Original Research Paper

# Assessment of Menopausal Symptoms using Modified Menopause Rating Scale among women coming to MGM Medical College and Hospital, Aurangabad.

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**ABSTRACT:**
**Introduction:** Menopause is defined as permanent cessation of menstruation at the end of reproductive life due to loss of ovarian follicular activity leading to a stage of estrogen deficiency with long term symptomatic and metabolic complications. Although the various menopausal symptoms have been studied, there is only a few documentations about the same in India. Hence, this study is done to document the various menopausal symptoms and their severity; to study the association of various factors with the severity of symptoms; and to assess the level of health awareness about menopause. **Method:** It is a cross-sectional study done over a period of 6 months wherein 151 postmenopausal women who had come to MGM MCHA were interviewed. The various menopausal symptoms and their severity were documented using a self-designed questionnaire and validated modified menopause rating scale. Test of significance was applied to check the association of various factors with the severity of the symptoms. The level of health awareness about menopause was also studied. **Result:** The mean age at menopause was 47.2318 ±0.667 years. The most prevalent symptoms reported were hot flushes (74, 49%), followed by irritability (73, 48.34%) and anxiety (67, 44.37%). There was significant association of lifestyle, parity, and duration since menopause with the severity of menopausal symptoms, whereas; there is no significant association between the age of women and the type of menopause with the severity of menopausal symptoms. Health awareness was poor among the postmenopausal women in relation to their symptoms, investigations and treatment of menopausal symptoms. **Conclusion:** Menopause is a neglected condition for most of the women. The study emphasizes that counselling is important to improve the overall state of the menopausal women. It also highlights that physical activity may play a protective role in decreasing the severity of the symptoms.

*Keywords: menopause, menopause rating scale, menopausal symptoms, health awareness*

## INTRODUCTION:

Menopause is defined as permanent cessation of menstruation (for consecutively 12 months in the absence of any other pathology) at the end of reproductive life due to loss of ovarian follicular activity. [1] It is an estrogen deficient phase, producing manifestations of decreased ovarian function in the form of vasomotor, psychomotor and urogenital symptoms [2]. Due to increased life expectancy, majority of women's age is spent in period of estrogen deficiency stage. In general, natural menopause occurs between 45 to 55 years of age and in India, the range of mean age at menopause reported in different studies is between 42 and 49 [3] and majority of women are symptomatic between 44 to 55 years of age. These symptoms which can affect the women's participation in paid employment and performance at work are often overlooked and have negative impact on quality of life in these women.

Although there is much data in western countries, there is only a limited data on the menopausal symptoms in the South East Asia [4]. Hence, it is pertinent that we are aware of these symptoms so that we can take necessary steps for the prevention and treatment of the same for the betterment of the women. Therefore, this study is aimed at assessing the menopausal symptoms and determining their variations with different factors.

## MATERIAL AND METHODS:

It is a cross-sectional study conducted in the Department of Obstetrics and Gynaecology, MGM Medical College and Hospital, Aurangabad over a period of 6 months from March, 2022 to August, 2022 where 151 menopausal women were interviewed using self-designed questionnaire and a validated Modified Menopause rating Scale (MRS).

### The questionnaire included:

a.) sociodemographic data- age, education, predominant lifestyle;
b.) menstrual and reproductive data- age at menopause, type of menopause, duration since menopause, parity and marital status;
c.) MRS; and
d.) health awareness about the menopausal symptoms, screening tests- USG, Pap smear, Breast examination, DEXA scan, and treatment options for them- HRT.

### MRS

MRS was developed by Schneider et al. in the early 1990's at the Berlin Center for Epidemiology and Health Research. [3] The objectives were to measure health-related quality of life (QoL) or severity of complaints in aging women, in a standardized way, overtime and across different cultures; and to measure changes before and after treatment with HRT. [5] Original MRS was designed to provide physicians with a scale that documented changes in climacteric symptoms during treatment. Later, modifications to the scale were done by adding psychometric analysis of the collected data and development of simple-to-use evaluation aids.

### MRS consists of 11 items divided into three domains:

- somatic,
- psychological
- urogenital

Each item has 5 degrees of severity of symptoms (Likert scale): none (0), mild (1), moderate (2), severe (3) and very severe (4). The composite scores for each of the three dimensions (sub-scales) is based on adding up the scores of the items of the respective dimensions. The composite score (total score) is the sum of the three-dimension scores.

