



## ASSESSMENT OF MENOPAUSAL SYMPTOMS USING MODIFIED MENOPAUSE RATING SCALE (MRS) AMONG MIDDLE AGE WOMEN IN SELECTED URBAN AND RURAL AREA OF PUNE DISTRICT

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### ABSTRACT

Menopausal symptoms experienced by women are known to affect their quality-of-life. The symptoms experienced at menopause are quite variable and their etiology is found to be multifactorial. The objectives of the study were to determine the commonly reported menopausal symptoms among middle age women using a modified Menopause Rating Scale (MRS) and to compare the commonly reported menopausal symptoms in-between urban and rural areas of Pune district. By using modified MRS (Menopause Rating Scale) questionnaire, 40 urban and 40 rural women aged 40-60 years were interviewed and documented the symptoms of menopause. In rural group, half (50%) of the samples had age 56-60 years and all were housewives. In urban group, 82.5% of them were housewives. All of the middle age women in rural group had mild commonly reported menopausal symptoms. 65% of the middle age women in urban group had mild commonly reported menopausal symptoms and 35% of them had moderate commonly reported menopausal symptoms. Z-value for comparison of symptoms between urban and rural women was 18.6 with 78 degrees of freedom. Corresponding p-value was 0.000 which is small (less than 0.05), the null hypothesis was rejected. ANOVA results for association of commonly reported menopausal symptoms with the demographic variable of middle age women in rural group. Since p-value corresponding to education of middle age women was small (less than 0.05), the null hypothesis was rejected. Middle age women in urban group were found to have significantly more menopausal symptoms as compared to those in rural group.

**Keywords:** Menopausal symptoms modified menopause rating scale, menopausal symptoms, middle age women

### 1. INTRODUCTION

A woman goes through many stages in her life like pre adolescent, adolescence, young adult, adult and mature adult. In each stage she is facing age related changes and problems. In majority of women reproductive life starts in pre adolescence or adolescence period. In this period she starts menarche and she ends reproductive life starting with menopause. Menopause is a natural process just as puberty. Puberty prepares a girl to be able to conceive and bear children where as menopause prepares a woman to cease conception. Both cause sudden changes in one's body, property by introducing hormones and menopause by withdrawing them. Menopause which is defined as complete cessation of menstruation for twelve months or more is a normal physiological change experienced by middle age women. 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 [1-3]. The common climacteric symptoms experienced by them can be group into: vasomotor, physical, psychological or sexual complaints. It was also noted in some postmenopausal women with long term estrogen deficiency,

changes to the cardiovascular or bone which leads to osteoporosis. It is well documented that menopausal symptoms experienced by women affect their quality of life [4]. The common climacteric symptoms experienced by them can be group into: vasomotor, physical, psychological or sexual complaints. It was also noted in some postmenopausal women with long term estrogen deficiency, changes to the cardiovascular or bone which leads to osteoporosis has been established. It is well documented that menopausal symptoms experienced by women affect their quality of life [5-7].

To compound the problems, the menopause symptoms are quite variable with multifactorial etiology. Studies on menopausal issues and health demand priority in Indian scenario due to the growing population of menopausal women and due to varying presentation following influence of varied social and cultural pattern. Moreover by such studies, we can make women aware of menopausal symptoms leading to reduction in discomfort and fears. This also helps in its early recognition and seeking appropriate medical care if necessary. With this background, this study was done to assess the pattern and severity of menopausal symptoms and to find out the factors associated among women in Pune district.

## 2. MATERIALS AND METHODS

This cross-sectional study was conducted in one urban and one rural outreach clinic affiliated to Symbiosis College of Nursing in Pune, Maharashtra in the month of July and August 2014. The study protocol was approved by the Ethics Committee of this institution. The total sample size was 80. 40 women from urban and 40 women from rural community was calculated by the assuming the proportion of women with menopausal symptoms to be 50% with relative precision of 20% and nonresponse rate of 10%. Women in the age group of 40-60 years were included in the study by convenient sampling method. Exclusion criteria at baseline included any serious illness that might compromise ovarian or hormonal and current use of exogenous sex hormones.

### 2.1. Study Questionnaire

The questionnaire used in this survey was based on the Menopause Rating Scale (MRS) [8, 9]. Questionnaire was modified to suit the Maharashtra culture and norms. These changes allowed the researchers to cover all the profession groups in the female population living in urban and rural areas., such as housewives, professional workers, teachers, etc. Reliability analysis was performed on the modified Menopause Rating Scale questionnaires with Cronbach's alpha scale. Therefore, this study determined the prevalence of menopausal symptoms.

