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Original Research Article

## A study on the modified menopause rating scale as a tool in the assessment of prevalence of menopausal symptoms in women of Dakshina Kannada district: a cross sectional study

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### ABSTRACT

**Background:** Menopause is defined as complete cessation of menses for a period of twelve months or more as a result of complete loss of ovarian follicular activity. Issues related to menopausal symptoms are complicated in terms of experience, severity, and dynamics of the symptoms. Various studies had showed that these symptoms vary among individuals depending on the menopausal stage, ethnicity, geographic location, and other factors menopause rating scale is an effective tool to assess the severity of these symptoms. The aims and objectives of this study were to assess the commonly reported menopausal symptoms among the women of Dakshina Kannada district using a modified menopause rating scale.

**Methods:** This study was conducted in A.J Institute of Medical Sciences and Research Centre from January 2019. A total of 360 postmenopausal women were interviewed using predesigned questionnaire. Menopausal symptoms were assessed using modified menopause rating scale.

**Results:** Majority of women attained menopause at the age of 51-55 years and the calculated mean age was 51.33±3.36. 85% were symptomatic with at least one symptom. The most common symptom reported was joint and muscular discomfort (80%), psychological symptoms like depressive mood (68%), vasomotor symptoms (60%), sleep disorders (50%) urogenital problem (30%). The menopausal symptoms were more prevalent in women of lower socioeconomic status and the ones who were illiterate and this difference was significant.

**Conclusions:** There is an increasing need for establishment of specific health intervention for postmenopausal women by specialty clinics as the burden of menopausal symptoms is high in the Indian women due to lack of awareness, socio cultural and economic factors, and inaccessibility of health services, which may negatively affect the attitude of women towards menopause.

**Keywords:** Menopause rating scale, Menopause, Indian menopause society, Vasomotor symptoms, Wareness, Health care services

### INTRODUCTION

Menopause is defined as complete cessation of menstruation for twelve months or more as a result of complete loss of ovarian follicular activity.<sup>1</sup> In the present

scenario, with the better availability of health services the life expectancy has increased, and as a result the women are more likely to spend a significant part of their life during the phase of menopause.<sup>1</sup>

Today, we are aware that menopause has much wider implications than simply loss of fertility. It sets the stage for aging and accelerates the process of noncommunicable disorders. 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.<sup>2</sup> 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.<sup>2</sup>

According to North American menopause society the worldwide 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. The estimated mean age of menopause is 46 years in India according to Indian menopause society (IMS), and is much lower than that of the western counterpart which is 51 years. Hence, the menopausal health and care demands greater priority in the present Indian scenario.<sup>3</sup>

This study is aimed to determine the prevalence of postmenopausal women, to validate the use of menopause rating scale, to analyze the common menopausal symptoms, to interrogate postmenopausal women with a predesigned questionnaire and to acknowledge the postmenopausal women about menopause and its effects.

## **METHODS**

### ***Methodology***

This is an observational cross-sectional study done in the department of obstetrics and gynecology at AJ Institute of Medical Sciences and Research Centre, among perimenopausal women attending to the outpatient department for a period of 18 months.

An informed written consent was taken from each of the participants after obtaining Institutional Ethical clearance. A total of 360 women between the age of 40-65 years were enrolled for the study who attended the gynecology OPD and gave consent to participate in the.

### ***Questionnaire***

The menopause rating scale was developed by the Berlin centre for epidemiology and health research in 19924. It was used in several researches since then and was modified according to the language used. A pretested questionnaire was given to the 360 women who were taken into the study.

Menopause rating scale 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. The menopause rating scale (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). 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".

The data was collected by a single interviewer after explaining the questions in the local language- Kannada and responses were collected and entered into Microsoft excel and analysed using percentages.

All women who were interviewed were educated regarding menopause and its effects.

### ***Inclusion criteria***

Women attending the gynaecology OPD in the age group of 40-65 years who volunteered to participate in the study.

### ***Exclusion criteria***

Exclusion criteria were 1) pregnant and lactating women 2) women with uncontrolled diabetes mellitus, hypertension, cardiac disease 3) women with history of alcohol or drug abuse 4) women on hormone replacement therapy 5) women undergoing treatment for cancer or in remission.

## **RESULTS**

The study was done in a total of 360 women. The results were analysed according to the following parameters.

### ***Age at menopause***

Three hundred and sixty women completed the study. The mean age of menopause in this study was 51.33±3.36 ranging between 51-55 year (Table 1).

### ***Socioeconomic status***

On the basis of socioeconomic status, out of the 360 participants, 295 (81.9%) belonged to the lower socioeconomic status. It was observed that, the menopausal symptoms were more in women belonging to lower socioeconomic status (Table 2).

**Table 1: Distribution according to the age of menopause.**

Age of menopause (years)	Number of cases	Percentage
40-45	70	19.5
46-50	92	25.5
51-55	126	35
56-60	38	10.5
61-65	34	9.5

**Table 2: Distribution according to socioeconomic status.**

Socioeconomic status	Number of cases	Percentage
Upper	15	4.3
Middle	50	13.8
Lower	295	81.9

**Marital status**

Out of 360 women who participated in the study, 254 women (70.5%) were married and living with the spouse, 98 women were widowed and 8 women were divorced (Table 3).

