Assessment of Morbidity Pattern and Its Knowledge Assessment of Peri- and Postmenopausal Women Using Menopause Rating Scale - A Cross-sectional Study

Priyanka Mahawar, Salil Sakalle, Sanjay Dixit, Deepika Rathore, Divya Gangwani

Department of Community Medicine, M.G.M. Medical College, Indore, Madhya Pradesh, India

ABSTRACT

Introduction: Menopause is a significant stage marking the end of a woman's reproductive life. During the transition to menopause, women may experience vasomotor, urogenital, psychosomatic, and psychological symptoms as well as sexual dysfunction. The prevalence of each of these symptoms varies widely not only between individuals in the same population but also between different populations. **Objective:** The objective of this study is to assess various health issues faced by peri- and postmenopausal women using menopause rating scale (MRS). **Methodology:** This was a cross-sectional observational study to assess various health issues faced by peri- and postmenopausal women using MRS system. **Result:** Most frequent somatic problems reported by the subjects in this study were sleep problems (79%), followed by joint and muscular discomfort (78%), heart discomfort, and hot flushes. Psychological problems reported are irritability and physical and mental exhaustion followed by depressive mood. Among the urogenital problems, the most frequent are bladder problems (83%), then dryness of vagina, and sexual problems. **Conclusion:** The study shows that peri- and postmenopausal women in India suffer from various signs and symptoms, physical, psychiatric as well as vasomotor. Only few of the women under the study were aware about the methods regarding the management of menopause. Thus, education regarding these changes would enable them to effectively deal with this transitory period.

Key words: Menopause rating scale, menopause, perimenopause

INTRODUCTION

Menopause is the permanent cessation of menstruation, resulting in the loss of ovarian follicle development. It is considered to occur when 12 menstrual cycles are missed.[1,2]

Menopausal transition, or perimenopause, is the period between the onset of irregular menstrual cycles and the last menstrual period. This period is marked by fluctuations in reproductive hormones[3] and is characterized by the following:

- Menstrual irregularities.
- Prolonged and heavy menstruation intermixed with episodes of amenorrhea.
- Decreased fertility.
- Vasomotor symptoms.
- Insomnia.

Some of these symptoms may emerge 4 years before menses cease, with a perimenopausal mean age of the onset of 47.5 years.[4] During the menopausal transition, estrogen levels decline and the levels of follicle-stimulating hormone and luteinizing hormone (LH) increase.

According to literature, at least 60% of women suffer from mild symptoms, 20% suffer from severe symptoms, and 20% from no symptoms.[5] A population-based study conducted in Sweden, the Women's Health in the Lund Area study, found that after controlling for other variables, the frequency and severity of hot flushes were more almost 3-fold higher in women who had oophorectomy, were over 50% higher in women who drinking large amounts of alcohol, and were 30% higher in women who gained weight. This study also assessed vaginal dryness, which is the symptom commonly, associated with atrophy of estrogen-sensitive tissue, although urinary difficulties such as stress incontinence can also occur.[6]

Investigators from the Harvard Study of Moods and Cycles recruited premenopausal women aged 36–44 years with no

Correspondence: Dr. Deepika Rathore, Department of Community Medicine, M.G.M. Medical College, Indore, Madhya Pradesh, India. Phone: +91-9098359350. E-mail: rathore.gwl@gmail.com

history of major depression and followed up these women for 9 years to detect new onsets of major depression; they found that women who entered perimenopause were twice as likely to have clinically significant depressive symptoms as women who had not yet made the menopausal transition.[7]

Insomnia occurs in 40–50% of women during the menopausal transition, and problems with sleep may or may not be connected to mood disorders.[8] One study suggested that elevated LH levels during late menopause produce poor sleep quality through a thermoregulatory mechanism, resulting in high core body temperatures.[9]

The present study was undertaken in a slum of Musakhedi which is also the field practice area of medical college (MGMMC), located at Indore district of Madhya Pradesh with a service approach to give health-care advice to the needy. Thus, considering the health-related issues related with menopause, the present study was conducted with the following objectives:

- To study the presence of known physical, psychological, and sexual health problems in peri- and postmenopausal condition.
- To find out the level of awareness of health-related problem in peri-/postmenopausal women.
- To study the level of preparedness for menopause among them.
- To assess their psychological stress, if any.

Subject Definitions

Perimenopausal women

For the case definition, a woman in her 40s, who is experiencing menstrual irregularities like duration between her periods changed to longer or shorter, flow was changed to light or heavy or skipped some periods. If there was a persistent change of 7 days or more in the length of menstrual cycle, she was considered to be in early perimenopause and a space of 60 days or more between periods is seen in late perimenopause.

