Original Research Article

STUDY OF SEVERITY OF MENOPAUSAL SYMPTOMS AMONG MIDDLE AGED WOMEN IN A TERTIARY CARE CENTRE

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A B S T R A C T

Background: Menopause is characterized by the complete absence of menstruation for twelve months or more. It is a natural physiological change that occurs in middle-aged women, and some of the symptoms associated with menopause can be intense enough to interfere with their everyday activities.

Materials and Methods: This was an observational cross-sectional study conducted in Department of Obstetrics and Gynaecology, School of Medical Sciences and Research Medical, Sharda Hospital, Greater Noida, Uttar Pradesh on middle aged females of 40-60 years. Total of 256 females (OPD and IPD) who consented to participate and meeting the required inclusion and exclusion criteria were enrolled for the study.

Results and Discussion: Out of 256 middle aged women 126(49.21%) were postmenopausal. Mean age of menopause was 50.08±3.15 years. It was a questionnaire-based study using Menopause Rating Scale which includes 11 symptoms under somatic, psychological and urogenital domains. 3.9% postmenopausal females had very severe MRS score. Joints and muscle discomfort (81.2%) was found to be most prevalent symptoms followed by depressive mood (70.3%). The variations in the type and severity of menopausal status among different studies in different population can be explained by the impact of racial differences on the prevalence and intensity of menopausal symptoms, as well as the average age at menopause and the duration since its onset.

Conclusion: The burden of menopausal symptoms has increased owing to increased overall life expectancy. Thereby comes the need of health programmes and medical interventions to cater the unmet needs of menopausal females to enhance the overall quality of life.

Keywords: MRS (Menopause Rating Scale), World Health Organisation, HRQoL (Health Related Quality of life), IMS (Indian Menopause Society).

INTRODUCTION

Menopause is a transitional stage in a woman's life, marking the shift from the reproductive to the non-reproductive phase. It serves as a natural protective process against reproductive-related health issues and risks in the aging population. With improved access to healthcare, life expectancy has increased, leading women to spend a larger portion of their lives in the menopausal phase.

Menopause is diagnosed retrospectively by history. The World Health Organization defines menopause as "the permanent cessation of menstruation due to the loss of ovarian function."[1] Menopause is a natural process in which almost all oocytes in the ovaries undergo atresia, leading to increased levels of follicle-stimulating hormone and luteinizing hormone, along with a decrease in estrogen. This decline in estrogen levels triggers perimenopausal symptoms, such as hot flashes, insomnia, mood

swings, and generalized physical and mental exhaustion, as well as postmenopausal issues like vaginal atrophy, bladder problems, and osteoporosis.[2] 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 menopausal changes.[3]

Globally, the average age of menopause is estimated to occur between 40 and 65 years. According to research by the Indian Menopause Society (IMS), the average age of menopause in Indian women is 47.5 years, which is significantly lower than that of their Western counterparts (51 years). As a result, menopausal health requires even greater attention in the Indian context.[4]

Various tools or instruments have been designed to measure and assess symptoms during the menopausal transition, among them is Menopause Rating Scale (MRS) which is designed to assess menopause specific health related quantity of life (QoL) to measure the severity of age/menopause-related complaints by rating a profile of symptoms.[5,6]

The Menopause Rating Scale (MRS) is a health-related quality of life (HRQoL) tool created in the early 1990s to address the absence of standardized scales for assessing the severity of aging symptoms and their effect on HRQoL. Initially, the first version of the MRS was designed to be completed by the treating physician; however, due to methodological criticism, a revised version was developed that can be easily filled out by women themselves, rather than their physician.[7,8]

Aims and Objectives

To study the severity and prevalence of menopausal symptoms among middle aged women (40–60 years) attending the Gynaecological OPD and IPD in Sharda hospital.

MATERIALS AND METHODS

This is an observational cross-sectional study conducted from July 2024 to September 2024 in the department of Obstetrics and Gynaecology, School of Medical Sciences and Research Medical, Sharda Hospital, Greater Noida, Uttar Pradesh.

A total of 256 women between the age of 40-60 years were enrolled for the study who attended the gynaecology OPD and IPD and gave consent to participate in the study.

