



## Research Article

# Assessment of Health Status in Peri- and Postmenopausal Women Residing in Urban Slums

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## Abstract

**Background:** Menopause is said to be a universal reproductive phenomenon. All the women who live beyond the age of 45-50 years, experience a period of transition from reproductive to the non-reproductive stage of life. Menopause although not a disease is associated with hot flushes, night sweats, urinary and genital changes, dyspareunia, insomnia and many psychological dysfunctions such as anxiety, depression, lack of concentration and decreased self-esteem.

**Objectives:** (1) To identify socio-demographic factors associated with perimenopausal and postmenopausal women. (2) To study menopause associated health problems in the study population.

**Methods:** A community based cross sectional study was conducted on perimenopausal and postmenopausal women residing in urban slums of Burla and data regarding socio-demographic profile and health problems associated with menopause were assessed. A total of 440 individuals were enrolled for the study for a duration of three months out of which 405 participated.

**Results:** Hypertension was found to be most common non communicable disease among post menopausal women 137 (38.6%) followed by Diabetes mellitus 78(21.8%). Among the perimenopausal women incidence of Diabetes, Hypertension, Hypothyroidism, Hypercholesterolemia were lower i.e.8 (15.2%), 6(10.6%), 11(21%), 3(5.2%),6(10.6%) respectively. Only 35(68.4%) of women perimenopausal group experience hot flushes whereas 303 (85.5%) of post menopausal women complained of hot flushes.

**Conclusion:** As life expectancy and population of post-menopausal women increases, efforts are needed to educate them and make them aware about various menopausal symptoms. This will enable them to recognize these symptoms early, to seek timely medical treatment for the same and improve their quality of life.

**Keywords:** Menopause, Hot flushes, Hypercholesterolemia.

## Introduction

Perimenopause refers to the time period that begins when the ovaries begin to decline in function and continues until menopause (defined as the total cessation of menstrual flow for one calendar year) has been reached. It has been called the "change of life" or "transition period." It usually begins in the 40s, but may start as early as the late 30s<sup>[1]</sup> Perimenopausal period is the time before; during and after menopause. Symptoms that begin with the menopausal transition usually continue making a compensatory decrease in the postmenopause.<sup>[2]</sup> Menopause is an universal reproductive phenomenon. All the women who live beyond the age of 45-50 Years, experience a period of transition from reproductive to the non reproductive stage of life.<sup>[3]</sup> The word menopause literally means cessation of menstrual cycle. It is derived from Greek word 'Meno' or month and 'pausis' means a pause or cessation. It is the time of a women's life when reproductive capacity ceases.<sup>[4]</sup> Natural or spontaneous menopause is recognized to have occurred after 12 months of amenorrhea for which there are no obvious pathological and physiological causes. It is a retrospective diagnosis. It occurs due to depletion of ovarian follicles resulting in near complete, but natural diminution of ovarian hormone secretion. There is no independent biological marker for menopause.<sup>[5]</sup> Women spend a significant part of their lives in post menopausal state. In 1990, around 467 million women aged 50 years and are expected to increase to 1200 million by the year of 2030. Women attain menopause through varied reasons like natural decline of reproductive hormones, hysterectomy, due to primary ovarian insufficiency and chemotherapy or radiation therapy.<sup>[6]</sup> The age of onset of the menopause varies greatly among women. Although the average age of women at the menopause is between 50 and 51.<sup>[7]</sup> Menopause although not a disease is associated with annoying physiological changes and varied symptoms like hot flushes, night sweats, urinary and genital changes, dyspareunia, insomnia etc. Thus it affects the

quality of life by being major cause of morbidity and acts as a risk factor for early mortality from subsequent chronic diseases like IHD, Osteoporosis etc. On the basis of this background the present study was conducted to identify socio-demographic factors associated with perimenopausal and postmenopausal women and to study menopause associated health problems in the study population.

## Materials & Method

**Type of study:** Community Based Cross Sectional Study

**Place of study:** Area under AWCs of Goudpali, Jaganathnagar, Mahatavnagar, Ganeshnagar, Shaktinagar, Central line, Jhareipali, Jampali under Urban Health training Centre, Department of Community Medicine, Burla

**Time of Study:** October 2017 to December 2017

**Study population:** The study population comprised of all the perimenopausal and postmenopausal women of that area who met the inclusion criteria.

### Inclusion criteria

1. Women in the age group of 40-60 years
2. Women who are willing to participate in the study and have given written consent.

### Exclusion criteria

1. Women <40 years of age
2. Women who had undergone hysterectomy
3. Women with induced menopause, receiving any kind of hormone therapy were not included in the study.
4. Locked houses or the women who did not give the consent were not included in the study.