Menopausal Women

One who has gone through 12 consecutive months without a menstrual period has reached menopause, and the perimenopause period is over.

METHODOLOGY

The present study was conducted in an urban slum of Indore in 2015 for 3 months. It is a cross-sectional observational study. The sample size was calculated by doing a pilot study on 10 women, and the prevalence of major symptoms found was 80%. Furthermore, the same was found by the literature search. According to the formula, sample size = $n = 4pq/l^2$ $P = 80$ (crude prevalence), $q = 100 - P = 20$, and $l = 10\%$ of P = (allowable error) = 8.

The required sample size was found to be 100. Informed consent was obtained from participants. First, 100 samples were chosen by door-to-door survey. Inclusion criteria for the study were women who gave consent for the study, women who have been experiencing menstrual irregularities for 6 months or more, and women with ceased menstrual period for 2 years. Women having active menstrual state or ceased menstrual period for more than 2 years, suffering from any systemic illness, and women on HRT or any known case of severe reproductive tract disease were not included in the study [Table 1].

Study Tool

The study procedure consisted of collecting data by the way of interview questionnaire. Menopausal rating scale (MRS) questionnaire[10] was used as a basis for assessing menopausal symptoms in this study; it is a self-administered instrument which has been widely used and validated. It is used in many clinical and epidemiological studies and in research on the etiology of menopausal symptoms to assess the severity of menopausal symptoms. The MRS is composed of 11 items and was divided into three subscales:

a. Somatic: Hot flushes, heart discomfort/palpitation, sleeping problems, and muscle and joint problems;
b. Psychological: Depressive mood, irritability, anxiety, and physical and mental exhaustion; and
c. Urogenital: Sexual problems, bladder problems, and dryness of the vagina.

The scoring is straightforward: The score increases point by point with increasing severity of subjectively perceived complaints in each of the 11 items (severity expressed in 0…4 points in each item). By checking these five possible boxes of "severity" for each of the items, the respondent provides his personal perception. The total score of the MRS ranges between 0 (asymptomatic) and 44 (highest degree of complaints).

The minimal/maximal scores vary between the three dimensions depending on the number of complaints allocated to the respective dimension of symptoms:

- Psychological symptoms: 0–16 scoring points (4 symptoms: Depressed, irritable, anxious, and exhausted)
- Somatovegetative symptoms: 0–16 points (4 symptoms: Sweating/flush, cardiac complaints, sleeping disorders, and joint and muscle complaints)
- Urogenital symptoms: 0–12 points (3 symptoms: Sexual problems, urinary complaints, and vaginal dryness).

The composite scores for each of the dimensions (sub-scales) are based on adding up the scores of the items of the respective dimension

Table 1: Disease spectrum of peri- and postmenopausal women

S.No.	Problems	Frequency (%)		Total (%)
		Menopausal women (total no=60)	Perimenopausal women (total no.=40)	
1.	Hot flushes and sweating	40 (66.6)	15 (37.5)	55
2.	Heart discomfort	44 (91.6)	30 (75)	74
3.	Sleep problems	48 (80)	31 (77.5)	79
4.	Depressive mood	41 (68.3)	22 (55)	63
5.	Irritability	47 (78.3)	34 (85)	84
6.	Anxiety	47 (78.3)	33 (82.5)	80
7.	Physical and mental exhaustion	51 (85)	33 (82.5)	84
8.	Sexual problems	37 (61.6)	24 (60)	61
9.	Bladder problems	46 (76.6)	36 (90)	83
10.	Dryness of vagina	40 (66.6)	26 (65)	66
11.	Joint and muscular discomfort	50 (83.3)	28 (70)	78

RESULTS

The present study was conducted in an urban slum of Indore on 100 peri- and postmenopausal females. The following are the results obtained. The majority of the women under the study were in the age group of 45–54 years. Majority of the women (68%) under the study were housewives. According to the study, 45% of women did not experience hot flushes and sweating while 34% experienced mild, 17% moderate, and 4% severe symptoms. According to the study, 74% experienced heart discomfort out of which 35% experienced mild, 31% moderate, 6% severe, and 2% very severe symptoms. According to the study, 63% women experience Depressive mood out of which 33% experienced mild, 18% severe, and 5% very severe symptoms. According to the study, 37% of women did not experience depressive mood while 33% experienced mild, 18% moderate, 5% severe, and 7% very severe symptoms. According to the study, 16% of women did not experience irritability while 37% experienced mild, 37% moderate, 7% severe, and 3% very severe symptoms. In the study, 20% of women did not experience anxiety while 43% experienced mild, 24% moderate, 10% severe, and 3% very severe symptoms. According to the study, 16% of women did not experience physical and mental exhaustion while 33% experienced mild, 40% moderate, 9% severe, and 2% very severe symptoms. 39% of women did not experience sexual problems while 24% experienced mild, 21% moderate, and 15% severe symptoms. According to the study, 17% of women did not experience bladder problems while 19% experienced mild, 40% moderate, 4% severe, and 1% very severe symptoms. According to the study, 45% of women did not experience dryness of vagina while 42% experienced mild, 21% moderate, 21% severe, and 1% very severe symptoms. According to the study, 22% of women did not experience joint and muscular discomfort while 39% experienced mild, 31% moderate, 6% severe, and 2% very severe symptoms.