Exclusion Criteria

Pregnant and breast-feeding women, women with induced menopause, premature menopause, women on HRT, medical conditions such as hypertension, hypothyroidism (TSH more than 4.0IU/L), diabetes mellitus(RBS more than 140mg/dl), heart disease, cancer therapy, history of drug addiction or alcohol abuse.

This is a questionnaire-based study that utilizes the Menopause Rating Scale (MRS) questionnaire to assess menopausal symptoms. The MRS is a self-administered, validated instrument that has been widely used in clinical and epidemiological studies, as well as in research on the etiology of menopausal symptoms, to evaluate their severity.[9]

The MRS is composed of 11 items and is divided into three subscales:

- 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 complaint) to 4 (very severe complaint).

All the women who fulfil the criteria were invited to participate with informed consent. The questionnaire was both in English and Hindi. Women were asked face to face whether they had experienced the 11 menopausal symptoms and depending upon the severity, their symptoms were marked from 0 to 4. Apart from menopausal symptoms, other parameters including demographic data will also be calculated.

Total score of MRS can lie anywhere between 0 to 44.

- Score 0- asymptomatic. •Score of 11 and below - mild.
- Score between 12 to 35-moderate. •Score of 36 and above - severe.

Statistical Analysis

Data was compiled in Microsoft excel work sheet and analysis was done with the help of IBM SPSS v-22. The statistical analysis was done using the Chi square test. P value <0.05 was taken to be statistically significant.

RESULTS

The research samples included 256 middle aged women of 40-60 years with the mean age of 46.49± 4.42 years. The mean age of menopause in this study was 50.08±3.15 years. Various demographic details were collected. Out of 256 women 126(49.21%) was postmenopausal and 130(50.78%) women were premenopausal. [Table 8]

Out of total 256 women 192(75%) belonged to rural area [Table 3] and total of 230(89%) were married [Table 4]. 85(33.2%) women were uneducated [Table 2] and hence had difficulty in assessing the actual severity of symptoms. 176 of them belonged to lower socioeconomic status. [Table 5]

MRS was used to examine menopausal symptoms in the study samples. This scale consisted of 11 symptoms in three domains of physical, psychological and uro-genital. Participants scored the items on the Menopause Rating Scale (MRS) on a scale of 0–4 post-menopausal women had higher scores in mild to moderate group (56.34%) as compared to premenopausal women (34.61%). 5(3.9%) postmenopausal women had severe to very severe symptoms while none in premenopausal had severe symptoms. The severity of the symptoms, as reported by the participants, is shown in Table 8/Figure 7.

Table 7 shows the frequency of menopausal symptoms as assessed by the modified MRS according to most frequent complaints. The most prevalent menopausal symptom in present study was joint and muscular pain 81.2% followed by depressive mood 70.3% and the heart discomfort being 60.9%. Rest of the symptoms are physical and mental exhaustion 57.8%, sleep disorder 57%, hot flashes 50%, anxiety 42.2%, irritability 40.6%, sexual problems 31.2%, dryness of vagina 30.5% and bladder symptoms in 27.3%.

Upon examining the severity, it was observed that joint and muscle pain symptoms were of a severe grade. Most cases of hot flashes, heart discomfort, sleep disturbances, irritability, sexual issues, bladder problems, and vaginal dryness were of mild severity. Depressive symptoms were found to be moderate.
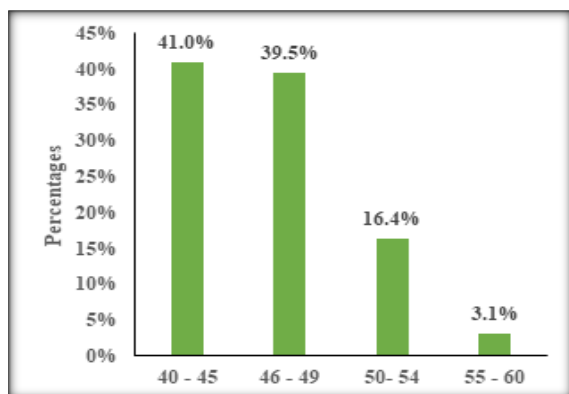