**Figure No. 1: Menopause Rating Scale**



Menopause Rating Scale (MRS)

- **Inclusion Criteria:**
a. Women who have given consent to participate
- **Exclusion Criteria:**
a. Women with uncontrolled medical conditions such as hypertension, diabetes mellitus or heart disease
b. Women suffering from arthritis
c. Women who are undergoing treatment for cancer

**Study Procedure**: With ethical committee approval and participant consent, 151 postmenopausal women were interviewed according to the proforma. After calculating the total score from the MRS, the scores were divided into three categories [6][7]:
- No symptoms: total score = 0
- Little to mild symptoms: total score 1 to 8
- Moderate to severe symptoms: total score = $\geq 9$

The entire data was compiled in MS Excel. Qualitative data is presented in the form of frequency and percentages. Quantitative data is presented in the form of mean and standard deviation. Both quantitative and qualitative data is presented in the form of visual representations like bar diagram, pie chart etc. Chi square tests were applied to check significant association between different attributes and p value checked at 5% level of significance. Severity of the symptoms were compared among different groups – age of menopause, lifestyle, parity, type of menopause and duration since menopause. Level of health awareness is represented in the form of percentages.

**RESULTS**:
The results of the study are described under the following headings:
A. Distribution of sociodemographic, reproductive and menstrual data
B. Distribution of menopausal symptoms and their severity
C. Association of various characteristics with the severity of the symptoms
D. Level of health awareness about menopause

**A. Distribution of sociodemographic, reproductive and menstrual data:**

A total of 151 women who had the last menstrual period 1 year ago were interviewed for this study.

| Table 1: Sociodemographic data of the study population (n= 151) | |
|---|---|
| **Characteristic** | **n (%)** |
| Age (years) | |
| - 40 – 45 | 10 (06.62) |
| - 46 – 50 | 44 (29.14) |
| - 51 – 55 | 50 (33.11) |
| - 56 – 60 | 47 (31.13) |
| Educational Status | |
| - Post-graduate | 00 (00.00) |
| - Graduate | 00 (00.00) |
| - Higher secondary education | 00 (00.00) |
| - Secondary education | 03 (01.99) |
| - Primary education | 93 (61.59) |
| - Uneducated | 55 (36.42) |
| Marital Status | |
| - Married | 119 (78.81) |
| - Widow | 32 (21.19) |
| - Separated | 00 (00.00) |
| - Unmarried | 00 (00.00) |
| Predominant Lifestyle | |
| - Sedentary | 69 (45.70) |
| - Low-activity | 48 (31.79) |
| - Physically active | 34 (22.52) |

In our study the mean age of participants was 52.7616 ±0.715 years (calculated at 95% confidence interval). Most women (n = 50, 33.11%) were of ages 51-55 years, had primary education (n = 93, 61.59%), were married (n = 119, 78.81%) and had a predominantly sedentary lifestyle (n = 69, 45.10%).

| Table 2: Reproductive and menstrual characteristics (n= 151) | |
|---|---|
| **Characteristic** | **n (%)** |
| Parity | |
| - Primipara | 12 (00.79) |
| - Multipara | 113 (74.83) |
| - Grand multipara | 26 (17.22) |
| Type of menopause | |
| - Spontaneous | 124 (82.12) |
| - Iatrogenic | 27 (17.88) |
| Duration since menopause (years) | |
| - 1 – 5 | 93 (61.59) |
| - 6 – 10 | 40 (26.49) |
| - 11 – 15 | 13 (08.61) |
| - 16 – 20 | 05 (03.31) |

The mean age at menopause was 47.2318 ±0.667 years (calculated at 95% confidence interval). The mean of duration since menopause was 5.5232 ±0.652 years (calculated at 95% confidence interval). Among those interviewed, most were multipara (n = 113, 74.83%), attained spontaneous menopause (n = 124, 82.12%) and had duration since menopause 1-5 years (93, 61.59%).
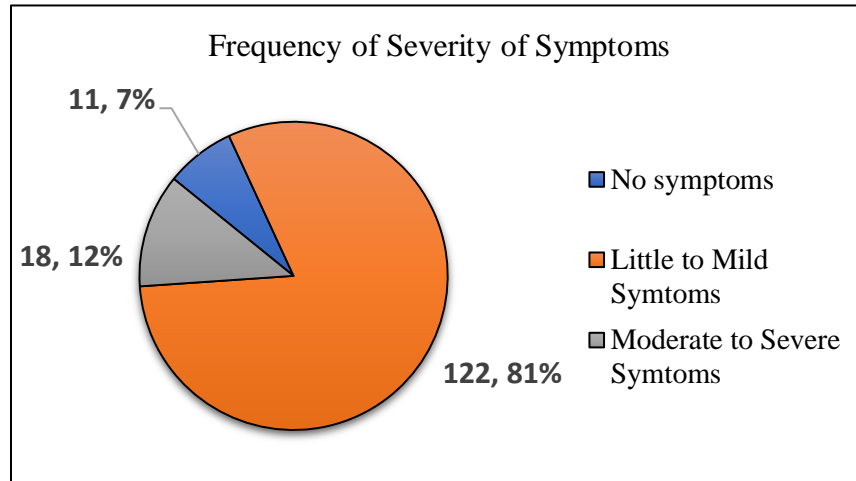
## B. Distribution of menopausal symptoms and their severity:

