

Original research article

Cross sectional study to evaluate the climacteric symptoms using Menopause rating scale: In coastal Karnataka

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Abstract

Background: Menopause refers to point in time that follows one year after complete cessation of menstruation, and the post menstruation describes years following that point. Menopause is a clinical manifestation of oestrogen deficiency. Some of these women's menopausal symptoms can be severe enough to interfere with their normal lifestyle. Unfortunately, the majority of these women are unaware of the changes caused by menopause. The study's goal was to determine the prevalence of various menopausal symptoms, their severity according to the menopause rating scale, and their impact on quality of life.

Method: Between June and August 2020, the department of obstetrics and gynaecology at a tertiary centre in Mangalore conducted a cross-sectional study. The study included 210 women between the ages of 40 and 65 years old who had their last menstrual period at least a year ago.

Result: The majority of subjects in the study (42.9%) were between the ages of 46 and 50. The study found a link between general health and hot flushes, heart discomfort, depressive mood, irritability, physical and mental exhaustion, bladder problems, as well as joint and muscular pain. There was no significant relationship between general health and sleep problems, anxiety, sexual problems, or vaginal dryness.

Conclusion: The menopausal rating scale is an effective tool for assessing menopausal symptoms in patients. Regular screening of such women can make a significant difference in their quality of life.

Keywords: Menstruation, scale, hot flusher, women, reproductive age

Introduction

Women's lives have been significantly extended by modern medicine. All women who live long enough will experience menopause. Menopause is defined as the permanent cessation of menstruation for 12 months or more due to ovarian failure, and it occurs at an average age of 52 years, with a range of 40 to 58 years. Life expectancy has increased in the current scenario due to improved access to health services, and as a result, women are more likely to spend a significant portion of their lives during this phase of menopause.

Menopause is a physiological event that occurs in all women who reach midlife. It is a unique stage of the female reproductive system and a life transition. Menopause is associated with changes in hypothalamic and pituitary hormones, which regulate the menstrual cycle; menopause is not a central event, but rather a sign of primary ovarian failure. At the ovarian level, ovarian follicles are depleted as a result of apoptosis, or programmed cell death. The pituitary glands follicle stimulating hormone (FSH) and luteinising hormone (LH) no longer stimulate the ovary, and ovarian oestrogen and progesterone production ceases. The uterus and vagina gradually deteriorate. As a result of the negative feedback effect of decreased oestrogen and progesterone, FSH and LH secretion is increased.

Menopause is a clinical manifestation of oestrogen deficiency. This is characterised by hot flushes, sweating, and vaginal dryness. Many other symptoms, such as restless legs, muscle and joint pain, palpitation, forgetfulness, depression, osteoporosis, and dyslipidaemia, are associated with menopause, though not all of them are directly related to a lack of oestrogen. They are classified as vasomotor, physical, psychological, or sexual complaints. Some of these women's menopausal symptoms can be severe enough to interfere with their normal lifestyle. Unfortunately, the majority of these women are

unaware of the changes caused by menopause. It is well documented that menopausal symptoms experienced by women have an impact on their quality of life.

The severity of menopausal symptoms varies by age, sociodemographic profile, educational level, and working or non-working status within a given population. This study used data collected from Indian postmenopausal women to create the first comprehensive picture of the MRS's psychometric and other methodological characteristics. This scale was created and standardised to assess menopausal symptoms and complaints in women. Clinical research on ageing women has grown in popularity in recent years, as has the desire to assess their health-related quality of life.

The study's goal was to determine the prevalence of various menopausal symptoms, their severity according to MRS, and their impact on quality of life.

Materials & 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, at a tertiary centre, Mangalore between June 2020 to August 2020. With the clinical experience, it is confirmed that approximately 20% of 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 at a tertiary centre, 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 ± 4.30 year and mean age at menarche was 13.51 ± 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.

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.

Table 1: Profile of subjects in the study.

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

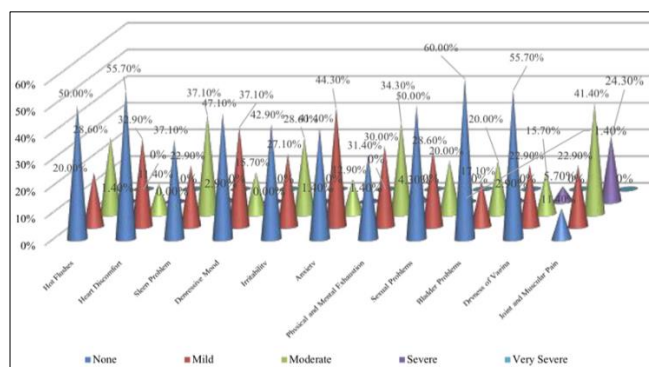


Fig 1: Bar diagram of menopause symptoms using MRS.