**Sample Size:** Sample size was determined by the formula

$$n = Z^2 p (1-p) / d^2, n = \text{Sample Size}$$

$$z = 1.96 \text{ (At 95\% Confidence interval)}$$

$$p = \text{Prevalence of vasomotor symptom} = 60\% \\ \text{(Sample size was calculated by doing a pilot study on 30 ladies and prevalence of symptoms found was 60\%)} (1-p) = 40\%$$

$$d = \text{allowable error} = 5\%$$

$$\text{Therefore } n = 1.96 \times 1.96 \times 60 \times 40 / 5 \times 5 = 368$$

The sample size determined was 368, assuming prevalence of vasomotor symptoms among post menopausal women as 60% at 95 % confidence level and 5% as absolute precision. Assuming 10 % non response rate we got the final sample size as:

$368 + 36(10\%) = 404.8$  Hence the final sample size was **405**.

**Sampling Method:** Out of total 25 AWCs in Burla, systemic random sampling was done to select 8 AWCs. From the 8 AWCs, 55 participants were selected, thus the total sample size becomes 440. Out of 440 participants, 45 participants did not give their consent. Thus data were collected from 405 participants. The participants were selected by doing house to house visits, till the desired numbers were interviewed from the selected AWCs. The interview was conducted in local language after taking written consent from the participants and was done in a private setting so that the confidentiality of study was ensured.

**Study Instrument:** The study was done by interview technique using pre-tested semi-structured questionnaire. First part of the questionnaire included socio-demographic profile such as age, religion, education, occupation, marital status, income and the second part included questions related to symptoms of peri and post menopause and detail general and systemic examination.

**Data analysis:** The data were collected, compiled and analysed using statistical packages using Window MS office excel 2010.

## Results

Table 1 shows the distribution of surveyed population according to socio-demographic factors. Out of the total 405 study subjects, 161 (40%) were more than 55 years old followed by 138 (34%) who belonged to 50-54 yrs age category. 30 (7.3%), 76(18.7%) belonged to 40-44 years and 45-49 years age category respectively.

Out of the total surveyed population 381(94%) belonged to Hindu religion and 21 (5.3%) were Muslims. Literacy status depicted that 329 (81.3%) women were illiterate and only 8(2%) were able to complete their higher secondary education. 353(87.3%) of the women interviewed were married whereas 44(10.7%) were widowed. And 8(2%) of women were found unmarried. As per modified Kuppaswamy's socioeconomic status (SES) scale, 265(65.3%) women belonged to upper lower socioeconomic class, followed by 113 (28%) who were belonged to upper middle class. 254(62.67%) were unemployed and 151 (37.3%) were employed. Of 405, 354(87.4%) were postmenopausal, and 51(12.6%) were perimenopausal women. Regarding history of addiction, 285(80.6%) of postmenopausal and 21(40.8%) of perimenopausal were addicted to bhang, paan and tobacco. Table 2 depicts that Hypertension was found to be the most common non communicable disease among post menopausal women 137 (38.6%), followed by Diabetes mellitus 78(21.8%), Hypercholesterimea 36(10.1%). 6(1.5%) & 3(0.7%) suffering from Hypothyroidism & gout respectively. Among the perimenopausal women incidence of Diabetes, Hypertension, Hypothyroidism, Hypercholesterimea were lower i.e. 8 (15.2%), 6 (10.6%), 11(21%), 3(5.2%), 6(10.6%) respectively. 13(25%) of perimenopausal women had undergone tubectomy whereas 6(1.5%) post menopausal had undergone the same. Individuals were assessed for their morbidity status by referring to their prescriptions and medications if they had been consuming any. Table 3 reflects that only 35(68.4%) of women perimenopausal group experienced hot flushes whereas 303 (85.5%) of post menopausal women complained of hot flushes. But night sweats were common in perimenopausal age group 11(21%) than post menopausal age group 35 (9.9%). Increased sweating as vasomotor symptom was found in 19 (36.8%) perimenopausal women and 168(47.3%) among post menopausal group respectively. 118 (33.3%) of the postmenopausal women had

