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Original Research Article

## Menopause rating scale: a simple tool for assessment of climacteric symptoms

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### ABSTRACT

**Background:** Menopause is a physiological event, a unique stage of a female reproductive system and transition in life that occurs in all women who reach midlife. The clinical consequence of menopause is due to estrogen deficiency. Some of menopausal symptoms experienced by these women can be severe enough to affect their normal lifestyle. Unfortunately, majority of these women are not aware of the changes brought about by menopause. Objective of the study was to assess the prevalence of different menopausal symptoms and their severity according to menopause rating scale and their impact on quality of life.

**Methods:** A cross sectional study was conducted by the department of obstetrics and gynaecology, Yenepoya Medical College, Mangalore between June 2020 to August 2020. A total of 210 women who are between the age of 40 and 65 years who had their last menstrual period of at least 1 year ago and were included in the study.

**Results:** In the study majority of subjects were in the age group 46 to 50 years (42.9%). In the study there was significant association between general health and hot flushes, heart discomfort, depressive mood, irritability, physical and mental exhaustion, bladder problems and joint and muscular pain. There was no significant association between general health and sleep problem, anxiety, sexual problems and dryness of vagina.

**Conclusion:** The menopausal rating scale can be used an effective tool while examining the patients for menopausal symptoms. Regular screening of such women can make a huge difference, and their quality of life can be improved.

**Keywords:** Menstruation, Scale, Hot flusher, Women, Reproductive age

### INTRODUCTION

Modern medicine has significantly prolonged women lifespan.<sup>1</sup> All women who live long enough will make transition to menopause.<sup>2</sup> Menopause is defined as the permanent cessation of menstruation for 12 months or more as a result of ovarian failure, occurs at an average age of 52 years with a range of 40 to 58 years. 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.<sup>3</sup>

Menopause is a physiological event, a unique stage of a female reproductive system and transition in life that

occurs in all women who reach midlife. Menopause is associated with changes in hypothalamus and pituitary hormones that regulate the menstrual cycle; menopause is not central event but rather an indication of primary ovarian failure. At the level of ovary there is depletion of ovarian follicles, secondary to apoptosis or programmed cell death. The ovary is no longer able to respond to the pituitary's follicle stimulating hormone (FSH) and luteinizing hormone (LH) and ovarian estrogen and progesterone production ceases. The uterus and the vagina gradually become atrophic. As the negative feedback effect of reduced estrogen and progesterone, secretion of FSH, LH is increased.

The clinical consequence of menopause is due to estrogen deficiency. This is associated with hot flushes, sweating and vaginal dryness. Many other symptoms like restless legs, muscle and joint pain, palpitation, forgetfulness, depressed mood, osteoporosis and dyslipidaemia are associated with menopause although these may not all be directly related to estrogen lack. These can be grouped into vasomotor, physical, psychological or sexual complaints. Some of menopausal symptoms experienced by these women can be severe enough to affect their normal lifestyle. Unfortunately, majority of these women are not aware of the changes brought about by menopause.<sup>4</sup> It is well documented that menopausal symptoms experienced by women affect their quality of life.<sup>5</sup>

Worldwide, the estimates for the mean age of menopause range from 40-65 years. 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.<sup>6</sup> Menopause has also been looked on as a signal occurring at the right time of life when preventive healthcare is crucial. The primary aim of health promotion is improvement of quality of life (QOL). Assessment of QOL at menopause has been largely inadequate.<sup>7</sup> Despite evidence of psychosocial distress, the level of development and evaluation of QOL is poor in the gynecology outpatient clinics. Among the various commonly used scales to assess menopause, the final menopause rating scale (MRS) is the health-related quality of life scale comprises of 11 symptoms each rated on a five-point scale of severity.<sup>8</sup>

The intensity of menopausal symptoms within a given population varies depending on several factors like age, socio demographic profile, and educational level and working or non-working status. This study contains data collected from Indian post-menopausal women to get a first comprehensive picture of psychometric and other methodological characteristics of the MRS. This scale was designed and standardized to assess symptoms/complaints of women who have attained menopause. The interest of clinical research on aging women has increased in recent years and thereby the interest to measure their health-related quality of life has also increased.

Objective of the study was to assess the prevalence of different menopausal symptoms and their severity according to MRS and their impact on quality of life.

## METHODS

A cross sectional study was conducted among women aged between 40 to 65 years of age who attended the

OPD in the department of obstetrics and gynaecology, Yenepaya Medical College, Mangalore between June 2020 to August 2020. With the clinical experience, it is confirmed that approximately 20% of women among the women who attained menopause experience menopausal symptoms. With 5% level of significance and with 10% precision,  $n=183$  rounded to 210. Hence the sample size was estimated for the study was 210.