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	

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.

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 Khatoun *et al.* (50.33 years) [3]. 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 [3, 9].

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 [10]. 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 [11, 12]. 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 [13].

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^[3, 14, 15]. 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^[3]. In another study done by Yanikkerem *et al.* the vasomotor symptoms were found to be most common symptoms in menopause than musculoskeletal system^[16]. 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.

When examining patients for menopausal symptoms, the menopausal rating scale can be an effective tool. Menopause, a stage of life that brings many physical, emotional, hormonal, and social changes to women's lives, can be better prepared for and coped with by self-evaluating this tool, with a reduced burden on the women with prompt and adequate health care facility. It facilitates the transition of a woman's life from reproductive to old age. Women should be educated through awareness programmes so that they can receive appropriate medical care. A standard tool should be used by health professionals to assess the symptoms. Regular screening of such women can make a significant difference in their quality of life.

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References

1. Changa MH, Wangb SJ, Wanga PH, Fuhd JL. Attitudes towards Menopause among Middle-Aged Women: A Community Survey in an Island of Taiwan. *Maturitas*. 2005;52(3-4):348-55.
2. Wang SJ, Lue SR, Juang KD, Chiu LM. The Kinmen women-health investigation (kiwi): A menopausal study of and population aged 40-54. *Maturitas*. 2001;39:117-20.
3. Khatoon F, Sinha P, Shahid S, Gupta U. Assessment of menopausal symptoms using modified menopause rating scale (MRS) in women of Northern India. *Int J Reprod Contracept Obst Gynecol*. 2018;7(3):947-51.
4. Rahman S, Salehin F, Iqbal A. Menopausal symptoms assessment among middle age women in Kushtia, Bangladesh. *BMC Res Notes*. 2011, 4(1).
5. Dhillon HK, Singh HJ, Rashidah S, Abdul Manaf H, Nik Mohd Zaki NM. Prevalence of menopausal symptoms in women in Kelantan, Malaysia. *Maturitas*. 2006;54(3):213-21.
6. Unni J. Third consensus meeting of Indian Menopause Society (2008): A summary. *J Midlife Health*. 2010;1(1):43-7.
7. Garratt A, Schmidt L, MacKintosh A, Fitzpatrick R. Quality of life measurement: Bibliographic study of patient-assessed health outcome measures. *Bri Med J*. 2002;324:1417-21.
8. WHO. The WHO international classification of function (ICF). Press Release WHO/48, Geneva. 2001 Nov, 15.
9. World Health Organisation (WHO). Scientific Group on Research on the Menopause. Geneva: WHO. 1990, 866.
10. Lee Y, Kim H. Relationship between menopausal symptoms, depression, and exercise in middle aged women. *Int J Nurs Studies*. 2008;45:1816-22.
11. Kakkar V, Kaur D, Chopra K, Kaur A, Kaur IP. Assessment of the variation in menopausal symptoms with age, education and working/non-working status in North-Indian sub population using menopause rating scale (MRS). *Maturitas*. 2007;57:306-14.
12. Del Prado M, Fuenzalida A, Jara D, Figueroa R, Flores D, Blumel JE. Assessment of quality of life using the Menopause Rating Scale in women aged 40 to 59 years *Rev Med Chil*. 2008;136:1511-7.
13. Joseph N, Nagaraj K, Saralaya V, Nelliyanil M, Rao PJ. Assessment of menopausal symptoms among women attending various outreach clinics in South Canara District of India. *J Mid-life Health*. 2014;5(2):84-90.
14. Cheng MH, Wang SJ, Wang PH, Fuh JL. Attitudes towards menopause among middle aged women:

- a community survey in an island of Taiwan. *Maturitas*. 2005;52:348-55.
15. Hafiz I, Liu J, Eden J. A quantitative analysis of the menopause experience of Indian women living in Sydney. *Aust N Z J Obstet Gynaecol*. 2007;47:329-34.
 16. Yanikkerem E, Koltan SO, Tamay AG, Dikayak S. Relationship between women's attitude towards menopause and quality of life. *Climacteric*. 2012;15:552-62.
 17. Khatoon F, Sinha P, Shahid S, Gupta U. Assessment of menopausal symptoms using modified menopause rating scale (MRS) in women of Northern India. *Int J Reprod Contracept Obst Gynecol*. 2018;7(3):947-51.
 18. Rahman S, Salehin F, Iqbal A. Menopausal symptoms assessment among middle age women in Kushtia, Bangladesh. *BMC Res Notes*. 2011, 4(1).