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## Assessment of prevalence of vasomotor menopausal symptoms using a modified menopause rating scale(MRS) in Peri and postmenopausal women

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### ABSTRACT

Menopausal symptoms can often be distressing and affect the normal activities of women in their middle age. This can significantly reduce their quality of life. This study was done to assess the prevalence of vasomotor menopausal symptoms using a modified menopause rating scale (MRS) in Peri and postmenopausal women. A cross-sectional observational study was done on 100 middle-aged women (40-65 yrs) during the period January-June 2020 using the modified menopause rating scale (MRS). The mean age of the respondents in the study was 52.71 yrs. The mean age at menopause is 56 yrs. The commonly found symptoms were joint and muscular discomfort (80%), physical and mental exhaustion (65%) and sleeping problems (50%) appears to be the most commonly experienced symptoms by these women. The other symptoms are hot flushes and night sweats (46%), irritability (40%), dryness of vagina (38%), anxiety (36%), depressive mood (34%), sexual problems(30%), heart discomfort (16%) bladder problems (14%). This study showed that the typical vasomotor symptoms of menopause like sweating and hot flushes were comparatively lower than that of somatic symptoms like joint and muscular discomfort, mental and physical exhaustion in general. At the same time, postmenopausal women experienced more of urogenital symptoms, while Peri and premenopausal women experienced somatic and psychological symptoms.

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### INTRODUCTION

Menopause is defined as a normal physiological process experienced by middle-aged women characterised by complete cessation of menstruation

for twelve months or more (Rahman *et al.*, 2010). Menopause is characterised by a variety of symptoms in the following broad categories 1)vasomotor 2)physical3)psychological 4)Urogenital. The physiological basis of these symptoms of menopause through the complex is attributed mainly to the hormonal changes(mostly oestrogen deprivation)that occurs during this age. Often these symptoms can be distressing and affect the usual daily activities of women. It is also firmly proven that some of these symptoms of women can affect the quality of life (Williams *et al.*, 2009; Chedraui *et al.*, 2008). So it is important that women of middle age to be aware of this physiological process and the symptoms they cause as when it becomes severe, they can cause cardiovascular and bone(osteoporosis) manifestations. This study was done to check the prevalence of various symptoms of menopause among

middle-aged women (40-65 years). There are various tools designed for assessing the prevalence of menopausal symptoms and their severity and the degree of affection of quality of life. The modified menopause rating scale(MRS) was used in this study (Alder, 1998; Heinemann *et al.*, 2003).

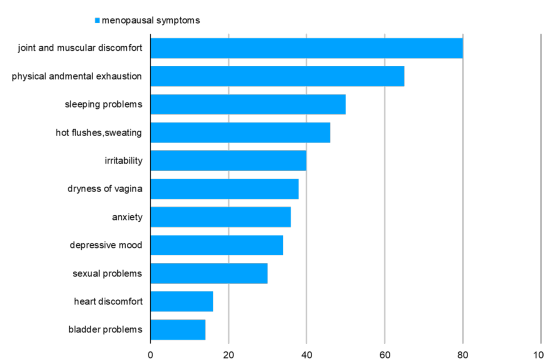
Very few studies are done regarding the assessment of menopausal symptoms experienced by middle-aged women in southern India, especially Tamil Nadu. A modified MRS was used in this study to assess the menopause-related symptoms among middle-aged women.

### Methodology

A cross-sectional observational study was done on 100 middle-aged women(40-65 yrs) attending Saveetha medical college and hospital during the period January-June 2020 using the modified Menopausal Rating Scale(MRS) [Figure 2]. The institutional review board and ethics committee of Saveetha medical college approved this study. All women who gave consent to participate in the study were included in the study. Women with pre-existing co-morbidities like heart diseases, uncontrolled hypertension and diabetes, women on hormone replacement therapy(HRT) or in ongoing treatment for cancer, pregnant and breastfeeding women were excluded from the study. The questionnaire contained three sections: Sociodemographic details of the women which included: Age, Marital status, education, occupation.

According to STRAW classification(stages of the reproductive ageing workshop), the menopausal status of women was assessed: Postmenopausal- Absence if menstrual bleeding in the last one year. Late perimenopausal- the absence of menstrual bleeding in the last two months. Early perimenopausal- the presence of irregularity in menstruation(7 days difference from the beginning of the cycle to the next cycle) but an absence of skipping menstruation. Premenopausal- cycle length changes present (mainly decrease in cycle length) For convenience, the early and late perimenopausal were combined as perimenopausal for statistical analysis.

Menopause Rating Scale(MRS) questionnaire containing all the 11 symptoms under four broad categories. Vasomotor and physical-hot flushes, heart discomfort/palpitation, sleeping problems and joint and muscular discomfort. Psychological-depressive mood, irritability, anxiety, mental and physical exhaustion. Urogenital-sexual problems, bladder problems and dryness of the vagina was used to assess the prevalence of menopausal symptoms.



