 (25.8%) belonged

to the upper-middle class, 27 (7.4%) belonged to lower-middle class, and four (1.1%) were poor. The mean age at menarche and the mean age at menopause of the study subjects were 13.18 ± 1.129 years and 48.31 ± 4.068 years, respectively.

Among those going through perimenopause, all of them had irregular cycles currently. In this study, 68 (18.7%) were chronic tobacco chewing and five (1.4%) were regularly snuffing.

Among the study participants, 7 (1.9%) were underweight, only 115 (31.6%) had normal weight, 96 (26.4%) were overweight, and 146 (40.1%) were obese as in Figure.1. About the history of using oral contraceptive pills (OCPs), 98.1% had never used oral contraceptives, and only 1.9% of them have used them. The majority of the participants had undergone tubectomy 244 (67%), followed by 14 copper-T insertion (3.8%) and one vasectomy (0.3%).

The vasomotor symptoms were more predominant in the perimenopausal group than in the postmenopausal group. The association of the vasomotor symptoms with the perimenopausal group is statistically significant ($P < 0.05$). Among the 105 perimenopausal women in this study, both hot flashes (55.2%) and night sweats (56.2%) were found to be affecting their daily activities significantly ($P < 0.05$). Perimenopausal women experience multiple psychological symptoms. The daily activities of the women were affected by psychological factors such as the lack of concentration (36.2%), irritability (77.1%), mood swings (71.4%), depression (60.0%), and anxiety (44.8%) Figure 2.

Urinary incontinence (11.4%) is the most common urogenital symptom, significantly affecting ($P < 0.05$) the day-to-day activities. In contrast, only 1.9% of the study subjects with vaginal discomfort felt that it affects their daily activities, which is statistically insignificant ($P > 0.05$) Figure 4. The presence of night sweats significantly affected postmenopausal women’s daily activities. Among the physical symptoms, fatigue (75.7%), insomnia (37.5%), muscle pain (9.7%), back pain (7.3%), joint pain (69.1%), and joint stiffness (17.4%)

Table 2: Various symptoms experienced by the study participants

	Perimenopausal (n=105; 28.8%), n (%)	Postmenopausal (n=259; 71.2%), n (%)	Total (n=364; 100%), n (%)	P
Vasomotor symptoms				
Hot flashes	85 (81.0)	111 (42.9)	196 (53.8)	0.000
Night sweats	92 (87.6)	173 (66.8)	265 (72.8)	0.000
Somatic symptoms				
Skin dryness	34 (32.4)	218 (84.2)	252 (69.2)	0.000
Headache	82 (78.1)	158 (61.0)	240 (65.9)	0.002
Insomnia	90 (85.7)	184 (71.0)	274 (75.3)	0.003
Chest pain	34 (32.4)	128 (49.4)	162 (44.5)	0.003
Muscle ache	36 (34.3)	33 (12.7)	69 (19.0)	0.000
Joint pain	71 (67.6)	225 (86.9)	296 (81.3)	0.000
Shooting pain in leg	68 (64.8)	195 (75.3)	263 (72.3)	0.042
Cold hand and feet	77 (73.3)	57 (22.0)	134 (36.8)	0.000
Hair fall	16 (15.2)	219 (84.6)	235 (64.6)	0.000
Weight gain	10 (9.5)	164 (63.3)	174 (47.8)	0.000
Tingling sensations in hands	20 (19.0)	29 (11.2)	49 (13.5)	0.047
Tingling sensations in legs	21 (20.0)	30 (11.6)	51 (14.0)	0.036

significantly affect the daily activities of the postmenopausal women ($P < 0.05$).

Physical symptoms such as headache, insomnia, muscle ache, back pain, cold hands and feet, and tingling sensation in hands and legs were significantly more in perimenopausal women ($P < 0.05$). In contrast, breathlessness on exertion, chest and joint pains, shooting pain in the legs, skin dryness, hair fall, and weight gain were significantly high among postmenopausal women ($P < 0.05$). The perimenopausal mean systolic blood pressure (SBP) was 119.83 mmHg, while for postmenopausal women, the mean SBP is 120.82 mmHg Table 2.

The most common comorbidities were anemia (49.5%), followed by dental caries (23.4%), and hypertension (23.1%). Gum atrophy, dental caries, and hypertension were statistically more common among postmenopausal women ($P < 0.05$) Figure 3.

In this study, age at attaining menopause had a significant association with religion, and the difference was substantial between Hindus and Muslims and between Christians and Muslims. There was a significant difference between age at menopause between modified BG Prasad's socioeconomic class II and class III. Here, the investigator also found that women who had menarche before or at the age of 13 years attained menopause significantly later than those who attained menarche after 13 years of age ($P = 0.009$). Those who had a past cycle length of <30 days had a mean age at menopause significantly earlier than those with a cycle length of more than or equal to 30 days ($P = 0.000$). Those with bleeding days per cycle ≤ 5 days had a mean age at menopause significantly earlier than those with more than 5 days of bleeding per cycle.

