Health issues of menopausal women in North India

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ABSTRACT

Objective: To evaluate the health status, age of menopause, and its symptomatology amongst Himachali middle-aged women.

Materials and Methods: A community based cross-sectional study was done from Jul 07 to Jan 08. A structured questionnaire was given to 100 menopausal women from general community of Himachal Pradesh in Shimla.

Results: Mean age of menopause was 44.54 years. Main symptoms associated with menopause were reported as fatigue (62%), hot flashes (56%), Cold sweats (52%), and backaches (51%). Other ailments associated with menopause were arthritis (25%), hypertension (23%), and diabetes (6%).

Conclusion: Mean age of menopause was 44.54 years. Chief comorbid conditions were arthritis and hypertension.

Key Words: Ailments, Himachali women, menopause, symptoms

INTRODUCTION

The biggest achievement of last century was greater longevity that has resulted in an increasing aged population worldwide. Menopause is perhaps the most striking event occurring during the middle age in women and represents the end of woman’s reproductive life. The age at which the natural menopause (NM) occurs is between the age of 45 and 55 years worldwide.¹ Women spend a significant part of their lives in postmenopausal states. In 1990, there were about 467 million postmenopausal women worldwide and this figure is expected to rise to 1200 million by 2030. Out of these, 76% will be living in the developing countries.¹

The most important factor determining a woman’s age at the menopause is the number of ovarian follicles.² This number continues to diminish after birth (independently of any cyclic hormonal change or the physiological state of the woman), but less than 0.01% are ovulated; the remainder degenerate and the menopause occurs when the number of primordial follicles has fallen to a critical number.³ Factors that affect age at menopause may have important clinical implications because early menopause is associated with an increased risk of cardiovascular disease and osteoporosis, whereas delayed menopause has been associated with increased risk of breast cancer and endometrial cancer.⁴ These associations may result from the direct effect of menstrual function (or cessation of function) and the related hormone changes, or may be an indirect result of the other factors that are associated with age at menopause. The relationship of menopausal age with the risk factors for such medical conditions makes age at menopause an important epidemiological issue.⁵⁻⁷

Degree of symptoms experienced by a woman can be influenced by a number of factors, including age at menopause. The data from this region are sparse and scanty, except one study by Randhawa et al.⁸ about the age of menopause long time back in 1987. Therefore, present study attempts to estimate the mean age at menopause, its symptoms, and other health problems of menopausal women of Himachal Pradesh.

MATERIALS AND METHODS

This study was a cross sectional study consisting of

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women from the community in Shimla city (Himachal Pradesh). The participants were 100 women around 40 years of age and the study was carried out from July 2007 to January 2008. Women who reported 12 continuous months of amenorrhea, without a hysterectomy or other procedure that would have stopped their menses, were classified as naturally menopausal. Age at NM was defined as the age at last menstrual period. The study was approved by the ethics Committee of Indira Gandhi Medical College, Shimla.

Interviews of the eligible women were held at the households in the campus of Indian Institute of Advanced Study and surrounding areas in Shimla city. Women were interviewed using a structured twenty eight item General Health Questionnaire after obtaining an informed consent from each participant. The information regarding the demographic characteristics such as age, educational status, marital status, dietary preferences, as well as clinical symptoms of menopause were collected from each subject. Data on comorbid conditions were recorded from the medical records of the participants.

Anthropometric measurements such as weight, height, waist circumference, and blood pressure of each subject were recorded during the examination. Body mass index (BMI) and waist hip ratio of all the subjects were calculated. Mean age of menopause was calculated. Percentage proportions of various menopausal symptoms as well as other disease such as hypertension, diabetes, and arthritis were also calculated.

Inclusion Criteria – Women with history of NM

Exclusion Criteria – All other causes of menopause, e.g., surgical and hormonal.

Data collected were entered in the computer for analysis after checking for completeness and consistency. Data were then analyzed using statistical package Epi Info version 3.4.1.

RESULTS

The study population comprised of 100 women with NM. The age range at menopause was reported to be from 36 to 55 years and the mean age at menopause was 44.54 years. Out of total women enrolled in the study 84% were married and 16% were single (unmarried/divorced/widowed). 68% of them were literate and 32% were illiterates. Dietary patterns revealed that 61% of the women were vegetarians and 39% were nonvegetarians. Only 11% of the women gave history of smoking. Forty four percent of the women felt that they were affected by menopause in a negative manner, whereas 56% responded that they were not affected by menopause [Table 1].