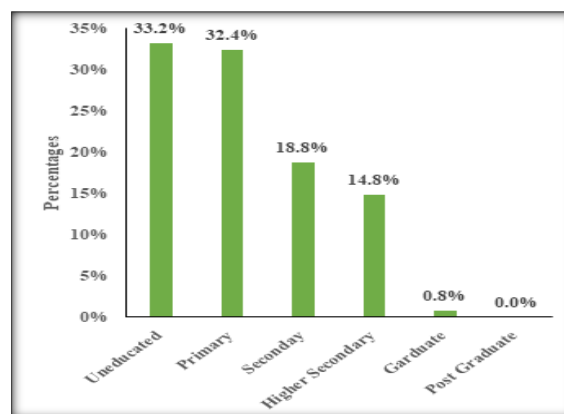**Figure 1: Distribution of study population according to age group (n=256)**

Figure 2: Distribution of study population according to education status (n=256)
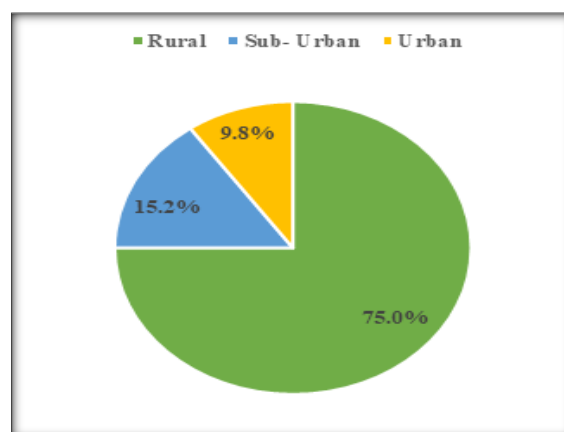

Figure 3: Distribution of study population according to demographic location (n=256)
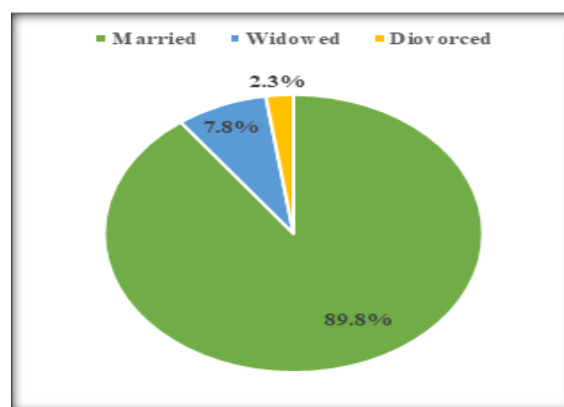

Figure 4: Distribution of study population according to marital status (n=256)
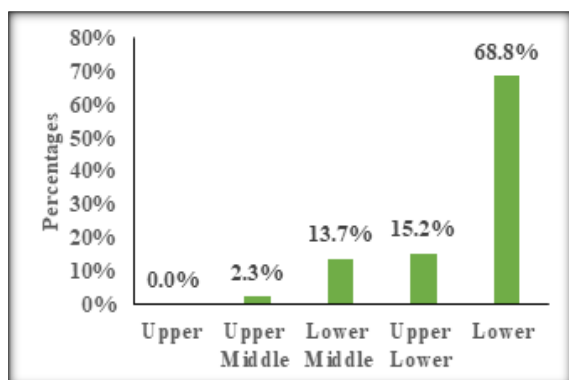
Figure 5: Distribution of study population according to socio-economic status (n=256)
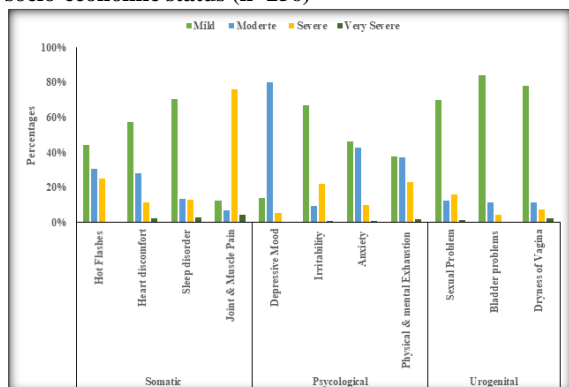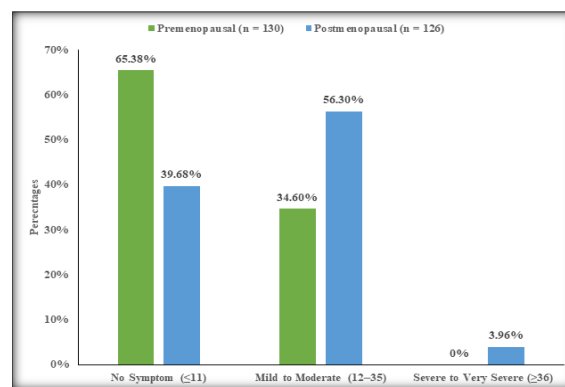