OCP users in the past had significantly later mean age at menopause compared to nonusers ($P = 0.000$) and nulliparous women had significantly earlier mean age of menopause compared to parous women ($P = 0.014$). In addition, women

who had their first childbirth before 18 had a significantly lower mean age at menopause than those who had their first childbirth after 18 years of age ($P = 0.004$).

Age at last childbirth, exercise, and tobacco or tobacco products did not show any significant association with the mean at attaining menopause ($P > 0.05$). Various symptoms significantly affect ($P = 0.000$) daily activities, including hot flashes, night sweats, lack of concentration, irritability, mood swings, depression, anxiety, urinary incontinence, fatigue, headache, insomnia, muscle pain, and joint pain Figure 4.

DISCUSSION

In a study conducted by Jahan *et al.*, the age of menarche was 13.27 ± 1.35 years with a median age of 13 years, similar to the current research.^[11] A similar study conducted by Joseph *et al.* showed that the participants' mean age was 54.2 ± 7.2 years and the mean age of attainment of menopause was 48.4 ± 4.5 years. Most of the participants were postmenopausal women (72.7%), followed by 15.5% perimenopausal.^[12] In another study by Borker *et al.*, the mean age of women at menopause was 48.26 years with a standard deviation of 4.86 years, similar to this study.^[13] In a survey by Sharma *et al.*, 31.62% of the study subjects were illiterate, whereas 68.37% were literate, close to the current study's findings.^[8] Sharmeen *et al.* found that 85% of the study population were married, 2% were separated or divorced, and 13% were widowed.^[14] In a similar study conducted by Rokhade *et al.* in North Karnataka, the incidence of obesity among menopausal women was 43.5%, which is close to this study's finding.^[15] In a survey by Srivastava *et al.*, the history of chewing tobacco was present only in 2.56% of the study subjects, which is much less than the current study's findings. The variations are due to the cultural practices and the number of beedi workers in this study with easy access to tobacco.^[16] In a study by Rahman *et al.*, the proportion of women

who do regular physical exercise was much lower (21.02%) than those who do not exercise (44.40%).^[17] Abedzadeh-Kalahroudi *et al.* found that the most severe vasomotor symptom (34.1%) was “night sweats.”^[18] In a survey conducted by Pastore *et al.*, the most common urogenital symptom was vaginal or genital dryness (27.0%).^[19] Sexual dysfunctions were statistically high among postmenopausal women compared to perimenopausal women ($P < 0.05$). In a study by Anil *et al.*, decreased libido was the most frequent problem reported by 81.5% of the study subjects.^[20] In a similar survey conducted by Abedzadeh-Kalahroudi *et al.*, the most common symptoms among vasomotor, physical, and sexual domains were night sweats (86.1%), feeling a lack of energy (92.7%), and change in sexual desire (83.8%), respectively.^[18] In a study by Anil *et al.*, fatigue (49.7%) is the most typical symptom in postmenopausal women.^[20] Sleep disturbances (62.7%) and muscle and joint pains (59.1%) were common in menopausal women in the study by Singh and Pradhan.^[21] In Govil’s study, poor eyesight emerged as the most prominent problem (92%) among menopausal women. In contrast, this study showed that 64.8% of menopausal women complained of vision disturbances.^[6] In a study done by Christian *et al.*, the mean SBP was found to be 129.67 (118.97–140.37) mmHg, and the mean diastolic blood pressure (DBP) was found to be 81.07 (69.37–92.77) mmHg, which is comparable to the mean SBP and DBP in the present study. It was also found that 57.1% of the study participants were anemic and 28.6% of the subjects had dental caries, which is comparable to the findings of this study. Here, any lump or abscess in the breast was found to be 2.7%. This is similar to the current study where breast pathology is 2.3% among the study subjects.^[21]

Recommendations

1. Despite the presence of symptoms, most women did not recognize them as menopausal symptoms. Therefore, health-care providers should give appropriate health education to menopausal women to increase the awareness and early recognition of menopausal problems and coping strategies
2. The prevalence of menopausal symptoms and their effect on daily activities was high. Therefore, specific healthcare units targeting menopausal women should be available since the implications of menopause to public health are not only significant but also enlarging
3. Awareness programs need to be conducted for the relatives of menopausal women and the community regarding menopausal and old age health problems of women.

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Conflicts of interest

There are no conflicts of interest.

Authors contribution

Dr. Divya CV Conception of the idea, drafting the article, Critical revision of the article and Final approval of the version to be published. DR. Vasantkumar V. Bhanushali Drafting the article, Data analysis, and Final approval of the version to be

published. Dr Vinu E Drafting the article, Data representation, and Final approval of the version to be published. Dr K.S. Premlal Statistical interpretation, Critical revision of the article and Final approval of the version to be published.

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