Each patient was explained the nature and purpose of this study and their written informed consent was obtained. Data regarding menopausal symptom was also obtained by interviewing each participant using the standard menopause rating scale (MRS) questionnaire after translating it into the local language Marathi. MRS is nine item questionnaire on commonly associated symptoms of menopause with a scoring scale from mild, moderate, severe and none. Each participant was asked if they had experienced these symptoms in the previous 1-month period and to grade its severity.

#### Questionnaires were divided into three sections:

1. Socio-demographic data of the participants, which included: Age in years, locality, religion, education, occupation of the respondent, education of the husband and income of the family per month in rupees.
2. Menopause Rating Scale (MRS) questionnaire were used as a basis for assessing menopausal symptoms in this study, this is a self-administered instrument which has been widely used and validated and have been used in many clinical and epidemiological studies. General symptoms comprised of symptoms weakness, easy fatigability, giddiness, constipation, irritation and loose motions. Vasomotor symptoms comprised of sudden feeling of the warmth in the body, vomiting, hot flushes, night sweats, fast heart beat, increased blood pressure and chest pain. Genitourinary system comprised of feeling of urgency in passing urine, painful micturition, difficulty in passing urine, retention of the urine, dribbling of the urine, genital

prolapsed and thinning of pubic & axillary hair. Changes of sexual life comprised of painful intercourse, sexual dissatisfaction, vaginal dryness, increased sexual desire, decreased sexual desire and increased vaginal lubrication. Physical changes comprises of increase in the body weight, shagging & shrinking of the breast, reduced weight, easy breaking of hair & grey hair, tingling & numbness of extremities and fingers, loss of physical structure-gait, hair growth over the face, wrinkles of the skin anaemia, dryness of the skin. Muscles & bones consisted of lower back ache bending of the spine fractures, wasting of the muscles, leg cramps and bone cancer. Psychological symptoms consisted of anxiety, headache, irritability, increased happiness, sleeplessness, increased concentration, feeling of isolation, feeling of neglect by others, loss of memory and fear of pregnancy. Other health problems/other minor elements included heart diseases, easy breaking of the bones, stroke, anaemia, diabetes and blood disorders. Menstrual patterns included sudden cessation of menstruation.

All women were interviewed in Marathi/ Hindi language. Face to face interviews were done on all the women by researchers.

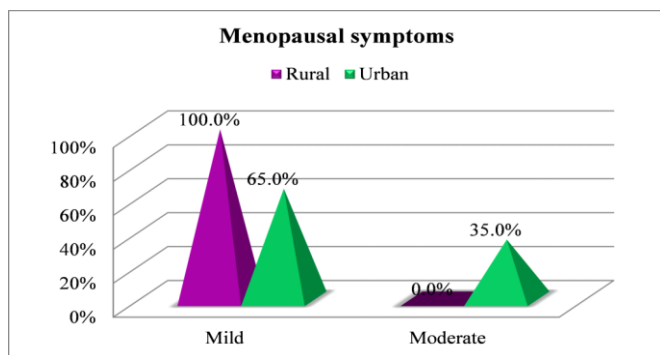
## 3. RESULTS

**Table 1: Description of samples (middle age women) based on their personal characteristics in terms of frequency and percentage**

Demographic variable	Rural		Urban	
	Freq	%	Freq	%
<b>Age in years</b>				
40 – 45	5	12.5	0	0.0
46 – 50	5	12.5	3	7.5
51 – 55	10	25.0	17	42.5
56 – 60	20	50.0	20	50.0
<b>Religion</b>				
Hindu	39	97.5	33	82.5
Muslim	1	2.5	7	17.5
<b>Education</b>				
Illiterate	17	42.5	19	47.5
Elementary	12	30.0	19	47.5
Secondary	6	15.0	1	2.5
Higher secondary	5	12.5	1	2.5
<b>Occupation of the respondent</b>				
Clerical / shop owner	0	0.0	7	17.5
House wife	40	100.0	33	82.5
<b>Education of the husband</b>				
Illiterate	2	5.0	5	12.5
Elementary	9	22.5	20	50.0
Secondary	14	35.0	13	32.5
Higher secondary	8	20.0	2	5.0
Graduate	7	17.5	0	0.0

