### **Original Research Article**

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# An epidemiological study of the perimenopausal and menopausal health problems in women living in an urban area of Mumbai, Maharashtra

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#### **ABSTRACT**

**Background:** Menopause is a transitional period of changing role and status of women from reproductive to post reproductive age. It occurs due to decrease in level of oestrogen, which leads to multiple menopausal symptoms. The objectives were to study the health and psychological problems associated with menopause and to study the relation of health and psychological problems with age, marital status, socio-economic status, parity and tobacco use.

**Methods:** A cross-sectional study was carried out amongst women in the age group of 40 to 50 years during the period of February 2012 to February 2013 to know the epidemiological profile of peri and postmenopausal women. The study information of the women was collected by personal interview technique by home visits.

**Results:** The average age at menopause amongst the study subjects was 45 yrs. The most common problem faced by the respondents was somatic symptoms. Among those the most common was muscle joint pains 65.1%. This study found significant association in marital status, parity, tobacco chewing and increased the occurrence of menopausal symptoms.

**Conclusions:** There is a high burden of menopausal symptoms in women and the menopausal symptoms are affected by various socio-demographic factors like marital status, parity, tobacco chewing.

Keywords: Menopausal symptoms, Perimenopausal women, Somatic symptoms

#### INTRODUCTION

Menopause is a natural phenomenon as a part of women's lifetime. Menopause represents permanent cessation of menses with loss of ovarian function. Ageing is the natural process of structure and function which occurs with the passage of time in absence of disease. In cultural perspectives menopause symbolizes changing role and status of women from the reproductive to the post reproductive age. In the western world, the average age of menopause is 50.4 and average age of menopause in Indian women is 45 years. In 1990, 40% postmenopausal women lived in industrialized countries and 60% in developing countries. By 2030, the proportion of postmenopausal women loving in

industrialized region will decline to 24% and 76% will be living in developing countries.<sup>6</sup>

India is a country of great diversity. It is difficult to apply "one size fits all" to the Indian consensus recommendations due to varied lifestyles in the country, the rural-urban divide, the economic imbalance between poor middle class and affluent people, multicultural, multiethnic and multi religious population. The same thing is true for the menopausal symptoms. Distribution of menopausal symptoms is extremely assorted. Individual variations exist as they do worldwide. A multiplicity of symptoms has been related to menopause. These symptoms range from vasomotor symptoms like hot flushes and night sweats, irregular vaginal bleeding,

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somatic symptoms like headache, body aches, joint pains, psychological symptoms like anxiety, depression, crying spells, irritability and decreased sleep. Epidemiological studies have shown that many associations between age at menopause and socioeconomic factors like smoking, reproductive behavior which includes parity, age at last child, use of OC pills, socioeconomic status and education and also genetic factors. 9,10

Apart from these symptoms menopause act as a risk factor for various chronic diseases like coronary artery diseases, stroke, diabetes, obesity and hypertension. In the view of this a cross sectional study was conducted in the community to assess the extent and severity of health problems associated with perimenopausal and menopausal period of life.

#### **Objectives**

- 1. To study health and psychological problems associated with menopause.
- 2. To study the relation of health and psychological problems with age, marital status, socio-economic status, parity, and tobacco use.

#### **METHODS**

A cross-sectional study was carried out amongst women in the age group of 40-50 years in field practice urban area of Dept. of Community Medicine of Seth G. S. Medical College and KEM Hospital, Mumbai during the period of February 2012 to February 2013.

#### Eligibility criteria

The women in the age group of 40 to 50 yrs who were living in BDD chawls for more than 6 months are included in the study (When the exact age was not known to the respondent, it was indirectly derived by asking of major events in life of the woman). Women with induced menopause, hysterectomy, receiving any kind of hormonal therapy in preceding six months or women having confirmed thyroid and adrenal illness were excluded from the study.

#### Setting

The study was conducted amongst women in the age group of 40-50 years from an urban field practice area adopted by G S Medical College, Mumbai. The majority of the population in this area lives in chawls. There are 42 BDD chawls in this area. Each chawl contains 80 rooms with a total population of around 18,000 living in this area.

#### Sample size

So an a estimate of 50% of those women between the age group of 40 to 50, with an accepted error of 5% and confidence level of 95%, the sample size for the study

comes about 400. The list of the women is obtained from the family registers from the health post which is at Naigaon. The women in the age group of 40-50 years were arranged alphabetically. Considering 400 sample size, every 5th woman was selected. A pilot study of 30 respondents was conducted in study area. The questionnaire was appropriately modified. Institutional ethics committee permission was obtained. The study information of the women was collected by personal interview technique by home visits. A female attendant always accompanied for the interview. The interview was conducted only after taking the oral consent from the woman. Interview was done in a private setting so that the confidentiality of the study was ensured. Interview was conducted in the local language and the full confidentiality of study was assured throughout the study.

