

# Evaluation of Sociodemographic Factors on Menopausal Symptoms in Women of 40–60 Years

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## ABSTRACT

**Background:** Though menopause is a natural phenomenon in a woman's life, several factors affect the severity of menopausal symptoms.

**Aim and objectives:** To assess the effects of sociodemographic components on menopausal symptoms in women aged 40–60 years.

**Materials and methodology:** It is a hospital-based observational study. All women between the age of 40 and 60 years were made to answer a 11-item questionnaire (menopausal rating scale). A total of 300 participants were included. Out of which 106 were premenopausal, 111 were perimenopausal, and 83 were postmenopausal. Overall 47% of participants had one or the other menopausal symptoms. Hot flushes and irritability were more in age-group of 46–55 years. Bladder problems were more in 51–60 years, and depressive mood was common in 46–50 years of age. Though socioeconomic status did not have statistically significant effect on menopausal symptoms, it is observed that hot flushes, depressive mood, and muscle and joint pain were higher in upper class group. Whereas sexual problems, dryness of vagina, and bladder problems were more in lower class group. Irritability, heart discomfort, and hot flushes were more common in obese category patients. Depending on education status, it was noted that participants who were illiterate had significant bladder problems and heart discomfort and who had primary education had hot flushes and irritability.

**Conclusion:** Menopausal symptoms were maximum in the age-group of 46–55 years. Lesser educated people and people with higher body mass index (BMI) had more menopausal symptoms. Lower socioeconomic group had more urogenital problems and upper class had more of somatic symptoms.

**Keywords:** Menopausal rating scale, Menopausal symptoms, Perimenopause, Social factors.

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## INTRODUCTION

The menopause transition affects 1.5 million women annually, and it commonly results in unwelcome symptoms such vasomotor symptoms, vaginal dryness, decreased libido, sleeplessness, weariness, and joint pain.<sup>1</sup> "In one population-based assessment of 386 Australian women, 86% consulted a clinician at least once to discuss menopausal symptoms."<sup>2</sup> Menopause is defined as permanent cessation of the menstruation and ovulation characterized by declining of the ovarian function. Different menopausal stages are (1) premenopause—regular cycles of menstruation within the previous year, (2) perimenopause—irregular periods, but they have only happened within a year, (3) postmenopause—after achieving menopause, there has been no menstruation for the past 12 months.<sup>3</sup>

As the world's ageing populations live longer, there is a growing public health concern over the general health and well-being of women. Few studies even suggest that the age, socioeconomic status, ethnic cultural and genetic factors also play important role in menopause. Addressing the importance of quality care and need for counseling of women who are entering the menopausal transition and who seek advice for same. Women report being unprepared for the menopause and being interested in methods of coping with its symptoms.

The median age for menopause in the Massachusetts Women's Health Study and the Study of Woman's Health Across Nation—America was 51.3 years. The Study of Woman's Health Across Nation of 1990, noticed that factors like smoking and lower educational status were associated with earlier menopause.<sup>4</sup> Undernourished, thinner women and vegetarians also experienced earlier

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menopause because of the contribution of body fat to estrogen production. Women with higher order parity and those on oral contraceptives experienced menopause at a later age.

## AIM AND OBJECTIVES

To assess the effects of sociodemographic components on menopausal symptoms in women aged 40–60 years.

## MATERIALS AND METHODOLOGY

Women aged 40–60 years of age seeking health-care facilities in our hospital were included. Women below 40 years and above 60 years, who are on hormone replacement therapy, pregnant, and lactating women were excluded from the study. The Institutional Ethical committee approval was obtained (REG. NO. EC/NEW/INST/2020/834). The study was explained and informed consent was