Inclusion criteria included women who are between the age of 40 and 65 years who had their last menstrual period of at least 1 year ago and presenting to outpatient department of obstetrics and gynaecology of Yenepaya Medical College, Mangalore and who consented for voluntary participation are included.

Exclusion criteria excluded women who had undergone hysterectomy, taking contraception, with acute and chronic illness and women with recall bias.

Statistical analysis, data was entered into Microsoft excel data sheet and was analysed using SPSS 22 version software. Categorical data was represented in the form of frequencies and proportions. Chi-square test was used as test of significance for qualitative data.

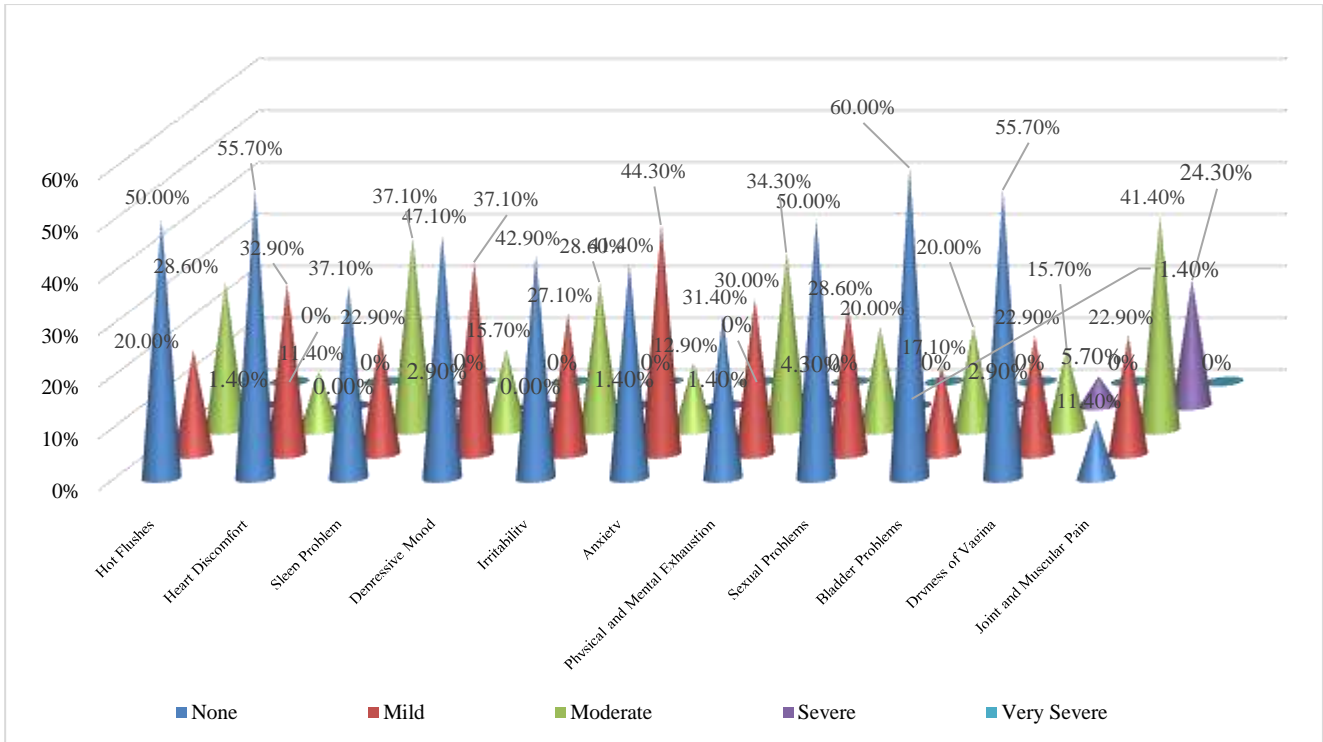
For the graphical representation of data, MS Excel and MS word was used to obtain various types of graphs such as bar diagram. P value (Probability that the result is true) of  $<0.05$  was considered as statistically significant after assuming all the rules of statistical tests.

Statistical software like MS Excel, SPSS version 22 (IBM SPSS Statistics, Somers NY, USA) was used to analyse data.