#### Statistical analysis

Data was analysed using MS excel and SPSS version 18.0.

#### **RESULTS**

As shown in Table 1 that total 401 women were included in the study, amongst them 204 (50.9%) were between the age group of 40 to 45 years and 197 (40.1%) were between the age group of 46 to 50 years. Amongst 401 women 260 (64.8%) were perimenopausal and 141 (34.2%) were postmenopausal. 71.5% of the perimenopausal women were below the age of 45 years and 87.2% of the post-menopausal women were above the age of 46 years. The respondents in this study were mostly Hindu (91%), Married (91%) and unemployed (98.5%). About 48.1% of the respondents were educated upto primary school, followed by 37.7% upto secondary and 10% women were illiterate. Only 1.5% was educated upto graduation level.

It was seen from Table 2 that the most common problem faced by the respondents was somatic symptoms. Among it, the most common is muscle joint pains 65.1% followed by loss of feeling in the hand 64.3%, Headaches- 40.6%, Numbness- 34.7%, Tightness in head-24.4%, and among the commonest psychological symptom was difficulty in sleeping 42.9%. The next commonest symptom was difficulty in concentration 34.7%, followed by nervousness in 33.7% and irritability in 33.4% of the respondents. Among urinary complaints 8.2% women had urinary incontinence. In present study the average age of attainment of menopause was found to be 45.2 years.

It was seen from Table 3 that 231 (57.6%) women had irregular menses and 82 (20.4%) were having heavy menstrual bleeding. Surprisingly none of the women with heavy bleeding seek the treatment for it. 197 (49.1%) women had normal menstrual bleeding and 30.4% had scanty menses during their menopausal transition.

It was evident from Table 4 that the prevalence of all the menopausal symptoms vasomotor (56%), somatic

(71.09%), urinary (60.6%) and psychological symptoms (53.9%) was higher in 40 to 45 years of age group.

Table 1: Age wise distribution of menopausal women.

Age	Perimenop (n=260)	oausal period (%)	Postmenop (n=141)	ausal period (%)	Total	(%)	
40-45 Yrs	186	71.5	18	12.7	204	50.9	
46-50 Yrs	74	28.4	123	87.2	197	49.1	
Total (n=401)	260	64.8	141	34.2	401	100	

Table 2: Distribution of menopausal symptoms amongst study population.

Symtoms	Variable	No.	(%)
Vacamatan summtams	Hot flushes	37	9.20
Vasomotor symptoms	Sweating	50	12.50
Somatic symptoms	Faintness	49	12.20
	Tightness in head	98	24.40
	Numbness	139	34.70
	Headaches	163	40.60
	Muscle/joint pains	261	65.10
	Loss of feeling in hands	258	64.30
	Palpitations	80	20.00
	Nervousness	135	33.70
	Difficulty in sleeping	172	42.90
	Excitable	72	18.00
	Mood swings	95	23.70
Psychological symptoms	Panic attacks	120	29.90
Psychological symptoms	Difficulty in concentration	139	34.70
	Forgetfulness	117	29.20
	Feeling tired	133	33.20
	Feeling unhappy	122	30.40
	Crying spells	115	28.70
	Irritability	134	33.40
The same same to the	Increased need to urinate	23	5.70
Urinary symptoms	Urinary incontinence	33	8.20

Table 3: Menstrual irregularities during menopause.

Menstrual irregularities		Number	Percentage (%)
Regular (n=170)	Scanty	13	3.20
	Normal	152	37.90
	Heavy	5	1.20
	Scanty	109	27.30
Irregular (n=231)	Normal	45	11.20
	Heavy	77	19.20
Total		401	100

Table 4: Distribution of menopausal symptoms with relation to menopausal period.

	Vasomotor symptoms		Somatic symptoms		Psychological		Urinary symptoms	
Menopausal period	(n=50)		(n=301)		symptoms (n=282)		(n=33)	
	N	%	N	%	N	%	N	%
40 to 45 years	28	56	214	71.09	150	53.9	20	60.6
46 to 50 years	22	44	87	29.91	132	46.1	13	39.4
Total (N=401)	50	12.5	301	75.06	282	70.3	33	8.2

Table 5: Relationship between menopausal symptoms and marital status.