Figure 7: Severity of menopausal symptoms according to MRS

Figure 6: Frequency of menopausal symptoms assessed by MRS

Table 1: Distribution of study population according to age group (n=256)

Age Range	Percentage
40 - 45	41.0%
46 - 49	39.5%
50- 54	16.4%
55 - 60	3.1%
	100.0%

Table 2: Distribution of study population according to education status (n=256)

Education Status	Percentage
Uneducated	33.2%
Primary	32.4%
Secondary	18.8%
Higher Secondary	14.8%
Graduate	0.8%
Postgraduate	0.0%
	100.0%

Table 3: Distribution of study population according to demographic location (n=256)

Demographic Location	Percentage
Rural	75.0%
Sub- Urban	15.2%
Urban	9.8%
	100.0%

Table 4: Distribution of study population according to marital status (n=256)

Marital Status	Percentage
Married	89.8%
Widowed	7.8%
Divorced	2.3%
	100.0%

Table 5: Distribution of study population according to socio-economic status (n=256)

Socio-Economic Status	Percentage
Upper	0.0%
Upper Middle	2.3%
Lower Middle	13.7%
Upper Lower	15.2%
Lower	68.8%
	100.0%

Table 6: Frequency of menopausal symptoms representing p values

Somatic Symptoms	Nos	Percentage	Mild vs Moderate	Mild vs Severe	Mild vs Very Severe	Moderate vs Severe	Moderate vs Very Severe	Severe vs Very Severe
Hot Flashes	128	50.0%	0.039	0.001	<0.001	0.402	0.005	<0.001
Heart discomfort	156	60.9%	<0.001	<0.001	<0.001	0.7006	<0.001	0.003
Sleep disorder	146	57.0%	<0.001	<0.001	<0.001	0.863	0.001	0.001
Joint & Muscle Pain	208	81.3%	0.100	<0.001	0.004	<0.001	0.293	<0.001
Psychological								
Depressive Mood	180	70.3%	<0.001	0.012	<0.001	<0.001	<0.001	0.0106
Irritability	104	40.6%	<0.001	<0.001	<0.001	0.022	0.009	<0.001
Anxiety	108	42.2%	0.681	<0.001	<0.001	<0.001	<0.001	0.005
Physical & mental Exhaustion	148	57.8%	0.904	0.008	<0.001	0.011	<0.001	<0.001
Urogenital								
Sexual Problem	80	31.3%	<0.001	<0.001	<0.001	0.652	0.009	0.0012
Bladder problems	70	27.3%	<0.001	<0.001	<0.001	0.207	0.006	0.244
Dryness of Vagina	78	30.5%	<0.001	<0.001	<0.001	0.587	0.056	0.276

Table 7: Frequency of menopausal symptoms assessed by MRS

Symptoms		Mild	Moderate	Severe	Very Severe
Somatic	Hot Flashes	44.50%	30.50%	25.00%	0.00%
	Heart discomfort	57.70%	28.20%	11.50%	2.60%
	Sleep disorder	70.50%	13.70%	13.00%	2.70%
	Joint & Muscle Pain	12.50%	7.20%	76.00%	4.30%
Psychological	Depressive Mood	13.90%	80.00%	5.60%	0.60%
	Irritability	67.30%	9.60%	22.10%	1.00%
	Anxiety	46.30%	42.60%	10.20%	0.90%
	Physical & mental Exhaustion	37.80%	37.20%	23.00%	2.00%
Urogenital	Sexual Problem	70.00%	12.50%	16.30%	1.30%
	Bladder problems	84.30%	11.40%	4.30%	0.00%
	Dryness of Vagina	78.20%	11.50%	7.70%	2.60%

