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Original Research Article

Assessment of menopausal symptoms using modified menopause rating scale (MRS) in women of Northern India

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ABSTRACT

Background: Menopause is defined as complete cessation of menses for twelve months or more. It is a normal physiological change experienced by middle aged women and some of the menopausal symptoms experienced by these women can be severe enough to affect their normal daily activities.

Methods: An observational cross sectional study was carried out in the Department of Obstetrics and Gynecology, Era's Lucknow Medical College and hospital, Lucknow for a period of one year. 300 patients who had attained menopause were analyzed. Menopausal symptoms were assessed using Modified Menopause Rating Scale (MRS).

Results: Majority of patients attained menopause at the age of 50-54 years and the calculated mean age came to be 50.33 ± 5.26 . The most common symptom reported was joint and muscular discomfort (87%), depressive mood (70%), heart discomfort (60.3%), physical and mental exhaustion (60%), sleep problems (56%). The most classical symptom of menopause i. e. hot flushes was reported in 53.3%. Prevalence of other symptoms in decreasing order were irritability (46.6%), anxiety (40.3%), bladder problem (26%), dryness of vagina (23%), sexual problems (20%). The menopausal symptoms were found to be more prevalent in women of lower socio economic strata and those who had no formal education and this difference was found to be statistically significant.

Conclusions: 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 intervention for postmenopausal women through the existing health centres by having geriatric clinics.

Keywords: Menopause, Menopausal symptoms, Modified menopause rating scale, Postmenopausal symptoms

INTRODUCTION

Menopause is defined as complete cessation of menstruation for twelve months or more as a result of complete loss of ovarian follicular activity. Menopause is indeed a unique stage of female reproductive cycle. In the current scenario with the better availability of health services the life expectancy has increased, and as result the women are more likely to spend a significant part of their life during this phase of menopause.

Although it is a normal physiological change but sometimes the symptoms of menopause can be so severe

that they can hamper day to day activity and unfortunately most women are unaware of certain menopausal changes.¹ These symptoms are mainly because of depletion of estrogen levels as the women approaches menopausal stage and even these symptoms can be experienced in perimenopausal phase. Worldwide, the estimates for the mean age of menopause range from 40-65 years. During the transition to menopause, women may experience vasomotor, urogenital, psychosomatic, psychological as well as sexual dysfunction.^{1,2}

The average age of menopause in Indian women is 47.5 years according to Indian Menopause Society (IMS)

research which is much less than their western counter parts (51 years). So, menopausal health demands even higher priority in Indian scenario.³

It was also seen in some post-menopausal women that because of long term estrogen deficiency, there can be changes in cardiovascular system or bone which can lead to osteoporosis.

METHODS

This is an observational cross-sectional study conducted from January 2016 to December 2016 in the department of Obstetrics and Gynaecology, Era's lucknow Medical College. A total of 300 women between the age of 40-65 years were enrolled for the study who attended the gynaecology OPD and gave consent to participate in the study.

The exclusion criteria were pregnant and breast-feeding women, women with uncontrolled medical conditions such as hypertension, diabetes mellitus, heart disease, cancer, history of drug or alcohol abuse, on hormone replacement therapy. Institutional Ethical Committee approved the study.

It is a questionnaire-based study which made use of the menopausal rating scale(MRS) questionnaire as a basis for assessing menopausal symptoms. MRS is a self-administered instrument which is a validated scale and has been used in many clinical and epidemiological studies, and in research on the etiology of menopausal symptoms to assess the severity of menopausal symptoms.⁴

The MRS is composed of 11 items and is divided into three sub scales:

- Somatic- hot flushes, heart discomfort/palpitation, sleeping problems and muscle and joint problems.
- Psychological- depressive mood, irritability, anxiety and physical and mental exhaustion.
- Urogenital- sexual problems, bladder problems and dryness of the vagina. Each of the 11 symptoms contain a scoring scale from "0" (no complaints) to "4" (very severe symptoms).

Socio demographic data which included age, religion, marital status, educational level, occupation and average household income was also collected.

The questionnaire was in English language and women were interviewed face to face. They were given this questionnaire and were asked whether or not they had experienced the 11 menopausal symptoms and depending upon the severity of these symptoms they were marked from "0" to "4". All the women were interviewed in Hindi language. They were explained the various menopausal symptoms and face to face communication with the women was done by trained health professional so as to make sure that right responses were received and also a

proper explanation can be given to women if they had doubts. This modification done in the menopausal rating scale was pretested on 25 women to check for its validity. All the women who fulfilled the criteria were invited to participate in the study. A written informed consent was taken from them.

Statistical analysis

The statistical analysis was done using the Chi square test. P value <0.05 was taken to be statistically significant.

RESULTS

Three hundred women completed the study. The mean age of menopause in this study was 50.33±5.26 years ranging between 50-54 years (Table 1).