**Table 3: Distribution according to marital status.**

Marital status	Number of women	Percentage
Married & living with spouse	254	70.5
Widowed	98	27.3
Divorced	8	2.2

Out of 360 women in the study, 236 women (65.5%) were uneducated (Table 4). It was observed that the menopausal symptoms were more in women who were uneducated.

**Table 4: Distribution according to education.**

Education status	Number of women	Percentage
Uneducated	236	65.5
Primary school	98	27.3
Middle school	26	7.2
High school	0	0
Intermediate/ diploma	0	0
Graduation	0	0
Postgraduation	0	0

**Employment status**

Out of 360 women who participated in the study, 305 women (84.8%) were unemployed (Table 5).

**Table 5: Distribution according to employment.**

Employment status	Number of women	percentage
Employed	55	15.2
Unemployed	305	84.8

**Parity**

Out of 360 women, 276 women (76.7%) were multiparous, followed by primiparous women 71(91.7%) and 13 women (3.6%) were nullipara (Table 6). There was no relation between the menopausal symptoms and parity of the women.

**Table 6: Distribution according to parity.**

Parity	Number of women	Percentage
Nullipara	13	3.6
Primipara	71	19.7
Multipara	276	76.7

**Type of family**

Out of 360 women who participated in the study, 237 women (65.8%) were belonging to joint family and 123 women (34.2%) belonged to nuclear family (Table 7).

**Table 7: Distribution according to type of family.**

Type of family	Number of women	Percentage
Joint family	237	65.8
Nuclear family	123	34.2

Women who belonged to joint family had less menopausal symptoms.

**Frequency and severity of menopausal symptoms as assessed by the menopausal rating scale.**

Table 8 shows the Frequency and severity of menopausal symptoms as assessed by the menopausal rating scale. The most prevalent menopausal symptom in our study was joint and muscular pains (88.8%) followed by heart discomfort (60%) and physical and mental exhaustion (60%), hot flushes (52.2%), sleep problems(50%), irritability(46.1%), anxiety(42.2%), bladder problems (30%), dryness of vagina (26.1%) and sexual problems (21.9%).

In regards to severity of the symptoms, it is observed that joint and muscular pain symptoms were of severe quality (78.1%). Depressive symptoms were of moderate quality (80.84%).

The menopausal symptoms of mild severity were hot flushes, heart discomfort, sleep problems, irritability, sexual problems bladder problems, dryness of vagina.

**Table 8: Frequency of menopausal symptoms assessed by MRS.**

Symptoms	No. of patients	Mild	Moderate	Severe	Very severe
Hot flushes	188 (52.2%)	104 (55.3%)	44 (23.4%)	40 (21.3%)	0
Heart discomfort	216 (60%)	126 (58.3%)	46 (21.2%)	38 (17.5%)	6 (2.7%)
Sleep problems	180 (50%)	135 (75%)	25 (13.9%)	16 (8.9%)	4 (2.2%)
Depressive mood	246 (68.3%)	35 (13.6%)	198 (80.4%)	12 (4.7%)	1 (0.3%)
Irritability	166 (46.1%)	118 (71%)	32 (19.4%)	14 (8.4%)	2 (1.2%)
Anxiety	152 (42.2%)	70 (46%)	64 (42.3%)	15 (9.8%)	3 (1.9%)
Physical and mental exhaustion	216 (60%)	85 (39.3%)	82 (37.9%)	39 (18.2%)	10 (4.6%)
Sexual problems	79 (21.9%)	56 (70.8%)	10 (12.6%)	11 (13.9%)	1 (2.5%)
Bladder problems	108 (30%)	85 (78.8%)	18 (16.6%)	5 (4.6%)	0
Vaginal dryness	94 (26.1%)	75 (79.9%)	10 (10.6%)	6 (6.4%)	3 (3.1%)
Joint and muscular pain	320 (88.8%)	20 (6.25%)	35 (10.9%)	250 (78.1%)	15 (4.6%)

## DISCUSSION

Menopause is characterized by an estrogen deficient state and as many organs of the body are sensitive to estrogen, a decrease in estrogen level gives rise to a number of physical, psychological and sexual changes.<sup>1</sup> The frequency of symptoms varies over time. Some of them occur frequently in the perimenopause and decrease over time, while others increase progressively from perimenopause to post menopause and become more severe towards the end of life. Ageing is an inevitable phenomenon and with it are associated certain conditions which affect quality of life. Menopause is one such reality of life.

The mean age at menopause in our study was 51.33 years+3.36 years which is almost similar to the western counter parts which is around 51.14+2.11 years worldwide. However, it is slightly higher than the average age of menopause as found by Indian menopause society which is around 46 years.

In various other studies done in India, the mean age of menopause fell between 49.4 to 51.1 years. The studies done in Malaysia (51.3 years), Thailand (49.7 years) Singapore (49.1 years) and middle east (50.4years) & the other studies done on Asian women also showed almost similar age of menopause as of our study.