palpitation whereas 13 (24.8%) of perimenopausal women had the same. Shortness of breath and fainting attacks were more common among post menopausal women (104(29.1%) & 88(24.8%) than perimenopausal women (8(15.2%) & 7 (15.1%). But symptoms like chest pain, pedal edema, asthma were found having similar prevalence among the two groups. Flatulence & Constipation were slightly higher among post menopausal women (59(16.4%), 96(27%)) than peri-menopausal age group (6(10.8%), 12(23%)). Decreased appetite was found more common among post menopausal age group 136(38.2%) than peri-menopausal age group 13(25.6%). Among urological symptom, increased in frequency of micturition were found among 248(70%) of the postmenopausal women and 3(5.26%) of the peri-menopausal women. Burning sensation during micturition was higher among the perimenopausal women i.e. 16(31.5%) whereas it is 11(3.05%) among the postmenopausal women. Nocturia was higher among the postmenopausal women 225(63.3%), 318(89.8%), 253(71.3%) of the postmenopausal women had complained of having joint and muscle pain in comparison to perimenopausal women 35(67.8%), 30(58.4%) respectively. 260(73.4%), 29(56.3%) women among post and peri menopausal age group complained of morning stiffness respectively. 72(20.3%) post menopausal women complained of back pain which is higher from the perimenopausal age group. Vulvovaginal symptoms incidence was higher in postmenopausal women than the perimenopausal women. Vaginal dryness is 346(97.7%) in postmenopausal women and none were found in

the perimenopausal group. Vaginal irritation was found among 341(96.1%) postmenopausal women. Leucorrhoea was found in 62(17.5%) of postmenopausal women whereas it is only 6(10.5%) among perimenopausal women. All the symptoms like irritability, insomnia, anxiety, depression, lack of concentration and mood swing were more common among post menopausal women [256(72.3%), 253(71.4%), 302(85.3%), 313 (88.2%), 128(36%) & 143(40.3%) ] respectively than perimenopausal women. Psycho-sexual symptoms like loss of libido and dyspareunia were higher among the post menopausal women [43(12.1%) & 27(7.6%)] than perimenopausal women (5.2% & 0).

**Table 1:** Socio-demographic profile of the surveyed population (N=405)

Variables	Number	Percentage
<b>Age(years):</b>		
40-44	30	7.3
45-49	76	18.7
50-54	138	34
55-60	161	40
<b>Religion:</b>		
Hindu	381	94
Muslim	21	5.3
Others	3	0.7
<b>Education:</b>		
Illiterate	329	81.3
Primary education	49	12
Secondary education	19	4.7
Higher secondary	8	2
Graduate	-	
<b>Marital Status:</b>		
Married	353	87.3
Unmarried	8	2
Widowed	44	10.7
<b>Socioeconomic status:</b>		
Upper middle	113	28
Lower middle	27	6.7
Upper lower	265	65.3
<b>Employed Status:</b>		
Employed	151	37.3
Unemployed/Housewife	254	62.7

**Table 2:** History of chronic diseases

Sl.No.	Diseases	Perimenopausal(N=51)	Postmenopausal(N=354)
		n(%)	n(%)
1	Diabetes mellitus	8(15.2)	78(21.8)
2	Hypertension	6(10.6)	137(38.6)
3	Hyperthyroidism	3(5.3)	-
4	Hypothyroidism	11(21)	6(1.5)
5	Gout	-	3(0.7)
6	Hypercholesterolemia	3(5.2)	36(10.1)
7	<b>Any previous history of surgery:</b>		
	Tubectomy	13(25)	6(1.52)

**Table 3:** Prevalence of symptoms according to different systems

Sl.No.	Symptoms	Perimenopausal (N=51)	Post menopausal(N=354)
		N (%)	N (%)
1	<b>Vasomotor symptoms:</b>		
	Hot Flushes	35(68.4)	303(85.5)
	Night Sweat	11(21)	35(9.9)
	Increased Sweating	19(36.8)	168(47.3)
2	<b>Cardiovascular &amp; Respiratory Symptoms:</b>		
	Palpitations	13(24.8)	118(33.3)
	Shortness of breath	8(15.2)	104(29.1)
	Fainting attacks	7(12.1)	88(24.8)
	Chest pain/discomfort	3(5)	25(7)
	Pedal edema	0	25(7)
	Asthma	3(5)	25(7)
3	<b>Gastrointestinal system:</b>		
	Flatulence:	6(10.8)	59(16.4)
	Abdominal distension:	-	15(4.1)
	Abdominal pain/cramps:	6(10.8)	8(2)
	Constipation/Diarrhoea:	12(23)	96(27)
	Gall stones diagnosed or not:	4(6.8)	30(8.33)
	Appetite decreased:	13(25.6)	136(38.2)
4	<b>Urological symptoms:</b>		
	Frequency of micturition	3(5.26)	248(70)
	Urge incontinence:	-	71(19.8)
	Any mass protruded during defeacation or urination:	-	10(2.62)
	Burning micturition:	16(31.5)	11(3.05)
	Nocturia:	3(5.26)	225(63.3)
5	<b>Musculo-skeletal system</b>		
	Joint pain	35(67.8)	318(89.8)
	Muscle pain	30(58.4)	253(71.3)
	Recent fracture	0	3(0.7)
	Morning stiffness	29(56.3)	260(73.4)
	pain during working	0	107(30.2)
	back pain	4(7.8)	72(20.3)
6	<b>Vulvovaginal symptoms:</b>		
	Vaginal dryness		346(97.7)
	Vaginal irritation	6(10.5)	341(96.1)
	Leucocorroe	6(10.5)	62(17.5)
7	<b>Psychosocial changes</b>		
	Irritability	36(69.2)	256(72.3)
	Insomnia	0	253(71.4)
	Anxiety/Nervousness	28(53.6)	302(85.3)
	depression	0	313(88.2)
	lack of concernration	0	128(36)
	dementia	0	22(6.3)
	mood swings	20(38.3)	143(40.3)
8	<b>Psychosexual symptoms:</b>		
	Loss of libido	3(5.2)	43(12.1)
	Dyspareunia	-	27(7.6)