Mean number of menopausal symptoms were as (mean ± SD) 6.42 ± 8.32 in <40 years of age, 7.96 ± 6.2 in 40–45 years, 8.13 ± 5.78 in 45–50 years, and 9.63 ± 8.79 in >50 years of age groups. Fatigue (62%), hot flashes (56%), cold sweats (52%), and backaches (51%) were most frequently complained menopausal symptoms in present study [Table 2].

Other health characteristics of the menopausal women observed in present study were as per anthropometric measurement: 58% of women were in normal range of BMI, while 27% were overweight and 12% were obese. Only 3% were observed as underweight [Table 3].

The association between BMI and hypertension was found to be statistically significant ($\chi^2 = 13.1603; \text{df} = 3; P = 0.0043$).

Chief comorbid conditions found amongst menopausal women were arthritis (25%), hypertension (23%), and diabetes (6%) [Figure 1].

DISCUSSION

Mean age at menopause in present study was observed as

| Table 1: Demographic characteristics of menopausal women |
|----------------------------------------------------------|
| **Age distribution (Age at menopause)**                  |
| Number                                                   |
| <40 years                                                | 8 |
| 41–44 years                                              | 42 |
| 45–49 years                                              | 31 |
| >50 years                                                | 19 |
| Total                                                    | 100 |
| **Mean age at menopause**                                |
| Smoker                                                   | 43.00 years |
| Nonsmoker                                                | 44.72 years |

**Marital status**

Married                                                 | 84 |
Single (unmarried/divorced/widowed)                      | 16 |

**Education status**

Literate                                                | 68 |
Illiterate                                               | 32 |

**Dietary life style**

Vegetarian                                              | 61 |
Nonvegetarian                                            | 39 |
Smoking                                                  | 11 |

**Affected by menopause**

Negative manner                                          | 44 |
Not affected                                              | 56 |
44.54 years, which is similar to the mean age at menopause of 45 years reported by Bagga et al\textsuperscript{[9]} [Figure 2]. But it is lower in comparison to the mean age at menopause of about 51 years in industrialized countries,\textsuperscript{[10,11]} also highlighted by WHO.\textsuperscript{[1]} However, it is comparable to mean age of Indian women of 44 years by Singh and Arora\textsuperscript{[12]} and 44.7 years by Shah et al.\textsuperscript{[13]} Another study from the same area by Randhawa et al.\textsuperscript{[8]} in 1987 has reported the mean age at 43.55 years. This increase of one year could be attributed to improvement in socioeconomic status of women of this region over the period of 20 years. The positive correlation of better socioeconomic factors with the age at menopause has been reported by other authors as well.\textsuperscript{[6,10]}

It was also observed that menopause was reported nearly 2 years earlier in smokers, i.e., at 43 years of age as compared to nonsmokers, which is reported to be at 44.7 years. Smoking has been reported to be the most significant factor influencing the age at menopause.\textsuperscript{[1]}

Occurrence of menopause up to 2 years earlier as compared to nonsmokers has been reported by earlier studies as well.\textsuperscript{[14-17]} The effect may be dose related and may be mediated partly through lowered oestrogen concentrations.\textsuperscript{[18,19]}

This study has found majority of the women viewing menopause positively. Although menopause is a universal experience, the perception among women differs. Women in the Eastern societies have been reported to view menopause as a natural process and hold a positive attitude toward it,\textsuperscript{[20,21]} whereas it was found to be perceived negatively among Nigerian women.\textsuperscript{[21]}