Table 1: Age at menopause (n=300).

Age at menopause	No. of patients	%
40-44	63	21
45-49	72	24
50-54	100	33.3
55-59	35	11.6
60-65	30	10

Chi sq= 54.63, p<0.001 the difference in proportion of various ages is highly significant.

Out of the 300 women with menopausal symptoms, 210 i.e. 70% were married (Table 2) and 61% (183) were illiterate (Table 3). The co-relation between illiteracy and presence of menopausal symptom was found to be statistically significant.

Table 2: Marital status (n=300).

Marital status	No. of patients	%
Married	210	70
Widow	87	29
Divorced	3	1

Table 3: Distribution of cases according to education (n=300).

Education level	No. of patients	%
uneducated	183	61
primary	97	32.3
middle	20	6.6
Higher secondary	0	0
graduate	0	0
PG	0	0

Chi sq= 132.98, p<0.001 the difference in proportion of education levels is highly significant

On the basis of the socioeconomic status majority of the women ranging almost 82% belongs to the lower socioeconomic status (Table 4). The women belonging to lower socioeconomic status were found to have more

menopausal symptoms and this was statistically significant.

Table 4: distribution of cases according to socioeconomic status (n=300).

Socioeconomic status	No. of patients	%
lower	246	82
middle	52	17.3
upper	2	0.66

Chi sq = 126.3, p< 0.001 the difference in proportion of SES is highly significant

Table 5 shows the frequency and severity of menopausal symptoms as assessed by the menopausal rating scale.

The most prevalent menopausal symptom in present study was joint and muscular pain 261 (87%), followed by depressive mood 210 (70%). This was followed by heart discomfort 181 (60.3%), physical and mental exhaustion 180 (60%), sleep problems 168 (56%), hot flushes 160 (53.3%), irritability 140 (46.6%), anxiety 121 (40.3%), bladder problems 78 (26%), dryness of vagina 69 (23%) and sexual problems 60 (20%).

Table 5: Frequency of menopausal symptoms assessed by MRS.

Menopausal symptoms	No. of patients	Mild	Moderate	Severe	Very severe
Hot flushes	160 (53.3%)	73 (45.6%)	47 (29.3%)	40 (25%)	0
Heart discomfort	181 (60.3%)	104 (57.4%)	49 (27%)	20 (11.04%)	8 (4.41%)
Sleep problems	168 (56%)	118 (70.2%)	22 (13%)	21 (12.5%)	7 (4.1%)
Depressive mood	210 (70%)	28 (13.3%)	169 (80.4%)	12 (5.7%)	1 (0.47%)
Irritability	140 (46.6%)	96 (68%)	16 (11.4%)	26 (18.5%)	2 (1.42%)
Anxiety	121 (40.3%)	56 (46.2%)	52 (42.9%)	10 (8.26%)	3 (2.47%)
Physical and mental exhaustion	180 (60%)	70 (38.8%)	69 (38.3%)	33 (18.3%)	8 (4.4%)
Sexual problems	60 (20%)	42 (70%)	8 (13.3%)	9 (15%)	1 (1.6%)
Bladder problems	78 (26%)	62 (79%)	10 (12.8%)	6 (7.6%)	0
Dryness of vagina	69 (23%)	54 (78%)	8 (14.8%)	5 (7.24%)	2 (2.8%)
Joint and muscular pain	261 (87%)	29 (11.11%)	21 (8.04%)	200 (76.62%)	11 (4.21%)

When we look at the severity, it was seen that joint and muscular pain symptoms were of severe quality. Majority of the hot flushes, heart discomfort, sleep problems, irritability, sexual problems, bladder problems, dryness of vagina were of mild severity. Depressive symptoms were moderate.

DISCUSSION

Ageing is an inevitable phenomenon and with it are associated certain conditions which affects quality of life. Menopause is one such reality of life. Menopause is characterised by an oestrogen deficient state and as many organs of the body are sensitive to oestrogen, a decrease in oestrogen level gives rise to a number of physical, psychological and sexual changes. The frequency of symptoms varies over time. Some happen frequently in the perimenopause and decrease over time, while others increase progressively from perimenopause to postmenopause and become more severe towards the end of life.⁵

The mean age at menopause in our study was 50.33 years+5.26 years which is somewhat earlier when compared to western counter parts which is around 51.14+2.11 years worldwide.⁶ However it is slightly higher than the average age of menopause as found by Indian menopause society which is around 47.5 years.³

In various other studies, the mean age of menopause fell between 49.4 to 51.1 years. The studies done in Thailand (48.7 years) Singapore (49.1 years) and other studies on Asian women our findings also show similar age of menopause.^{4,7-10}

The assessment tool which we used in present study was based on Menopause rating scale (MRS) questionnaire. There are various tools available to assess the menopausal symptoms but we used MRS questionnaire as this tool has been widely used in many epidemiological studies. These questionnaires have been validated and used in many languages after translation.