Income per Month				
3000 – 5000	4	10.0	3	7.5
5001 – 7000	10	25.0	12	30.0
7001 – 9000	19	47.5	19	47.5
9001 – Above	7	17.5	6	15.0
Type of the family				
Nuclear	36	90.0	32	80.0
Joint	4	10.0	2	5.0
Other	0	0.0	6	15.0
Marital Status				
Married	40	100.0	35	87.5
Unmarried	0	0.0	5	12.5
Present living status				
Living with husband	30	75.0	37	92.5
Separated	9	22.5	1	2.5
Widow	1	2.5	2	5.0

N=40, 40



N=40, 40

**Fig. 1: Commonly reported menopausal symptoms among middle age women**

All of the middle age women in rural group had mild commonly reported menopausal symptoms. 65% of the middle age women in urban group had mild commonly reported menopausal symptoms and 35% of them had moderate commonly reported menopausal symptoms

**Table 2: Two sample z-test for comparison of commonly reported menopausal symptoms in middle age women in urban and rural group**

	Mean	SD	z	p-value
Rural	25.4	6.9	18.6	0.000
Urban	54.6	7.1		

N=40, 40

Researcher applied two sample Z-test for comparison of commonly reported menopausal symptoms in middle age women in urban and rural group. Average score of rural group was 25.4, which was 54.6 for urban group. Z-value for this comparison was 18.6 with 78 degrees of freedom. Corresponding p-value was 0.000 which is small (less than 0.05), the null hypothesis is rejected. Middle age women in

urban group were found to have significantly more menopausal symptoms as compared to those in rural group.

**Table 3: ANOVA results for association of commonly reported menopausal symptoms with the demographic variable of middle age women in rural group**

Source	F	p-value
Age in years	2.0	0.130
Religion	0.7	0.417
Education	4.1	0.013
Education of the husband	1.9	0.133
Income per Month	1.1	0.380
Type of the family	0.6	0.433
Present living status	0.6	0.555

N=40, 40

Since p-value corresponding to education of middle age women was small (less than 0.05), the null hypothesis is rejected. Demographic variable education of middle age women was found to have significant association with menopausal symptoms in middle age rural women.

**Table 4: ANOVA results for association of commonly reported menopausal symptoms with the demographic variable of middle age women in urban group**

Source	F	p-value
Age in years	0.3	0.776
Religion	0.1	0.826
Education	1.4	0.262
Occupation of the respondent	0.3	0.572
Education of the husband	0.9	0.451
Income per Month	0.5	0.698
Type of the family	0.0	0.958
Marital Status	0.0	0.882
Present living status	1.1	0.341

N=40, 40

Since all the p-values were large (greater than 0.05), there is no evidence against null hypothesis. None of the demographic variable was found to have significant association with menopausal symptoms in rural middle age urban women.

#### 4. DISCUSSION

Average score of rural and urban group was 25.4 and 54.6 in this study was similar to the findings of 50.3 years made in a study done in Kannur [10] and 51.7 years made in a study done in Manipal [11]. In other studies done in India and outside India, the mean age of onset of menopause ranged between 44.5 and 54.3 years [12-14].

The most common symptoms of menopause seen in this study were physical and mental exhaustion and joint and muscle aches, weakness, giddiness which was similar to the

findings of another regional study. Several studies have reported joint and muscle pains as the commonest menopausal symptom. There are also studies which have reported feeling of tiredness and easy fatigability as the commonest symptom of menopause [14]. On the other hand, a study done in Iran [15] reported night sweats, a study done in Malaysia [16] reported hot flushes, a study done in Bolivia [17] reported loss of libido and a study done in Manipal [18] reported poor memory as the commonest menopausal symptom. Overall musculoskeletal symptoms being reported as the commonest menopausal symptom has been proved to be related to hormonal changes.

In this study, there was association of severity of menopausal symptoms with any of the socio demographic variables, menopausal status or duration of menopause, which was similar to the findings of a study done in Malaysia. Other studies have observed that women with a longer duration of menopause reported a lower severity of symptoms probably because they had more time to adapt to the menopausal changes [19, 20]. May be this was the reason behind greater number of severe symptoms among urban menopausal women in this study compared with other rural menopausal groups; however this difference was statistically significant. Most women suffered from somatic symptoms followed by psychological, general symptoms, vasomotor symptoms, genitourinary system, changes of sexual life, physical changes, other health problems, psychological symptoms and menstruation pattern problems are moderate in urban women comparing with rural women.

## 5. CONCLUSION

The commonest menopausal symptoms were joint and muscular discomfort and physical and mental exhaustion. Most women suffered from somatic symptoms followed by psychological, general symptoms, vasomotor symptoms, genitourinary system, changes of sexual life, physical changes, other health problems, psychological symptoms and menstruation pattern problems are moderate in urban women comparing with rural women.

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