**Table 1:** Comparison of menopausal symptoms with age-groups among participants

Menopausal symptoms	Age-groups				p-value
	40–45 years (n = 102)	46–50 years (n = 100)	51–55 years (n = 38)	56–60 years (n = 60)	
Hot flushes	26 (25.5%)	48 (48.0%)	16 (42.1%)	15 (25.0%)	<b>0.002*</b>
Heart discomfort	25 (24.5%)	29 (29.0%)	10 (26.3%)	24 (40.0%)	0.205
Difficulty falling asleep	36 (35.3%)	33 (33.0%)	15 (39.5%)	29 (48.3%)	0.248
Depressive mood	23 (22.5%)	34 (34.0%)	05 (13.2%)	13 (21.7%)	<b>0.049*</b>
Irritability	28 (27.5%)	40 (40.0%)	17 (44.7%)	13 (21.7%)	<b>0.023*</b>
Anxiety	15 (14.7%)	21 (21.0%)	06 (15.8%)	08 (13.3%)	0.545
Physical and mental exhaustion	52 (51.0%)	57 (57.0%)	24 (63.2%)	32 (53.3%)	0.590
Sexual problems	10 (9.8%)	07 (7.0%)	03 (7.9%)	04 (6.7%)	0.866
Bladder problems	34 (33.3%)	26 (26.0%)	20 (52.6%)	30 (50.0%)	<b>0.003*</b>
Dryness of vagina	18 (17.6%)	14 (14.0%)	03 (7.9%)	11 (18.3%)	0.459
Muscle and joint problem	20 (19.6%)	16 (16.0%)	06 (15.8%)	12 (20.0%)	0.864

\*Statistically significant *p*-value (*p* < 0.05)

obtained in their vernacular language from patients participating in the study. All clinical details regarding the sociodemographic data were entered in the case study proforma and a 11-item menopausal rating scale (MRS) questionnaire was used for assessing the severity of the symptoms. Apart from English, MRS was translated into local languages and made available for the participants and distributed accordingly among the participants in the language best understood by them. Participants are asked to mark the response which is closest to how she has been feeling or felt during her menopausal transition. Proforma is filled up by the investigator and the participants will complete the questionnaire themselves. Except when participants do not know how to read and write in such case even the questionnaire will be marked by the investigator. The confidentiality of the information collected or elicited during the study was maintained. Participants were informed regarding their right to refuse from participating in the clinical research study at will. They were reassured that failure to participate in the study will not affect their medical care and management.

Menopausal rating scale: "Scores 11 menopausal symptoms: hot flushes, heart discomfort, sleep problems, depressive mood, irritability, anxiety, physical and mental exhaustion, sexual problems, bladder problems, vaginal dryness, and joint and muscular discomfort. Each item is scored from 0 to 4. The scores are summed for a total quality-of-life score, in which a higher score indicates a worse quality of life."

The data were processed and analyzed using the IBM Statistical Packages for Social Sciences, SPSS software version 22. The Shapiro-Wilk test was used to test for normality of the data. Results of continuous measurements were measured as frequency mean and standard deviation. Results of categorical measurements were measured using number and percentage. Chi-square, unpaired *t*-test were used to compare the different types of measurements. The Fisher exact test was used when expected count is less than 5 in more than 20% cells.

## RESULTS

A total of 300 participants were included in the study. Out of which 106 were premenopausal, 111 were perimenopausal, and 83 were postmenopausal. Overall 47% of participants had one or the other menopausal symptoms. Around 102 participants (34.0%) were in the age-group of 40–45 years, 100 participants (33.3%) were 46–50

years, 60 participants (20.0%) were between 56 and 60 years of age, and 38 participants (12.7%) were between 51 and 55 years. It was observed that 83 participants (27.7%) were illiterate, 20 participants (6.7%) had completed their primary education and 28 participants (9.3%) had completed their secondary education. About 81 study participants (27.0%) had completed pre-university course and 88 participants (29.3%) had an education of graduation and above. The majority of participants (170; 56.7%) belonged to middle socioeconomic class, followed by 73 participants (24.3%) in upper class, and 57 participants (19.0%) in lower class. It was observed that 24 participants (8.0%) were underweight, 84 participants (28.0%) had body mass index (BMI) within normal range and another 63 women (21.0%) were overweight. Number of women who fell in obese I and II category were 100 (33.3%) and 29 (9.7%), respectively.