## RESULTS

Mean age at menopause was  $47.36 \pm 4.30$  year and mean age at menarche was  $13.51 \pm 1.16$  years. In study majority of subjects were in age group 46 to 50 years (42.9%), 74.3% were married, 24.3% were widowed, majority of them were illiterate (34.4%), 68.6% belonged to lower socioeconomic status, majority attained menarche at age of 14 years (32.9%), 55.7% had  $>2$  children, 38.6% had gynaecologist check-up and 74.3% had good general health and 25.7% had poor general health. In study 34.3% were illiterate and 65.7% were literate.

In the study 50% of subjects had hot flushes, 44.3% had heart discomfort, 62.9% had sleep problem, 52.9% had depressive mood, 57.1% had irritability, 58.6% had anxiety, 68.6% had physical and mental exhaustion, 50% had sexual problems, 40% had bladder problems, 44.3% had dryness of vagina and 88.6% had joint and muscular pain.



**Figure 1: Bar diagram of menopause symptoms using MRS.**

**Table 1: Profile of subjects in the study.**

Variables	Count	Percentage (%)	
<b>Age at Menopause (Years)</b>	40 to 45	75	35.7
	46 to 50	90	42.9
	51 to 55	39	18.6
	56 to 60	6	2.9
	61 to 65	0	0.0
<b>Marital status</b>	Divorced	3	1.4
	Married	156	74.3
	Widowed	51	24.3
<b>Education status</b>	Illiterate	72	34.3
	Primary	63	30.0
	Secondary	63	30.0
	Tertiary	12	5.7
<b>Socioeconomic status</b>	Lower	144	68.6
	Middle	66	31.4
	Upper	0	0
<b>Age at menarche (years)</b>	11	9	4.3
	12	33	15.7
	13	57	27.1
	14	69	32.9
	15	36	17.1
	16	6	2.9
<b>Number of children</b>	<2	93	44.3
	>2	117	55.7
<b>Gynaecologist check up</b>	No	129	61.4
	Yes	81	38.6
<b>General health</b>	Good	156	74.3
	Poor	54	25.7

**Table 2: Menopause symptoms using MRS.**

Symptoms	None		Mild		Moderate		Severe		Very severe	
	C*	%	C	%	C	%	C	%	C	%
Hot flushes	105	50.0	42	20.0	60	28.6	3	1.4	0	0
Heart discomfort	117	55.7	69	32.9	24	11.4	0	0.0	0	0
Sleep problem	78	37.1	48	22.9	78	37.1	6	2.9	0	0
Depressive mood	99	47.1	78	37.1	33	15.7	0	0.0	0	0
Irritability	90	42.9	57	27.1	60	28.6	3	1.4	0	0
Anxiety	87	41.4	93	44.3	27	12.9	3	1.4	0	0
Physical and mental exhaustion	66	31.4	63	30.0	72	34.3	9	4.3	0	0
Sexual problems	105	50.0	60	28.6	42	20.0	3	1.4	0	0
Bladder problems	126	60.0	36	17.1	42	20.0	6	2.9	0	0
Dryness of vagina	117	55.7	48	22.9	33	15.7	12	5.7	0	0
Joint and muscular pain	24	11.4	48	22.9	87	41.4	51	24.3	0	0

C\*= Count

**Table 3: Severity as per MRS and their impact on quality of life.**

Symptoms		General health				P value
		Good		Poor		
		Count	%	Count	%	
Hot flushes	0	81	51.9	24	44.4	0.018*
	1	33	21.2	9	16.7	
	2	42	26.9	18	33.3	
	3	0	0.0	3	5.6	
Heart discomfort	0	96	61.5	21	38.9	0.015*
	1	45	28.8	24	44.4	
	2	15	9.6	9	16.7	
Sleep problem	0	60	38.5	18	33.3	0.222
	1	39	25.0	9	16.7	
	2	54	34.6	24	44.4	
	3	3	1.9	3	5.6	
Depressive mood	0	78	50.0	21	38.9	<0.001*
	1	66	42.3	12	22.2	
	2	12	7.7	21	38.9	
Irritability	0	69	44.2	21	38.9	0.014*
	1	48	30.8	9	16.7	
	2	36	23.1	24	44.4	
	3	3	1.9	0	0.0	
Anxiety	0	66	42.3	21	38.9	0.578
	1	69	44.2	24	44.4	
	2	18	11.5	9	16.7	
	3	3	1.9	0	0.0	
Physical and mental exhaustion	0	54	34.6	12	22.2	0.004*
	1	51	32.7	12	22.2	
	2	48	30.8	24	44.4	
	3	3	1.9	6	11.1	
Sexual problems	0	78	50.0	27	50.0	0.745
	1	45	28.8	15	27.8	
	2	30	19.2	12	22.2	
	3	3	1.9	0	0.0	
Bladder problems	0	99	63.5	27	50.0	<0.001*
	1	27	17.3	9	16.7	
	2	30	19.2	12	22.2	
	3	0	0.0	6	11.1	
Dryness of vagina	0	90	57.7	27	50.0	0.743
	1	33	21.2	15	27.8	
	2	24	15.4	9	16.7	
	3	9	5.8	3	5.6	

Continued.