According to the study, 51% of women consulted a doctor regarding menopause while 49% did not. According to the study, only 39% were aware about the management of menopause while 61% were not aware. According to the study, only 30% were aware about HRT while 70% were not aware. In the study conducted, 40% were peri-menopausal and 60% were postmenopausal women.

Table 2: Somatic score assessment according to MRS

Score	Postmenopausal women (%)	Perimenopausal women (%)
0–2	13.33	25.00
3–4	21.66	40.00
5–8	51.66	27.50
9	13.33	07.50

Table 3: Psychological score assessment according to MRS

Score	Postmenopausal women (%)	Perimenopausal women (%)
0	15.00	05.00
1	03.33	10.00
2–3	35.00	35.00
4+	46.66	50.00

Score Assessment

In the study conducted, according to the total score assessment, majority of postmenopausal women (41.66%) experienced severe symptoms while majority of perimenopausal women(47.5%) experienced moderate symptoms. In the study conducted, according to the psychological score assessment, majority of postmenopausal women (38.3%) experienced severe symptoms while majority of perimenopausal women (35%) experienced moderate symptoms. According to the somatic score assessment [Table 2], majority of postmenopausal women (51.66%) experienced moderate symptoms while majority of perimenopausal women

(40%) experienced mild symptoms. In the study conducted, according to the psychological score assessment, majority of postmenopausal (46.66%) and peri-menopausal (50%) women experienced severe symptoms [Table 3].

DISCUSSION

Although menopause is a universal phenomenon, there is a considerable variation among women regarding the age of attaining menopause. Worldwide, the estimates for the median age at menopause range from 45 to 55 years, with women from western countries having a higher menopausal age compared to women from other parts of the world. In the present study, mean age at menopause was 50.09 (±3.4) years and the median age is 50 years.

The variation regarding the age of attaining menopause could be because of regional, community, and ethnic variations. Genetic and environmental factors may also play a role.[11]

During the transition to menopause, women may experience vasomotor, urogenital, psychosomatic, and psychological symptoms, as well as sexual dysfunction. The prevalence of each of these symptoms varies widely not only between individuals in the same population but also between different populations. Furthermore, some women may become symptomatic in months, others may take years to develop symptoms, and some may never develop any symptoms.[11]

In the present study, hot flushes were reported by 55% of subjects. The prevalence of hot flushes in other studies conducted at different places as reported by the WHO (TRS, 1996) ranged from 0% to 80%. The prevalence has been reported to be nil in Mayan women, 10–22% in Hong Kong women, 17% in Japanese women, 23% in Thai women, 45% in North American women, and up to 80 % in Dutch women.[12]

Most frequent somatic problem reported by the subjects in this study was sleep problems (79%), followed by joint and muscular discomfort (78%), heart discomfort (74%), and hot flushes (55%). Comparable to these findings, in the study done by Anderson et al on Australian and Japanese women found that, 65.1% of Australian women and 46.9% of Japanese women reported the problem of sleep disturbance .[13]

The present study showed that the most frequent psychological problems reported are irritability (84%) and physical and mental exhaustion (84%), followed by depressive mood (63%).

Changes in β-endorphins and other opioids that occur during this period lead to an influence in the nervous transmitters of the GABA system and serotonin system. These changes may explain in part why many women experience psychic and psychologic symptoms around menopause. However, it is unclear to what degree each of these symptoms is related to estrogen withdrawal, aging, and/or environmental stress.[5]

Among the urogenital problems, the most frequent are bladder problems(83%), then dryness of vagina (66%), and sexual problems (61%). Comparable to the findings, Anderson *et al*. study on Australian and Japanese women reported that there were 71.5% Japanese and 70.4% Australian women who had loss of interest in sex.[13] Another study by Shah *et al*. on menopausal symptoms in urban Indian women of Mumbai showed that of 58.6% sexually active women, 20.6% of women had loss of sexual desire and 5.2% had problem of dyspareunia.[14]

The possible explanation for sexual problems may be the declining estrogen level, which accounts for diminished vaginal lubrication. The second reason could be that in a society of India, postmenopausal women are less active sexually as they become involved in taking care of their grandchildren and in performing religious activities such as offering prayers and other rituals.