Majority of women (92.3%) were married, only 4.7% were nulliparous, rest were parous, and 83 participants (27.7%) had attained menopause. Only four (1.3%) gave history of substance abuse. As these parameters had low numbers in one of the groups, there co-relation with menopausal symptoms could not be established.

It was observed that hot flushes were relatively more common in 46–50 years (48.0%) and 51–55 years (42.1%) age-groups when compared to 40–45 years (25.5%) and 56–60 years (25.0%) age-groups (Table 1). This finding was statistically significant with a *p*-value of 0.002. Symptoms of heart discomfort and difficulty falling asleep were relatively more common in 56–60 years age-group, 40.0 and 48.3%, respectively, in comparison to other age-groups but the difference was statistically not significant. Depression was relatively more common in 46–50 years age. Irritability was most common in 51–55 years age-group (44.7%) and 46–50 years age-group (40.0%). This finding was statistically significant (*p*-value-0.023). Bladder problems were most common in 51–55 years age-group (52.6%), followed by 56–60 years (50.0%). This difference was found to be statistically significant (*p*-value-0.003).

Table 2 shows hot flushes was more common in upper (39.7%) and middle classes (38.5%) compared to lower class group (24.6%). Depressive mood was also more in upper class (31.5%) than lower class group (19.3%). Muscle and joint problems too were more noticed in upper class than lower class. Whereas sexual problems, dryness of vagina, and bladder problems were more in lower class group than upper class. But none of them were statistically significant.

Hot flushes was mostly noticed in obese II category (48.3%) and even heart discomfort were more in obese I and obese II categories (36–37%). Irritability was maximum in obese I category (44%) and was statistically significant. Bladder problems were more in low BMI participants (Table 3).

Hot flushes (60%) and irritability (55%) were seen in participants with primary education and was statistically significant compared to other groups. Heart discomfort (41%) and bladder problems (50.6%) were high in illiterate participants. Depressive mood (42.9%) was maximum noticed in participants with high school educated participants (Table 4).

## DISCUSSION

In this study, heart discomfort was found to be twice more common among the postmenopausal age-group of 56–60 years old. Hot flushes were mostly seen in women belonging to 46–50 and 51–55 years age-groups. Bladder problems were noticed in >50% of women above the age of 50 years. Though comparison of socioeconomic class with menopausal symptoms was not found

to be statistically significant in any of the groups. It was observed that people of lower class had more urogenital subscale symptoms (bladder problem, sexual problems, and dryness of vagina). When compared to the upper-class participants who mostly had joint and muscle problem, hot flushes, and depression. Obese women had significant symptoms of irritability and heart discomfort. Surprisingly, hot flushes was also more in obese category women though they have higher estrogen levels than thinner women. Bladder problems are more noted in thinner women similar to other studies. Low education attainment in participants had more menopausal symptoms.

Monika Thakur et al. conducted research on 351 women of 35–55 years of age.<sup>5</sup> Greene climacteric scale was used for the purpose of the study. The analysis revealed that with advancing age, low educational attainment, low socioeconomic status, menopausal status, later age at menarche, and higher BMI were all associated with more severe menopausal symptoms. Thus, results presented an approximately 1.9-fold greater risk of having anxiety among perimenopausal women than premenopausal women.

Du et al. conducted community-based cross-sectional study to specify prevalence and severity of menopausal symptoms among the middle-aged women.<sup>3</sup> Almost about 3147 participants were considered for the study. Severity of menopausal symptoms was assessed with modified Kupperman index (mKMI). Mean age of all participants was 51 years, among which 33.13% were premenopausal, 14.52% were perimenopausal, and 52.35% were postmenopausal. The total prevalence of the menopausal symptoms was found to be 73.8%. Top 4 established symptoms were fatigue (38.08%), hot flushes, sweating (33.65%), and joint ache (28.81%). It was surveyed that perimenopausal and postmenopausal participants had a higher score of mKMI than that of the premenopausal. It was revealed that employment, menstruation status, and the mKMI were significantly associated. This establishes the need to carry out health education among women regarding measure to improve the health-seeking behaviors among the symptomatic women.