Symptoms	General health					P value
	Good		Poor			
	Count	%	Count	%		
Joint and Muscular pain	0	18	11.5	6	11.1	0.001*
	1	45	28.8	3	5.6	
	2	63	40.4	24	44.4	
	3	30	19.2	21	38.9	

\*P value.

In the study there was significant association between general health and hot flushes, heart discomfort, depressive mood, irritability, physical and mental exhaustion, bladder problems and joint and muscular pain. There was no significant association between general health and sleep problem, anxiety, Sexual Problems and dryness of vagina.

## DISCUSSION

The Greek word climacteric means steps of ladder which can be compared with women age and her characteristics. its long known since ages that from the time of birth till the menopause the women will be under the influence of numerous hormones which will help her to pass through all the phase of her life from childhood to fertile period to Menopause. Majority of the symptoms and signs are either directly or indirectly related to effect of the estrogens in the body.

Ageing is inevitable phenomenon and with it are associated certain conditions which affect quality of life.

Menopause is such reality of life. The mean age at menopause in this study was 47.3 years which can be compared to the study findings of Khatoon et al (50.33 years).<sup>3</sup> The average age of menopause in Indian population set up is found to be around 47.5 years and different parts of the world ranging from 48 to 51 years which is similar to this study findings.<sup>3,9</sup>

The quality of life in the old age depends upon the socio-economic condition of every individual. In this study the menopausal symptoms were found to be more common among the women who belong to the lower socio-economic strata and also among the subjects who had No formal education. In the study done by Lee et al the socio economic condition and the education of the study subjects were often related and the people with low socio economic status and no formal education were commonly affected by the menopausal symptoms which is similar to this study findings.<sup>10</sup> In the study done by Kakkar et al and Del Pardo et al also showed that women with lesser education status and low socio economic condition are most commonly affected by menopausal symptoms.<sup>11,12</sup> Where as in the study done by Joseph et al the findings of this study were contrary to this study findings where women having formal education had more menopausal symptoms.<sup>13</sup>

On evaluating the presence of various menopausal symptoms among the study subjects we found that all most all the symptoms were either ranging from mild to moderate and none of them had experienced any kind of severe illness. Among various symptoms involvement of joints and muscular pain (88.6%) was found to be most commonly affected system followed by physical and mental exhaustion (68.6%), disturbed sleep (62.9%) and anxiety (58.6%) in this study. The classical symptoms of menopause like hot flushes, sweating and dryness of vagina was also seen in more than 40% of the study subjects.

In the study done by Khatoon et al, Cheng et al and Hafiz et al the most common symptoms were joint and muscular pain which is similar to this study findings.<sup>3,14,15</sup> In the study done by Rahaman et al also the most common findings were involving musculoskeletal system followed by classical symptoms of menopause in nearly 41.6% of the study subjects which is similar and comparable to this study findings.<sup>3</sup> In another study done by Yanikkerem et al the vasomotor symptoms were found to be most common symptoms in menopause than musculoskeletal system.<sup>16</sup> In the study done by Pal et al the physical and mental exhaustion was found to be much more common than other symptoms.

On comparing various studies done by different authors in different parts of the world the menopausal symptoms are found to be ranging from mild to moderate and each study have found different symptoms to be most common menopausal symptoms. This wide variation in the presenting complaints of the menopause symptoms depends of lot of socio demographic factors, socio cultural factors and the tradition and cultural and lifestyle of the persons.

Similarly, in this study also these most common presentations of menopausal symptoms were found to be significantly associated with the quality of the life of the women.

## CONCLUSION

The menopausal rating scale can be used an effective tool while examining the patients for menopausal symptoms. The phase of life i.e. menopause which brings lot of physical, emotional, hormonal and social changes to women's life can be better prepared and coped with reduced burden on the women with prop we and adequate

health care facility by self-evaluating this tool. It helps in the smooth transition of women life from reproductive to old age. Women should be educated through awareness programs so that they can get proper medical attention. Health professionals should also assess the symptoms with a standard tool. Regular screening of such women can make a huge difference, and their quality of life can be improved.

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