Menopausal symptoms		Marital status Married (n=365) Widowed/ Divorced (n=36) Total (n=401)							
Trionopadodi oj inpromo	No.	<u>%</u>	No.	% Divorceu (n-00)	No.	%			
Vasomotor symptoms	46	12.6	4	11.1	50	12.5			
*Somatic symptoms	280	76.7	21	58.3	301	75.1			
**Psychological symptoms	250	68.5	32	88.9	282	70.3			
Urinary symptoms	31	8.5	2	5.6	33	8.2			
No symptoms	33	9.0	2	5.6	35	8.7			

<sup>\*</sup>Chi Square=4.97, df=1 (p<0.05); \*\*Chi Square=5.59, df=1 (p<0.05).

Table 6: Relationship between menopausal symptoms and socio-economic status.

Symptoms	Lower (n=7)	Lower middle (n=7)		Upper lower (n=279)		Lower (n=115)		)
	No.	%	No.	%	No.	%	No.	%
Vasomotor symptoms	0	0	31	11.1	19	16.5	50	12.5
Somatic symptoms	3	42.8	214	76.7	84	73	301	75.1
Psychological symptoms	1	14.2	174	62.3	107	93.04	282	70.3
Urinary symptoms	0	0	28	10.03	5	4.34	33	8.2
No symptoms	1	14.2	28	10.03	6	5.2	35	8.7

Table 7: Relationship between menopausal symptoms and parity.

Symptoms	No chi	No children (n=24)		1 to 3 (n=289)		4 to 7 (n=88)		(n=401)
Symptoms	No.	%	No.	%	No.	%	No.	%
Vasomotor symptoms	3	12.5	32	11.07	15	17.04	50	12.5
Somatic symptoms	15	62.5	219	75.7	67	76.1	301	75.1
*Psychological symptoms	8	33.3	197	68.1	77	87.5	282	70.3
Urinary symptoms	0	0	26	8.9	7	7.9	33	8.2
No symptoms	3	12.5	27	9.3	5	5.6	35	8.7

<sup>\*</sup>Chi Square =28.28; df=2; (p<0.05)

Table 8: Relationship between menopausal symptoms and tobacco chewing.

Symptoms		chewing (n=101)	Absent (	(n=300)	Total (n:	Total (n=401)		
	No.	%	No.	%	No.	%		
Vasomotor symptoms	18	17.8	32	10.6	50	12.5		
Somatic symptoms	80	79.2	221	73.6	301	75.1		
*Psychological symptoms	87	86.1	195	65.1	282	70.3		
Urinary symptoms	7	6.9	26	8.6	33	8.2		
No symptoms	11	10.8	24	8	35	8.7		

<sup>\*</sup>Chi Square=15.18, df=1, (p<0.05)

It was seen from Table 5 that the women who were married had more vasomotor symptoms (12.6%) than widowed or divorced (11.1%). The somatic (76.7%) symptoms and urinary symptoms (8.5%) were also more common in married woman. There is statistically significant relationship between somatic complaints and marital status (p<0.05). But the study also found that those women who were either divorced or separated had more (88.9%) psychological complaints than who were married (68.9%) (p<0.05).

It was seen from Table 6 that there were no respondents in the upper and upper middle class. Vasomotor symptoms were more in lower socioeconomic class (16.5%) than the upper lower class (11.5%). Somatic and psychological symptoms were also more in lower socioeconomic class than Lower middle and upper lower class.

It was seen from Table 7 that vasomotor symptoms were more in multiparous women (17.04%) than women nulliparous (12.5%) and also psychological, somatic and urinary symptoms were more in multiparous women.

There is statistically significant association between and psychological symptoms with parity (p<0.05).

It was evident from Table 8 that all the symptoms of menopause vasomotor, somatic and psychological were more in tobacco chewing women. The relationship between psychological symptoms and tobacco chewing was statistically significant.

#### DISCUSSION

#### Age at menopause

In present study, the average at menopause was found to be 45.2 years. A study conducted in Baroda Gujarat to know the perceptions towards the physiological health problems faced at menopause in the year 2005 shows that the mean at menopause was 44.59 years. In a study conducted by Kriplani and Banerjee. on the respondents attending the outpatient clinic of obstetrics and gynaecology in AIIMS Delhi in the year 2005 showed that the median age at menopause was found to 48 years.

#### Distribution of menopausal symptoms

The most common problem faced by the respondents was somatic symptoms. Among them the most common was muscle joint pains 65.1% followed by loss of feeling in the hand 64.3%, Headaches-40.6%, Numbness-34.7%, and among the psychological complaints, the commonest psychological symptom was difficulty in sleeping 42.9%. Similar results were obtained in a study conducted by Joseph N et al in south district in India, in which the most common symptom reported was joint and muscular discomfort and physical and mental exhaustion seen in 94 (85.4%) participants. A study conducted by Sidhu et al in Amritsar district of Punjab on 548 women, in the year 2005 showed that prevalence of hot flushes was quite high like 55%.