**Figure 1: Frequency of menopausal symptoms among middle-aged women (40-65 years)**

Each of these symptoms had scoring from 0(no complaints) to 4(very severe). As the majority of the women were poorly educated, and they found it difficult to score the severity of the symptoms, the grading system was modified to present or absent to minimise the difficulty. So this study determines only the prevalence and not the severity of the symptoms experienced. The analysis was done using SPSS software version 19.

### RESULTS

One hundred women participated in the study. The mean age of participants in the study was 52.71 yrs. The mean age at menopause is 56 yrs. Among these women, 24 were premenopausal 40 perimenopausal, and 36 were postmenopausal. Majority of the participants were married(92%) and housewives (69%). 81% of the women had less than 11 years of schooling [Table 1].

From the above observation it is seen that joint pain and muscular discomfort(80%), mental and physical exhaustion (65%) and sleeping problems (50%) appears to be the most commonly experienced symptoms by these women. The other symptoms are hot flushes and night sweats (46%), irritability (40%), dryness of vagina (38%), anxiety (36%), depressive mood (34%), sexual problems (30%), heart discomfort (16%), bladder problems (14%) (Lam *et al.*, 2003). Table 2, Figure 1

### DISCUSSION

The mean of the age of menopause in this study was 56, which was slightly higher as compared to a study done by Dr.K peeyanjarassri *et al.*, in which mean menopausal age was 48.7 yrs. But this finding lies within the normal range of menopause age(40-57 yrs) (Peeyanjarassri *et al.*, 2006).

Menopausal rating scale(MRS) is the assessment tool used in this study. However, it was modified a

**Table 1: Socio demographic Details of the women**

Sociodemographic data	Total number	Percentage(%)
<b>Age</b>		
40-44	6	6%
45-49	26	26%
50-54	27	27%
55-59	30	30%
60-65	11	11%
<b>Education</b>		
Primary	40	40%
Secondary	41	41%
Tertiary	19	19%
<b>Occupation</b>		
Housewife	69	69%
General worker	20	20%
Semi-professional	9	9%
Professional	2	2%
<b>Marital status</b>		
Married	92	92%
Widowed/divorced	8	8%
Unmarried	0	0%

**Table 2: menopausal symptoms and their prevalence**

Menopausal symptoms	n=100(total)	%(percentage)
Joint and muscular discomfort	80	80%
Physical and mental exhaustion	65	65%
Sleeping problems	50	50%
Hot flushes, sweating	46	46%
Irritability	40	40%
Dryness of vagina	38	38%
Anxiety	36	36%
Depressive mood	34	34%
Sexual problems	30	30%
Heart discomfort	16	16%
Bladder problems	14	14%

little to make it easier for local women to understand and reciprocate accurately. Therefore we could only assess the prevalence of the menopausal symptoms and not their severity (Alder, 1998; Heine-mann *et al.*, 2003).

In this study, symptoms like hot flushes and night sweats which are considered to be the typical symptoms of menopause were noted to be 46% when compared to a similar study done by Hardip Kaur Dhillon *et al.*, and night sweats were experienced by 53% of the women and hot flushes by 44.6% of them (Dhillon *et al.*, 2006). Lorraine Dennerstein *et al.* did another study, showed that only 27% of women experienced typical symptoms like hot

flushes (Dennerstein *et al.*, 2000).

It was observed that vasomotor symptoms like hot flushes and sweating (night sweats) were experienced by perimenopausal women followed by post and premenopausal women. This could be attributed to the fact that hormonal fluctuations (oestrogen) occur mainly during this transition period. A research done by C Travers *et al.* stated that vasomotor symptoms, which was assessed by the Greene Climacteric Scale, were common during the menopause transition period and remain elevated for some years in a some of the older post-menopausal women (Travers *et al.*, 2005).

Most of the psychological and somatic symptoms

**Table 3: Prevalence of menopausal symptoms among the three major reproductive groups**

Menopausal symptoms	All (n=100)	Premenopausal (24)	Perimenopausal (40)	Postmenopausal (36)
<b>Somatic</b>				
1) Hot flushes, sweating	46	(21%)5	(62.5%)25	(44%)16
2) heart discomfort	16	(12.5%)3	(20%)8	(14%)5
3) Sleeping problems	50	(42%)10	(62.5%)25	(42%)15
4) joint and muscular Discomfort	80	(37.5%)9	(97.5%)39	(89%)32
<b>Psychological</b>				
5) depressive mood	34	(25%)6	(50%)20	(22%)8
6) Irritability	40	(42%)10	(50%)20	(28%)10
7) anxiety	36	(42%)10	(45%)18	(22%)8
8) physical and mental exhaustion	65	(21%)5	(95%)38	(61%)22
<b>Urogenital</b>				
9) Sexual problems	30	(21%)5	(37.5%)15	(28%)10
10) Bladder problems	14	(8%)2	(10%)4	(22%)8
11) Dryness of vagina	38	(33%)8	(30%)12	(50%)18

**Modified menopause rating scale(MRS)****Sociodemographic details:**

Name:

Age:

Age at menopause:

Education:

Occupation:

Marital status:

Menopausal symptom	Present	Absent
1. Joint and muscular discomfort		
2. Physical and mental exhaustion		
3. Sleeping problems		
4. Hot flushes, sweating		
5. Irritability		
6. Dryness of vagina		
7. Anxiety		
8. Depressive mood		
9. Sexual problems		
10. Heart discomfort		
11. Bladder problems		

**Figure 2: questionnaire [1] used for assessment of the prevalence of menopausal symptoms**

which include joint and muscular discomfort, mental exhaustion, sleeping problems, physical exhaustion, depressive mood, irritability and anxiety are more common in perimenopausal women followed by postmenopausal women.