Though the mean number of complaints were consistently

Table 2: Menopausal symptoms

| Symptoms                  | Age in years | <40 (n = 8) | 40–45 (n = 42) | 45–50 (n = 31) | ≥50 (n = 19) | Total (%) |
|---------------------------|--------------|-------------|----------------|----------------|-------------|-----------|
| Hot flashes               |              | 5           | 21             | 23             | 7           | 56        |
| Cold sweats               |              | 4           | 17             | 24             | 7           | 52        |
| Fatigue                   |              | 5           | 26             | 22             | 9           | 62        |
| Headache                  |              | 4           | 18             | 18             | 6           | 46        |
| Backache                  |              | 5           | 23             | 18             | 5           | 51        |
| Forgetfulness             |              | 3           | 17             | 17             | 7           | 44        |
| Depression                |              | 2           | 19             | 13             | 6           | 40        |
| Irritable                 |              | 3           | 19             | 15             | 5           | 42        |
| Excitable                 |              | 3           | 16             | 14             | 4           | 37        |
| Sleep disorders           |              | 4           | 14             | 10             | 4           | 32        |
| Dizzy spells              |              | 3           | 11             | 9              | 5           | 28        |
| Pounding of heart         |              | 3           | 13             | 11             | 5           | 32        |
| Cold hands                |              | 2           | 10             | 10             | 4           | 26        |
| Numbness                  |              | 2           | 10             | 10             | 4           | 26        |
| Crying spells             |              | 0           | 10             | 8              | 0           | 18        |
| Rheumatic pains           |              | 3           | 18             | 17             | 6           | 44        |
| Weight gain               |              | 4           | 6              | 8              | 5           | 23        |
| Excessive sweating        |              | 1           | 6              | 4              | 1           | 12        |
| Breast pain               |              | 2           | 3              | 4              | 3           | 12        |
| Formication               |              | 2           | 6              | 3              | 0           | 11        |
| Lo interest               |              | 0           | 12             | 9              | 4           | 25        |
| Constipation              |              | 0           | 1              | 7              | 2           | 10        |
| Diarrhea                  |              | 1           | 5              | 1              | 2           | 9         |
| Low vision                |              | 2           | 8              | 5              | 3           | 18        |
| Nervous breakdown         |              | 0           | 5              | 7              | 1           | 13        |
| Poor concentration        |              | 0           | 4              | 8              | 0           | 12        |
| Pressure tightness        |              | 0           | 7              | 12             | 1           | 20        |
| Breathing discomfort      |              | 0           | 10             | 8              | 0           | 18        |

Table 3: BMI and WHR of menopausal women

| Age at menopause | (BMI) | (WHR) | <18 | 18–24 | 25–29 | ≥30 | 0.7 | 0.8 | 0.9 | ≥1 |
|------------------|-------|-------|-----|-------|-------|-----|-----|-----|-----|-----|
| <40 years (n = 8)| 1     | 3     | 4   | 0     | 0     | 2   | 4   | 2   |     |    |
| 40–45 years (n = 42)| 1   | 23    | 12  | 6     | 0     | 11  | 19  | 12  |     |    |
| 45–50 years (n = 39)| 1  | 25    | 9   | 4     | 1     | 11  | 22  | 5   |     |    |
| ≥50 years (n = 11)| 0    | 7     | 2   | 2     | 0     | 2   | 7   | 2   |     |    |
| Total (n= 100)    | 3    | 58    | 27  | 12    | 1     | 26  | 52  | 21  |     |    |

BMI: Body mass index, WHR: Waist hip ratio

Figure 1: Comorbid conditions

Figure 2: Mean number of menopausal symptoms
more among the women in this study as compared to the observations by Bagga et al.[9] (Figure 2), mean number of symptoms was found to be increasing linearly with the rising age of the study subjects. Fatigue (62%) was the most common symptom reported followed by hot flashes (56%), cold sweats (52%), and backaches (51%) in this study, whereas Bagga et al. had observed loss of interest (93%), pressure/tightness in head & body (83%), weight gain (67%) and hot flashes (54%). Our observations also tend to differ from the study by Ozumba et al.[23] who have reported hot flushes (79.6%) to be the most prominent symptom followed by fatigue (74.8%) and joint pains (69.6%). WHO report[10] also highlights that symptoms of hot flashes are more prevalent in European and North American populations than in Asian and Central American regions.

Other preventable comorbid conditions were arthritis (25%), hypertension (23%), and diabetes (6%). Thirty nine percent of women were found having their BMI higher than the normal range and relationship between BMI and hypertension was found to be statistically significant (P < 0.05). Similar observations were also reported by Colin et al.[23] that BMI is positively and independently associated with hypertension in all ethnic groups.

Occurrence of arthritis was reported more in age groups of 40–50 years. This may be due to the fact that the women are more active during this period. The less reporting of women after the age of 50 years may be ascribed to their reduced level of physical activity.

Attention should be given to some methodological limitations. Because the diagnosis of menopause is often retrospective, most studies adopting this design, including the present one, have to rely on accurate knowledge and unbiased reporting of age. The accuracy of information depends upon period of time since menopause, alertness, motivation, and educational level of the women studied. The data reporting on age at menopause have been reported to be increasing within-person variance with increasing time from menopause.

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