# Relationship between menopausal symptoms and marital status

Present study showed that the prevalence of somatic (76.7%) and urinary symptoms (8.5%) was more in married woman. There is statistically significant relationship between somatic complaints and marital status (p<0.05). Similarly Gold et al in his study found that, there was a significant relationship between the women's marital status and the prevalence of menopausal symptoms. Married women reported more frequent menopausal symptoms such as vasomotor symptoms (hot flashes, sweating), urinary symptoms (urine leakage), than non-married women (single, divorced, widowed). But a study conducted by Becker et al in the year 2000 on a sample of 189 women (mean age 49.49) showed that no significant correlations emerged between psychological and somatic symptoms of menopause and marital status.10

## Relationship between menopausal symptoms and socioeconomic status

In the present study, vasomotor symptoms, somatic and psychological symptoms were more in lower socioeconomic class (16.5%) than the upper lower class. A community-based survey conducted by Gold et al, related to menopausal and other symptoms in a multiracial/ethnic sample of 16,065 women aged 40-55 years. Most symptoms were reported most frequently among women who had difficulty paying for basics; these results suggest that socioeconomic status affect symptoms in this age group.<sup>9</sup>

#### Relationship between menopausal symptoms and parity

Present study showed that vasomotor symptoms were more in multiparous women (17.04%) than women nulliparous (12.5%). While the rest psychological, somatic and urinary symptoms were more in multiparous women. There is statistically significant association between psychological symptoms with parity. Women who have children are more prone to have of hormonal fluctuations. The reasons behind this are due to pregnancy, miscarriages, breastfeeding, the woman's health status, and her use of birth control. Similar results were shown by a cross sectional study conducted by Di Donato et al in 66,501 women to study characteristics of women around menopause attending a network of first level menopause outpatient's clinics in Italy. It showed that the parous women reported more frequently reported psychosomatic complaints of menopause. 11 But in a study conducted by Leidy et al in 1996 among menopausal women in Greene County, New York showed that neither vasomotor nor psychological symptoms were associated with parity.<sup>12</sup>

# Relationship between menopausal symptoms and tobacco chewing

The present study showed that all the symptoms of menopause vasomotor, somatic and psychological are more in tobacco chewing women. But only the relationship between psychological symptoms and tobacco chewing was statistically significant. The study showed no significant relationship between vasomotor symptoms and tobacco chewing. Similarly a study conducted by Sabia et al in the 28,118 women participating in the French cohort study who reached menopause showed that the risk of menopausal symptoms was positively associated with smoking. 13 A study by Gold et al in California conducted a study in 3198 women enrolled in the study of women's health across the nation to find the factors affecting the vasomotor symptoms. Among the risk factors assessed, vasomotor symptoms were associated with smoking.<sup>14</sup>

#### Menstrual irregularities during menopause

The present study showed 231 (57.6%) women had irregular menses and 82 (20.4%) was having heavy

menstrual bleeding. Surprisingly none of the women with heavy bleeding did not seek the treatment for it, 197 (49.1%) women had normal menstrual bleeding and 30.4% had scanty menses during their menopausal transition. Similarly a study conducted by Baghla et al in Kangra district of Himachal Pradesh showed revealed that majority of respondents (65.83%) said that there was irregularity of timing with skipped periods before menopause. About 48.33% of women had abrupt cessation of menstruation. Heavy periods were common among 45.83% of the respondents and only 20% said that there were slowing down of flow of blood before final cessation of menstruation. <sup>15</sup>

#### CONCLUSION

There was a high burden of the menopausal symptoms in study population. Somatic symptoms were commonest and affected around 65% of respondents. The menopausal symptoms are affected by various socio-demographic factors. This study found that marital status, parity, tobacco chewing and previous tubal ligation increased the occurrence of menopausal symptoms Menopausal symptoms were more common in lower socioeconomic status than the upper ones. Marital status affected the menopausal symptoms. All the menopausal symptoms except psychological symptoms were more common in married women. Of the menopausal symptoms somatic and psychological symptoms had the significant association with parity. This study showed that all the menopausal symptoms like vasomotor, psychological, somatic and urinary symptoms were more in multiparous women. There is statistically significant association between and psychological symptoms with parity. All the menopausal symptoms were affected by tobacco chewing and among them psychological symptoms had significant association.

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