It is originally a self administered questionnaire and it assesses the frequency as well as the grades of severity of various symptoms. In our study we did a slight deviation by administrating the questionnaire to the respondents and instead of the respondents filling up the questionnaire alone, we did a face to face interaction with the respondents.

A health-personnel explained the questionnaire to the respondents and based on their response filled up the questionnaire. The MRS questionnaire could not be self administered because of many difficulties like few respondents could not understand the English language while some where there who had no formal education or

only studied primary level. The aim of involving a health personnel and a face to face interaction was to minimize the reporting error.

In present study, out of the 300 respondents with either one or multiple menopausal symptoms, 183 had no formal education. This difference in proportion of education levels is highly significant. Thus, we can conclude that females who are uneducated were having more subjective perception of menopausal symptoms.

In various previous studies also it was shown that menopausal symptoms were inversely related with educational level.¹¹⁻¹³ In a study by Lee et al, it was shown that subject's income was related to their educational level and low income could be one of the risk factors for more severe menopausal symptoms.¹⁴

However in a study by Joseph et al they found educated women having more menopausal symptoms.¹⁵ Similarly, the respondents belonging to lower socio-economic strata were found to have more menopausal symptoms and this difference in proportion we found to be statically significant. It was shown by Lee et al in his study that subject's income was related to their educational level and low income could be one of the risk factors for more severe menopausal symptoms.¹⁴

The most common symptom which we encountered in our study was joint and muscular pain (87%). This finding was consistent with many other studies where the same problem was found to be prevalent. In a study by Cheng et al and Hafiz et al also found joint and muscular pain as the predominant symptom.^{16,17} Rahman et al also found joint and muscular pain as the most prevalent symptom.⁴

The classical symptom of menopause i.e. hot flushes, sweating and night sweats were found in 53% of respondents. Rahman et al in his study found 41.6% of women complaining of hot flushes and night sweats.⁴ However, a study done in Turkey by Yanikkerem et al claimed that women mostly complained of vasomotor symptoms especially hot flushes (79.6%).¹⁸

Differences in norms and traditions, culture, sources of food and others styles of life play an important role in the prevalence of menopause symptom.¹⁸

Other symptoms which added to the decrease in quality of life in our study were depressive mood (70%), physical and mental exhaustion (60%) Heart discomfort (60.3%) and sleep problem (56%). Rahman et al also found similar results when looking at physical and mental exhaustion (67%) and sleep problem (52%) however depressive mood (32%) heart discomfort (18%) were less prevalent in his study.⁴

In a study by Pal A et al, the prevalence of physical and mental exhaustion was found to be much more higher (86%).¹⁹ The urogenital problems like sexual problems

(20%) and dryness of vagina were found to be less prevalent and if present then the symptoms were mild.

Avanie pal et al found in their study that bladder problem (56%) and vaginal dryness (53.3%) were much prevalent.¹⁹ Thus, the variation in the prevalence of different menopausal symptoms at different places is highly dependent on the tradition, culture, sources of food and other styles of life.¹⁸ Thus, we have to understand that menopause is a stage of reproductive life cycle of woman. Menopause is a bio psychological phenomenon and is a natural aging process which signals a decline in body function.^{20,21} The body undergoes various physiological changes due to the estrogen deficiency. This needs the combined medical and psychosocial support. Hence, the women can have the strength to overcome the severity of changes which affects the wellbeing of women.²⁰

There were several limitations in our study. Although attempts were made to ensure that the data collection was appropriate, however when women were asked to provide some retrospective information such as menopausal symptoms experienced in the preceding one month, last menstruation, Recall bias was unavoidable, especially for some elderly women.

Secondly the MRS questionnaire could not be self administered as many women did not know English and some had no formal education, so the questionnaire was explained to them in their language (Hindi) by a health personnel in a one to one interview and filled accordingly. Before embarking on the study, this method was pretested on 25 respondents to ensure that they understood the questionnaire.

CONCLUSION

This study on menopausal women of Northern India between the ages 40-65 years was done using modified menopausal rating scale(MRS). The mean age of menopause in our study was 50.33±5.26 years.

The educational level and socioeconomic status level had inverse relationship with the menopausal symptoms showing that respondents of lower socio-economic strata and uneducated were more prone to experience menopausal symptoms This relationship was found to be statistically significant.

The most common symptom reported in present study was joint and muscular discomfort (87%), depressive mood (70%) heart discomfort (60%), and physical and mental exhaustion (60%).Next came in order were hot flushes (53%), sleep problems (56%), Irritability (46) and anxiety (40.3%). The urogenital symptoms were found to be less prevalent like sexual problems, bladder problem and dryness of vagina.

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 intervention for postmenopausal women through the existing health centres by having geriatric clinics.

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