The most prevalent menopausal symptom in this study was joint and muscular pain (88.8%), followed by depressive mood (68.3%). This finding was consistent with many other studies where the same problem was found to be prevalent. In a study by Cheng et al, Hafiz et al & Rahman et al also found joint and muscular pain as the predominant and prevalent symptom.<sup>4,6,7</sup>

The joint and muscular pains were followed by heart discomfort (60%) & physical and mental exhaustion (60%), hot flushes (52.2%), sleep problems (50%), irritability (46.1%), anxiety (42.2%), bladder problems (30%), dryness of vagina (26.1%) and sexual problems (21.9%). 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.<sup>4</sup>

In a study by Pal et al, the prevalence of physical and mental exhaustion was found to be much higher (86%).<sup>9</sup> 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 et al found in their study that bladder problem (56%) and vaginal dryness (53.3%) were much prevalent.<sup>12</sup>

Thus, the variation in the prevalence of different menopausal symptoms at different places is highly dependent on the tradition, culture, sources of food and life style. In regards to severity of the symptoms, it is observed that joint and muscular pain symptoms are of severe quality. Depressive symptoms are of moderate quality. Majority of the hot flushes, heart discomfort, sleep problems, irritability, sexual problems, bladder problems, dryness of vagina are of mild severity.

In our study, out of the 360 women with either one or multiple menopausal symptoms, 236, i.e., 65.5% 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. The co-relation between illiteracy and presence of menopausal symptom was found to be significant.

In various previous studies also, it was shown that menopausal symptoms were inversely related with educational level. 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. However, in a study by Avanie et al they found that educated women have more menopausal symptoms.<sup>12</sup>

On the basis of the socioeconomic status, majority of the women i.e. out of 360 women who had one or many menopausal symptoms, 295, i.e. 81.9% belong to the

lower socioeconomic status. The women belonging to lower socioeconomic status were found to have more menopausal symptoms and this was statistically significant.

The assessment tool which we used in our study is based on 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.

### Limitations

There were several limitations in our study, which were, several women did not have formal education and did not know the English language, so health personnel had to explain about the questionnaire to the patient in Kannada language for them to understand and answer. Several women could not recall their previous symptoms and so most of the symptoms were missed or under diagnosed due to lack of memory in the women.

### CONCLUSION

This study on menopausal women of Dakshina Kannada between the ages 40-65 years was done using modified MRS. The mean age of menopause in our study was 51.33±3.36 years. The educational level and socioeconomic status had inverse relationship with the menopausal symptoms showing that women of lower socio-economic status and uneducated were more prone to experience menopausal symptoms. This relationship was found to be significant.

Thus, we have to understand that menopause is a stage of reproductive life cycle of woman. It is a bio psychological phenomenon and is a natural aging process which signals a decline in body function. 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. 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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**ANNEXURE**

**Questionnaire**

Consent for participation.

I, \_\_\_\_\_, have been explained about the research titled- “” and am willing to participate in it after completely understanding the objectives of the study, that has been explained to me in English/Kannada.

I know that this participation is completely voluntary, yields no reimbursements or deductions and that no participation will in no way harm my course of treatment in the hospital. I am aware that the details in the study will be published and that I have the right to withdraw from the study at any time.

\_\_\_\_\_

Dated: Interviewer

\*\*\*\*\*

Sl.no-

Name:

Age:

Address:

Contact no:

Highest educational status:

Employment status:

Marital status:

Parity index:

Type of family:

Menstrual history:

Menopausal complaints:

Obstetric history:

Medical history:

Surgical history:

Family history:

Personal history:

Drug history:

BMI:

Vitals:

The following questions were asked to assess the knowledge on menopause

1.How do you view menopause?

- Positively - for example menopause means no more periods, no need of contraception
- Negatively- no more fertility, loss of youth

2. how do you rate your knowledge on menopause?

Very good

Fair

Little knowledge

3.how do you get information on menopause?

Newspaper/ books

Internet

Friends

Health care providers

The following questions were asked to assess the menopausal symptoms using the menopause rating scale.

Symptoms none mild moderate severe very  
severe  
score 0 1 2 3 4

1. Hot flushes, sweating (episodes of sweating)
2. Heart discomfort (unusual awareness of heart beat, heart skipping, heart racing, tightness)
3. Sleep problems (difficulty in falling asleep, difficulty in sleeping through, waking up early)
4. Depressive mood (feeling down, sad, on the verge of tears, lack of drive, mood swings)
5. Irritability (feeling nervous, inner tension, feeling aggressive)
6. Anxiety (inner restlessness, feeling panicky)
7. Physical and mental Exhaustion (general decreasing performance, impaired memory, decrease in concentration, forgetfulness)
8. Sexual problems (change in sexual desire, in sexual activity and satisfaction)
9. Bladder problems (difficulty in urinating, increased need to urinate, bladder incontinence)
10. Dryness of vagina (sensation of dryness or burning in the vagina, difficulty with sexual intercourse)
11. Joint and muscular discomfort (pain in the joints, rheumatoid complaints)

\*\*\*\*\*

I have been educated regarding the menopause, its effects, its significance by the interviewer.