**Figure 2: Distribution of menopausal symptoms**
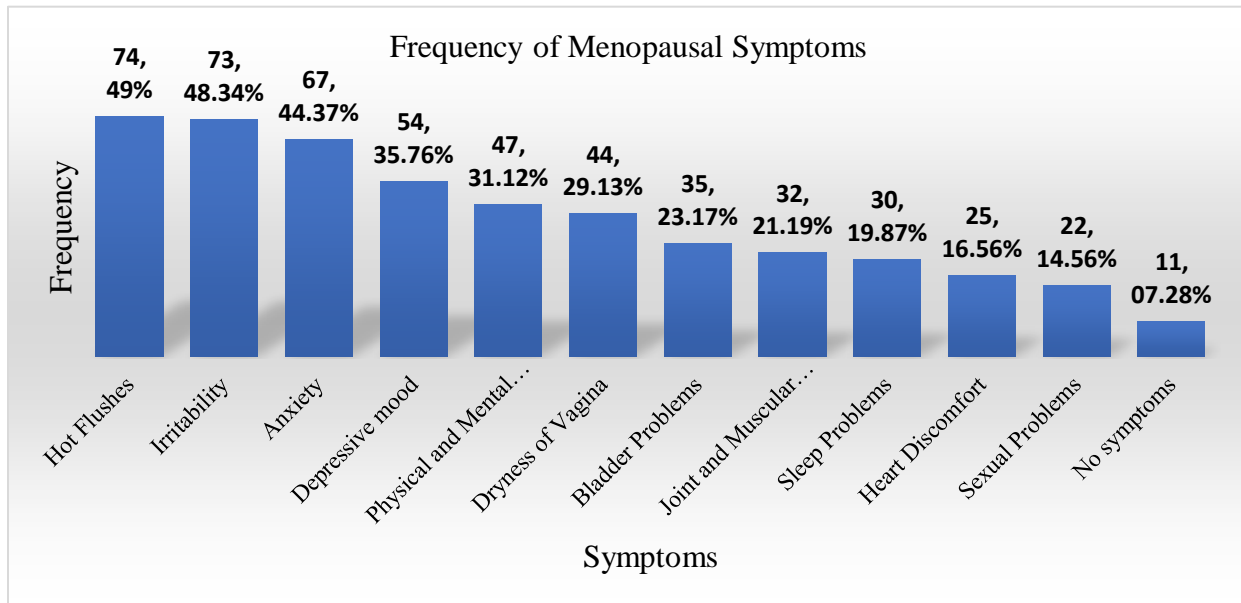


Among the women interviewed, most of the women experienced hot flushes (74, 49%), followed by irritability (73, 48.34%) and anxiety (67, 44.37%). The other symptoms which were observed are shown in the Figure 2.

**Figure 3. Distribution of severity of symptoms**



Most women (122, 81%) had little to mild symptoms.

## C. Association of various characteristics with the severity of the symptoms:

After assessing the frequency of menopausal symptoms and their severity in women, the association of severity of the symptoms were checked with age of participant, predominant lifestyle, parity, type of menopause and duration since menopause.

**Table No. 3: Association of age with the severity of the menopausal symptoms**

| Age in years | No Symptoms | Little to Mild Symptoms | Moderate to Severe Symptoms | Row Totals |
|---|---|---|---|---|
| **41 to 45** | 1 (10.00 %) | 7 (70.00 %) | 2 (20.00 %) | 10 |
| **46 to 50** | 5 (11.36 %) | 34 (77.27 %) | 5 (11.36 %) | 44 |
| **51 to 55** | 3 (06.00 %) | 41 (82.00 %) | 6 (12.00 %) | 50 |
| **56 to 60** | 2 (04.26 %) | 40 (85.11 %) | 5 (10.64 %) | 47 |
| **Column Totals** | 11 | 122 | 18 | 151 (Grand Total) |

(*Note: 1. Figures in brackets indicate percentages
2. Percentages are calculated row wise)
$\chi^2$ = 2.7646, p value = 0.837764 (Not Significant)

Statistical analysis shows that there is no significant association between age of the participant and the severity of the symptoms experienced by them.