Sudhaa Sharma and Neha Mahajan conducted a 1-year cross-sectional study, where women from urban area ( $n = 490$ ) were compared to the ones from rural region ( $n = 380$ ).<sup>6</sup> They evaluated menopausal symptoms and its effect on quality of life (QOL) using MRS and The World Health Organization quality of life brief version (WHO QOL BREF). The severity of symptoms were more obviously

**Table 2:** Comparison of menopausal symptoms with socioeconomic class among participants

Menopausal symptoms	Socioeconomic class			p-value
	Lower (n = 57)	Middle (n = 170)	Upper (n = 73)	
Hot flushes	14 (24.6%)	62 (36.5%)	29 (39.7%)	0.165
Heart discomfort	14 (24.6%)	53 (31.2%)	21 (28.8%)	0.633
Difficulty falling asleep	23 (40.4%)	66 (38.8%)	24 (32.9%)	0.611
Depressive mood	11 (19.3%)	41 (24.1%)	23 (31.5%)	0.258
Irritability	22 (38.6%)	51 (30.0%)	25 (34.2%)	0.462
Anxiety	12 (21.1%)	26 (15.3%)	12 (16.4%)	0.600
Physical and mental exhaustion	31 (54.4%)	96 (56.5%)	38 (52.1%)	0.813
Sexual problems	07 (12.3%)	15 (8.8%)	02 (2.7%)	0.115
Bladder problems	28 (49.1%)	60 (35.3%)	22 (30.1%)	0.071
Dryness of vagina	13 (22.8%)	27 (15.9%)	06 (8.2%)	0.069
Muscle and joint problem	06 (10.5%)	29 (17.1%)	19 (26.0%)	0.066

**Table 3:** Comparison of menopausal symptoms with BMI among participants

Menopausal symptoms	BMI					p-value
	Underweight (n = 24)	Normal (n = 84)	Overweight (n = 63)	Obese I (n = 100)	Obese II (n = 29)	
Hot flushes	08 (33.3%)	30 (35.7%)	17 (27.0%)	36 (36.0%)	14 (48.3%)	0.390
Heart discomfort	06 (25.0%)	22 (26.2%)	13 (20.6%)	36 (36.0%)	11 (37.9%)	0.192
Difficulty falling asleep	09 (37.5%)	30 (35.7%)	20 (31.7%)	43 (43.0%)	11 (37.9%)	0.683
Depressive mood	06 (25.0%)	20 (23.8%)	14 (22.2%)	26 (26.0%)	09 (31.0%)	0.919
Irritability	04 (16.7%)	24 (28.6%)	17 (27.0%)	44 (44.0%)	09 (31.0%)	<b>0.037*</b>
Anxiety	05 (20.8%)	12 (14.3%)	10 (15.9%)	18 (18.0%)	05 (17.2%)	0.938
Physical and mental exhaustion	12 (50.0%)	44 (52.4%)	29 (46.0%)	65 (65.0%)	15 (51.7%)	0.153
Sexual problems	03 (12.5%)	07 (8.3%)	04 (6.3%)	08 (8.0%)	02 (6.9%)	0.917
Bladder problems	11 (45.8%)	36 (42.9%)	22 (34.9%)	30 (30.0%)	11 (37.9%)	0.371
Dryness of vagina	05 (20.8%)	12 (14.3%)	08 (12.7%)	14 (14.0%)	07 (24.1%)	0.586
Muscle and joint problem	04 (16.7%)	11 (13.1%)	16 (25.4%)	17 (17.0%)	06 (20.7%)	0.414

\*Statistically significant p-value ( $p < 0.05$ )