According to this study, irritability, anxiety, and bladder problems were experienced mostly by perimenopausal women followed by postmenopausal women, whereas heart discomfort, sleep problems, depressive mood, and joint and muscular discomfort were mostly experienced by postmenopausal women.

According to the present study, only 39% of the total women under the study were aware about the methods regarding management of menopause. Majority of women are not aware of therapy of menopause and fewer have heard of hormonal therapy.

CONCLUSIONS

The study shows that post- and perimenopausal women in India suffer from various signs and symptoms, physical, psychiatric as well as vasomotor, related to menopausal hormonal changes with varied frequencies. According to the present study, only few of the women under the study were aware about the methods regarding the management of menopause. Thus, preventive strategies are also need to be disseminated well in those women who are approaching their menopause so that the frequencies and the severity of such symptoms could be minimized. This would enable them to effectively deal with this transitory period and seek appropriate medical care, if necessary.

Women should consult their doctor about the ways of managing menopause. They should report doctor the symptoms such as irregular bleeding, urinary frequency and burning, vaginal dryness and itching, and sleep disturbances. Lifestyle modifications can help in reducing and managing health issues associated with menopause:

Regular exercise such as yoga and meditation can reduce stress, sleep problems, and cardiovascular risks. Avoid smoking and limit alcohol consumption. Adopting healthy diet such as consuming a wide variety of vegetables and fruits, whole grains, and soy products (soy milk or tofu). Limit salt, cholesterol, and fat in the diet. Calcium-rich diet such as milk and dairy products may help in reducing the risk of osteoporosis. Socializing and staying involved in family activities that they enjoy helps in relieving stress and anxiety. Limit or avoid sleeping pills for sleep problems. Avoiding late meals and filling snacks before going to bed may help in reducing sleep issues.

REFERENCES

1. Sherwin B. Menopause: Myths and realities. In: Stotland NL, Stewart DE, editors. Psychological Aspects of Women's Health Care: The Interface Between Psychiatry and Obstetrics and Gynecology. 2nd ed. Arlington, VA: American Psychiatric Publishing; 2001. p. 241-59.
2. Spinelli MG. Depression and hormone therapy. Clin Obstet Gynecol 2004;47:428-36.
3. Soares CN, Taylor V. Effects and management of the menopausal transition in women with depression and bipolar disorder. J Clin Psychiatry 2007;68 Suppl 9:16-21.
4. Baram D. Physiology and symptoms of menopause. In: Steward DE, Robinson GE, editors. A Clinician's Guide to Menopause. Washington, DC: Health Press International; 1997. p. 9-28.
5. Sharma S, Tandon VR, Mahajan A. Menopausal symptoms in Urban women. JK Sci 2007;9:13-7.
6. Li C, Samsioe G, Borgfeldt C, Lidfeldt J, Agardh CD, Nerbrand C, *et al*. Menopause-related symptoms: What are the background factors? A prospective population-based cohort study of Swedish women (The women's health in Lund area study). Am J Obstet Gynecol 2003;189:1646-53.
7. Cohen LS, Soares CN, Vitonis AF, Otto MW, Harlow BL. Risk for new onset of depression during the menopausal transition: The Harvard study of moods and cycles. Arch Gen Psychiatry 2006;63:385-90.
8. Soares CN, Joffe H, Steiner M. Menopause and mood. Clin Obstet Gynecol 2004;47:576-91.
9. Murphy PJ, Campbell SS. Sex hormones, sleep, and core body temperature in older postmenopausal women. Sleep 2007;30:1788-94.
10. Heinemann LA, Potthoff P, Schneider HP. International versions of the menopause rating scale (MRS). Health Qual Life Outcomes 2003;1:28.
11. McKinlay S, Jeffery M, Thompson B. An investigation of the age at menopause. J Biosac Sci 1972;4:161-73.
12. Boulet MJ, Oddens BJ, Lehert P, Vemer HM, Visser A. Climacteric and menopause in seven South-East Asian countries. Maturitas 1994;19:157-76.
13. Anderson D, Yoshizawa T, Gollschewski S, Atogami F, Courtney M. Relationship between menopausal symptoms and menopausal status in Australian and Japanese women: Preliminary analysis. Nurs Health Sci 2004;6:173-80.
14. Shah R, Kalgutkar S, Savardekar L, Chitlang S, Iddya U, Balaiah D. Menopausal symptoms in Urban Indian women. Indian J Obs Gynae Today 2004;11:667-70.