**Table No. 4: Association of predominant lifestyle of participants with the severity of the menopausal symptoms**

| Predominant lifestyle | No Symptoms | Little to Mild Symptoms | Moderate to Severe Symptoms | Row Totals |
|---|---|---|---|---|
| **Sedentary** | 3 (04.35 %) | 61 (88.41 %) | 5 (07.25 %) | 69 |
| **Low active** | 1 (02.08 %) | 41 (85.42 %) | 6 (12.50 %) | 48 |
| **Physically Active** | 7 (20.59 %) | 20 (58.82 %) | 7 (20.59 %) | 34 |
| **Column Totals** | 11 | 122 | 18 | 151 (Grand Total) |

(*Note: 1. Figures in brackets indicate percentages
2. Percentages are calculated row wise)
$\chi^2$ = 16.934, p value = 0.001991 (Significant)

Statistical analysis shows that there is significant association between predominant lifestyle of the participant and the severity of the symptoms experienced by them. Out of all the women who experienced little to mild symptoms, maximum had sedentary lifestyle and the least number had physically active lifestyle.

**Table No. 5: Association of parity of participants with severity of menopausal symptoms**

| Parity | No Symptoms | Little to Mild Symptoms | Moderate to Severe Symptoms | Row Totals |
|---|---|---|---|---|
| **Primipara** | 3 (25.00 %) | 6 (50.00 %) | 3 (25.00 %) | 12 |
| **Multipara** | 7 (06.19 %) | 95 (84.07 %) | 11 (09.73 %) | 113 |
| **Grand multipara** | 1 (03.85 %) | 21 (80.77 %) | 4 (15.38 %) | 26 |
| **Column Totals** | 11 | 122 | 18 | 151 (Grand Total) |

(*Note: 1. Figures in brackets indicate percentages
2. Percentages are calculated row wise)
$\square^2$ = **9.7714, p value = 0.04446 (Significant)**

Statistical analysis shows that there is significant association between parity of the participant and the severity of the symptoms experienced by them. It is found that as the parity increases the severity of symptoms increases. Primipara have least symptoms compared to multipara and grand-multipara.

**Table No. 6: Association of type of menopause with the severity of symptoms**

| Type of Menopause | No Symptoms | Little to Mild Symptoms | Moderate to Severe Symptoms | Row Totals |
|---|---|---|---|---|
| **Spontaneous** | 8 (06.45 %) | 101 (81.45 %) | 15 (12.10 %) | 124 |
| **Iatrogenic** | 3 (11.11 %) | 21 (77.78 %) | 3 (11.11 %) | 27 |
| **Column Totals** | 11 | 122 | 18 | 151 (Grand Total) |

(*Note: 1. Figures in brackets indicate percentages
2. Percentages are calculated row wise)
$\square^2$ = **0.7159, p value = 0.699104 (Not Significant)**

Statistical analysis shows that there is no significant association between type of menopause attained by the participant and the severity of the symptoms experienced by them. But is evident that spontaneous menopause is associated with more symptoms even though is not statistically significant

**Table No. 7: Association between duration since menopause with the severity of symptoms**

| Duration since menopause in years | No Symptoms | Little to Mild Symptoms | Moderate to Severe Symptoms | Row Totals |
|---|---|---|---|---|
| **1 to 5** | 5 (05.38 %) | 80 (86.02 %) | 8 (08.60 %) | 93 |
| **6 to 10** | 3 (07.50 %) | 34 (85.00 %) | 3 (07.50 %) | 40 |
| **11 to 15** | 1 (07.69 %) | 6 (46.15 %) | 6 (46.15 %) | 13 |
| **16 to 20** | 2 (40.00 %) | 2 (40.00 %) | 1 (20.00 %) | 5 |
| **Column Totals** | 11 | 122 | 18 | 151 (Grand Total) |

(*Note: 1. Figures in brackets indicate percentages
2. Percentages are calculated row wise)
$\square^2$ = **25.7483, p value = 0.000248 (Significant).**

Statistical analysis shows that there is significant association between duration since menopause of a participant and the severity of the symptoms experienced by them. Among all the women who have little to mild symptoms, maximum had duration of 1 to 5 years and symptoms of menopause are predominantly seen in 1st 5 years post menopause.