**Table 4:** Comparison of menopausal symptoms with educational status among participants

Menopausal symptoms	Education status					p-value
	Illiterate (n = 83)	Primary (n = 20)	High school (n = 28)	PUC (n = 81)	Graduate (n = 88)	
Hot flushes	26 (31.3%)	12 (60.0%)	05 (17.9%)	29 (35.8%)	33 (37.5%)	<b>0.043*</b>
Heart discomfort	34 (41.0%)	05 (25.0%)	08 (28.6%)	21 (25.9%)	20 (22.7%)	0.095
Difficulty falling asleep	37 (44.6%)	08 (40.0%)	13 (46.4%)	25 (30.9%)	30 (34.1%)	0.317
Depressive mood	14 (16.9%)	06 (30.0%)	12 (42.9%)	17 (21.0%)	26 (29.5%)	<b>0.047*</b>
Irritability	32 (38.6%)	11 (55.0%)	09 (32.1%)	15 (18.5%)	31 (35.2%)	<b>0.009*</b>
Anxiety	18 (21.7%)	02 (10%)	05 (17.9%)	10 (12.3%)	15 (17.0%)	0.513
Physical and mental exhaustion	42 (50.6%)	10 (50.0%)	16 (57.1%)	46 (56.8%)	51 (58.0%)	0.858
Sexual problems	11 (13.3%)	01 (5.0%)	0	07 (8.6%)	05 (5.7%)	0.166
Bladder problems	42 (50.6%)	05 (25%)	11 (39.3%)	29 (35.8%)	23 (26.1%)	<b>0.014*</b>
Dryness of vagina	16 (19.3%)	05 (25%)	04 (14.3%)	12 (14.8%)	09 (10.2%)	0.374
Muscle and joint problem	10 (12%)	03 (15.0%)	07 (25%)	15 (18.5%)	19 (21.6%)	0.430

\*Statistically significant p-value ( $p < 0.05$ )

prevalent and distressing for rural than in urban women. But, QOL in urban society was any day better among urban women than in rural women. Somatic, psychological, and urogenital symptoms were high in rural women than in urban women. Rural area women had higher mean ratings for hot flushes, sweating, sleeping issues, and heart discomfort. Urban area women had higher mean scores for muscle and joint complaints and heart discomfort.

Sumathi Senthilvel et al. in their study done on 150 postmenopausal women revealed 51 (34%) of the participants were between the ages of 55 and 59 years, and 116 (77.3%) of them were married.<sup>7</sup> Hot flushes, night sweats, and vaginal dryness were the most common menopausal symptoms in women aged 50–65 years, with prevalence rates of 75.3%, 58.8%, and 30.7%, respectively. The correlations between QOL scores and socioeconomic status and educational status were statistically significant and marital status was statistically highly significant with p-value of 0.01, respectively. They came to the conclusion that middle-aged group categories frequently report postmenopausal physical issues. The correlation between QOL ratings and socioeconomic status, marital status, and educational attainment was statistically very significant. By educating people in this age-group on how to handle postmenopausal symptoms through nursing education, the burden may be lessened.

Aruna Kumari Yerra et al. mentioned that the average menopause-specific QOL score in their study of 378 women over 40 years was found to be  $19.35 \pm 16.20$ , with the physical domain scoring the highest at  $14.89 \pm 11.85$ , followed by the vasomotor domain at  $1.98 \pm 3.83$ , the psychosocial domain at  $1.82 \pm 3.29$ , and the sexual domain at  $0.624 \pm 2.21$ .<sup>8</sup> The vasomotor domain score was found to have a statistically significant association with postmenopausal women under the age of 50 years, no formal education, high socioeconomic status, homemakers, and menopause duration of less than 5 years; the sexual domain score was found to have a significant association with no formal education, higher socioeconomic status, and menopause duration of greater than 5 years whereas Ruchika Garg from Agra found anxiety in 11% participants.<sup>9</sup>

The limitations of this study is the less number of participants in the study. Role of marital status (unmarried-7.7%), parity status (nulliparous-4.7%), and substance abuse (1.4%) could not be assessed as the number in these groups was less.

By improving education, socioeconomic status, maintaining healthy diet, and exercise (maintaining normal BMI) can help women to cope with their menopausal symptoms better especially in the age-group of 46–55 years. It is important that our society improves on these aspects for a better mid-life health in women.

## CONCLUSION

Menopausal symptoms were maximum in the age-group of 46–55 years. Lesser educated people and higher BMI people had more menopausal symptoms. Lower socioeconomic group had more urogenital problems and upper class had more of somatic symptoms.

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