It is also observed from this study that 42% of the premenopausal women experienced irritability, anxiety and sleeping problems, 37.5% of them experienced joint and muscular discomfort. This may not necessarily be menopausal symptoms. It can also be the symptoms of other health problems or symptoms of ageing. A similar study by Syed Alwi et al., also showed comparable results ([Rahman et al., 2010](#)).

Some symptoms like bladder problems, sexual problems and dryness of vagina under the urogenital category are found to be more common in postmenopausal women than pre and perimenopausal women, as stated in Table 3. Sexual problems may not be solely caused by menopause, and it can be a result of various other complex factors which needs more emphasis.

There are a few limitations of this study which has to be noted. The MRS questionnaire was slightly modified to make it easier for these women as they found it difficult to grade the severity of the symptoms. The women were asked to give retrospective information about the symptoms they experienced, which increased the chance for recall bias. Another limitation of this study is that it didn't exclude the other confounding factors like a natural ageing pro-

cess which could have contributed to the above symptoms.

## CONCLUSIONS

This study was about assessing the prevalence of various menopausal symptoms among middle-aged women of 40-65 yrs. It showed that the mean age of menopause was 56yrs and the typical vasomotor symptoms of menopause like sweating and hot flushes were comparatively lower than that of somatic symptoms like joint and muscular discomfort, mental and physical exhaustion in general. This may be because of the tropical climatic conditions due to which the tolerance level of these symptoms is increased in women residing here. Whereas postmenopausal women experienced more of urogenital symptoms while Peri and premenopausal women experienced somatic and psychological symptoms.

## Conflict of Interest

The authors declare that they have no conflict of interest for this study.

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## REFERENCES

- Alder, E. 1998. The Blatt-Kupperman menopausal index: a critique. *Maturitas*, 29(1):24-27.
- Chedraui, P., Blümel, J. E., Baron, G., Belzares, E., Bencosme, A., Calle, A., Danckers, L., Espinoza, M. T., Flores, D., Gomez, G., Hernandez-Bueno, J. A., Izaguirre, H., Leon-Leon, P., Lima, S., Mezones-Holguin, E., Monterrosa, A., Mostajo, D., Navarro, D., Ojeda, E., Onatra, W., Royer, M., Soto, E., Tserotas, K. 2008. Impaired quality of life among middle aged women: A multicentre Latin American study. *Maturitas*, 61(4):323-329.
- Dennerstein, L., Dudley, E. C., Hopper, J. L., Guthrie, J. R., Burger, H. G. 2000. A Prospective Population-Based Study of Menopausal Symptoms. *Obstetrics & Gynecology*, 96(3):351-358.
- Dhillon, H. K., Singh, H. J., Shuib, R., Hamid, A. M., Mahmood, N. M. Z. N. 2006. Prevalence of menopausal symptoms in women in Kelantan, Malaysia. *Maturitas*, 54(3):213-221.
- Heinemann, L. A. J., Potthoff, P., Schneider, H. P. G. 2003. International versions of the Menopause Rating Scale (MRS). *Health and Quality of Life Outcomes*, 1(1).
- Lam, P. M., Leung, T. N., Haines, C., Chung, T. K. H. 2003. Climacteric symptoms and knowledge about hormone replacement therapy among Hong Kong Chinese women aged 40-60 years. *Maturitas*, 45(2):99-107.
- Peeyananjarassri, K., Cheewadhanaraks, S., Hubbard, M., Manga, R. Z., Manocha, R., Eden, J. 2006. Menopausal symptoms in a hospital-based sample of women in southern Thailand. *Climacteric*, 9(1):23-29.
- Rahman, S., Zainudin, S., Mun, V. 2010. Assessment of menopausal symptoms using modified Menopause Rating Scale (MRS) among middle age women in Kuching, Sarawak, Malaysia. *Asia Pacific Family Medicine*, 9(1):5-5.
- Travers, C., O'Neill, S. M., King, R., Battistutta, D., Khoo, S. K. 2005. Greene Climacteric Scale: norms in an Australian population in relation to age and menopausal status. *Climacteric*, 8(1):56-62.
- Williams, R. E., Levine, K. B., Kalilani, L., Lewis, J., Clark, R. V. 2009. Menopause-specific questionnaire assessment in US population-based study shows negative impact on health-related quality of life. *Maturitas*, 62(2):153-159.