## Discussion

In this study, mean age at natural menopause is 45.32 years. Mean age at menopause in Indian women is less in comparison to women from developed countries. It varies from country to country even in the same country in a different region. These diversities may be because of regional, community and ethnic variations. Genetic and environmental and nutritional factors may also play a role. A study conducted Avin Alva BR et al among the women in Mangalore, mean age at natural menopause was 45.32 years

(SD+/-2.79) <sup>[8]</sup> and Sharma et al, among urban women in Jammu, mean age of menopause was 47.35 years<sup>[9]</sup>, Kapur et al, among women in the Haridwar district of Utrakhand, mean age of menopause was 46.82 years.<sup>[10]</sup> Although hot flushes were the most common symptom reported by many other Indian as well as studies in western countries, our study subjects reported mostly muscle and joint pain, urological symptoms, vasomotor symptoms, vulvo vaginal symptoms, psychological symptoms, weight gain and psychosexual symptoms.<sup>[11]</sup> Out of 19



perimenopausal women, 13(68.4%) experienced hot flushes. The proportion of hot flushes was found to be more in postmenopausal group (85.5%) than in perimenopausal women. Vasomotor symptoms such as hot flushes etc, were also rampant among the post menopausal women as per the study of Kriplani A and Banerjee K (91.2% of women complained of hot flushes).<sup>[11]</sup> Vulvovaginal symptoms in our study, were higher in postmenopausal women than the perimenopausal women like vaginal dryness is 97.7% in postmenopausal women and none were found in the perimenopausal group. Urological symptoms like increased in frequency of micturition was found among 70% of the postmenopausal women and 5.26% of the perimenopausal women. According to study conducted by Shah et al<sup>[12]</sup>, among the women in Mumbai ,vulvovaginal symptoms and urological symptoms were more prevalent rather than other symptoms(68%). Urinary complaints including increase frequency of micturition, stress incontinence, urge incontinence were common in the age group of 50-54 years. Vulvo vaginal symptoms followed urological symptoms. Majority of the postmenopausal women have undergone psychosocial changes i.e around 72.33% among which anxiety and depression incidence were higher i.e round 86.2%. other symptoms were not so significant. 71.4 of the postmenopausal women were suffering from insomnia. Prevalence of psychosocial symptoms is much lower than that of the study conducted by Kapur et al<sup>[10]</sup> among women in the Haridwar district of Uttarakhand ,Sharma et al<sup>[9]</sup>, among urban women in Jammu. Majority of the postmenopausal women in our study were having joint and muscle pain around 89.8%. A study was conducted in rural community of Delhi, India by Singh A and Pradhan SK. <sup>[13]</sup> As per this study, the commonest symptom complained by menopausal women was also musculoskeletal symptoms including joint pain and muscle pain, which matched with our study (approx. 90%). As per the study conducted by Kriplani A and

Banerjee K <sup>[11]</sup>, osteoporosis were the common symptoms complained by menopausal women (83%). Women with MSP were slightly older, had fewer years of schooling and were more sedentary. They also complained of more severe menopausal symptoms (29.2% versus

4.4%,  $p < 0.0001$ ). Furthermore, they had a higher abdominal perimeter ( $87.2 \pm 12.0$  cm versus  $84.6 \pm 11.6$  cm,  $p < 0.0001$ ) and a higher prevalence of obesity (23.1% versus 15.2%,  $p < 0.0001$ )<sup>14</sup>.

### Conclusion

Menopausal symptoms are either ignored or not spoken of. Actions and programme implementations should be carried out accordingly, initiated by our government. Establishment of menopausal clinic within the current primary health care system can centralize attention to menopausal women and their needs. Counselling plays an important role for creating awareness and boost up the confidence of menopausal women. Certain symptoms like dyspareunia, vaginal bleeding and other gynaecological symptoms as well as sexually transmitted infections are not being spoken of freely with the physicians thus proper counseling should be done. Treatment of vasomotor symptoms in the form of psychological support, exercise, dietary modification, yoga, meditation and offering hormone replacement therapy to low risk group can help these females.

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