### D. Level of health awareness about menopause:

It was observed that none of the women that were included in the study have the awareness about the menopausal symptoms, the screening investigations available after menopause and the treatment options available for the treatment of menopausal symptoms.

## DISCUSSION:

In our study the mean age of the respondents was 52.7616 ±0.715 years and the mean age at menopause was 47.2318 ±0.667 years. These statistics are similar to the studies conducted in North-Indian population [7], Pakistan [8], Riyadh [9], whereas; the mean age in our study was slightly lower than those conducted in Bangladesh [4], Malaysia [10]. However, our findings still fall between the normal range of menopausal age as seen in India [3].

In our study it was found out that the most common menopausal symptoms experienced were hot flushes (74, 49%), followed by irritability (73, 48.34%) and anxiety (67, 44.37%). These findings are similar to study done by AlJoharah M. AlQuaiz et. Al in Saudi women [9]. The findings differed from the findings of studies done by Shahedur Rahman et. Al. in people of Bangladesh [4], Khatoon A et. Al. in people of Pakistan [8], by Peter Chedraui et. Al. in population of Ecuador [11], and Suzan Abou-Raya in Egyptian population [12]. Urogenital symptoms were the least prevalent finding in all the studies [4][8][9][11].

In our study it was found that predominant lifestyle of woman is significantly associated (p = 0.001991) with the severity of the menopausal symptoms experienced. It was also found that physically active women had less severe symptoms compared to ones with sedentary lifestyle. Similar findings were found in study conducted by Juan E. Blu¨mel et. Al. in Latin American women where sedentary women had more menopausal symptoms [13]. Similar findings were also noted in study conducted by Aya El Hajj, in Mediterranean women, where it was found that physical activity may decrease the severity of menopausal symptoms [14]. A study conducted by Magdalena Dąbrowska-Galas et. Al. in people of Poland also noted that women who are physically active have less severe menopausal symptoms [15].

Our literature review highlights the deficiency of research material that studies association of age of respondents and duration since menopause with the severity of menopausal symptoms. In our study it was found that age of respondents was not significantly associated (p = 0.837764) with the severity of symptoms experienced by them, whereas; duration since menopause was significantly associated (p = 0.000248) with the severity of menopausal symptoms. It is found that as the duration since menopause increases, the severity of the symptoms decreases.

Xiaoyan Sun et. Al. conducted a study in Chinese population [16] to see the association between the parity and menopausal symptoms but could not reach consistent findings. A study done by Suzan Abou-Raya in Egyptian population [12] shows that as the number of children increase, the severity of symptoms increases. These findings are similar to our study which shows that parity of women was significantly associated (p = 0.04446) with the severity of symptoms experienced by them. The severity of symptoms increases as the parity increases. Primipara have least symptoms compared to multipara and grand-multipara.

A study conducted by Omer Demir et. Al. in Turkish population [17] showed that menopausal symptoms were more severe in women who underwent surgical menopause. These findings differed from our study. In our study it was found that spontaneous menopause is associated with more symptoms but there is no statistic significant association (p = 0.699104) between the type of menopause and the severity of the menopausal symptoms experienced by the women.

## CONCLUSION:

The mean age of menopause was 47.2318 ±0.667 years. Most common symptoms reported were hot flushes (74, 49%), followed by irritability (73, 48.34%) and anxiety (67, 44.37%). There was significant association between the lifestyle of the women with the severity of the symptoms and it can be said that the severity of the symptoms is less in women who have a physically active lifestyle. There was significant association between the parity of the respondent and the severity of the symptoms experienced, and that the severity increases as the parity increases. There was no significant association between the type of menopause and the severity of symptoms although the significance could have been established if there were similar number of respondents in each of the group. There was significant association between the duration since menopause and the severity of symptoms and the severity decreases as the duration since menopause increases which might be due the adaptation to the symptoms that a woman acquires over

years. There was lack of health awareness related to the menopausal symptoms, the screening investigations and the treatment for the symptoms; in the respondents. Hence, it is apparent that counselling and motivation is required as women are neglecting themselves due to lack of awareness and the symptoms are not being reported.

## Limitation and strength:

Some of the symptoms were overlapping with the symptoms due to aging e.g., joint and muscular discomfort, and physical and mental exhaustion. This study being a cross-sectional study, the confounding effects of natural aging process that might have influenced the experience of symptoms, couldn't be excluded.

The strength of this study was that, through this study we were able to educate women about menopause and create awareness among the society.

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