Table 8: Severity of menopausal symptoms according to MRS

MRS Severity Level	Premenopausal (n = 130)	Postmenopausal (n = 126)	P value
No Symptom (≤11)	85 (65.38%)	50 (39.68%)	<0.001
Mild to Moderate (12–35)	45 (34.61%)	71 (56.34%)	0.008
Severe to Very Severe (≥36)	0 (0%)	5 (3.96%)	0.027

DISCUSSION

Menopause is a significant event in a woman's life, and the symptoms experienced during this time can impact their quality of life. This study aimed to determine the frequency and severity of menopausal symptoms in middle-aged women.

Menopause is characterized by a state of oestrogen deficiency, and since many organs in the body are sensitive to oestrogen, a reduction in its levels leads to various physical, psychological, and sexual changes. The frequency of symptoms varies over time.

The mean age of menopause in this study was 50.08±3.15 years which is somewhat earlier than western counterparts and slightly higher than average age of menopause as given by Indian Menopause Society 47.5 years.[4]

The assessment tool used in this study was based on the Menopause Rating Scale (MRS) questionnaire. While there are various tools available to assess menopausal symptoms, we chose the MRS questionnaire because it has been widely utilized in numerous epidemiological studies. This tool has been validated and translated into many languages for broader use.

Originally designed as a self-administered questionnaire, the MRS assesses both the frequency and severity of various symptoms. In our study, we made a slight modification by administering the questionnaire directly to the respondents. Instead of having the respondents fill out the questionnaire on their own, we assisted them in the process.

A healthcare professional explained the questionnaire to the respondents and, based on their responses, filled it out for them. The MRS questionnaire could not be self-administered due to

several challenges, such as some respondents not understanding English, while others had little to no formal education or only completed primary-level schooling. The goal of involving a healthcare professional and conducting face-to-face interactions was to minimize reporting errors.

In terms of the specific symptoms on the MRS, joints and muscle pain were most commonly reported. This finding aligns with numerous other studies that identified the same issue as widespread. Both Cheng et al. and Hafiz et al. also observed joint and muscular pain as the primary symptom.[9,10] Similarly, Rahman et al. reported joint and muscular pain as the most common symptom.[11]

In the psychological domain in this study depressive mood was more prevalent (70.3%) which is consistent with the finding by study of Singh et al. in rural Delhi,[12] and in contrast to studies by Poomalar et al. and Ayranci et al who found anxiety to be most commonly reported.[13,14]

The lower frequency of urogenital symptoms compared to other two subscales like sexual problems being 31.2% and dryness of vagina 27.3% were similarly noted by Armo et al in Chhattisgarh.[15] This pattern is consistent with earlier studies by Joshi et al. and Anukriti et al., which highlight the reluctance of women in rural India to report such symptoms, likely due to cultural conservatism related to sexual health issues.[16,17]

In evaluating current menopausal status and symptoms, we found that postmenopausal women experienced higher rates of nearly all types of menopausal symptoms with significant p value for both mild to moderate and severe to very severe grades of symptoms (p value 0.008 and 0.02 respectively), whereas premenopausal women reported a lower frequency of symptoms. Among all participants only 3.9% of postmenopausal females had very severe MRS score (≥ 36) while none in premenopausal females.

CONCLUSION

The prevalence and severity of menopausal symptoms in our study were assessed using MRS scale in middle aged women (40-60 years) at a tertiary care center of Greater Noida. The mean age of menopause in participating females who were menopausal was 50.08±3.15 years.

Most prevalent symptom reported in our study was joints and muscle pain (81.2%) followed by depressive mood (70.3%) and heart discomfort (60.9%). Among all the subscales urogenital symptoms were least prevalence which can be attributed to various sociodemographic factors. Postmenopausal females had mostly moderate to severe to very severe scores on MRS owing to their

oestrogen deficient states when compared to premenopausal females.

The burden of postmenopausal symptoms is significant and has shown an increasing trend with age. This highlights the need for targeted health interventions through menopause hormone therapy and government health programmes for postmenopausal women, which can be implemented through existing health centres by establishing geriatric clinics.

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