Study of epidemiological features of health problems in perimenopausal and postmenopausal women in an urban community

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Abstract

Introduction: Menopause is said to be universal reproductive phenomenon. Menopause although not a disease is associated with annoying physiological changes and varied symptoms such as 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. Every woman's experience of the menopause is unique; she may experience all of the symptoms or none of them. Some find the transition barely noticeable while others find it life altering. **Materials and Methods:** A cross-sectional study was conducted among peri and postmenopausal women aged 40-60 years residing at Government colony, Bandra, Mumbai, Maharashtra for a period of 1-year. A predesigned and pretested questionnaire was used for collecting data. A booklet on "care during menopause" was used for giving health education. **Results:** In this study, mean age at natural menopause was 45.32 years (standard deviation ±2.79). Our study participants reported mostly muscular and joint pain (44.86%), urological symptoms (23.43%), vasomotor symptoms (21.14%), vulvovaginal symptoms (19.43%), psychological symptoms (15.14%), weight gain (14.86%), psychosexual symptoms (11.43%) and hirsutism (1.43%). **Conclusions:** There is a necessity of a multidisciplinary approach to the problems of menopause with more stress on promotive and preventive interventions. There should be provision of relevant health services, health education and promotional activities to cope up with the health needs of women in their postmenopausal years.

Key words: Health problems, perimenopausal women, postmenopausal women

INTRODUCTION

Menopause is said to be universal reproductive phenomenon. All the women who live beyond the age of 45-50 Years, experience a period of transition from reproductive to the nonreproductive stage of life.[1]

Natural menopause is recognized after 12 consecutive months of amenorrhea for which there is no obvious pathological or physiological cause.[2] The word climacteric is used to refer to a wide variety of physiological changes occurring in the years immediately surrounding the menopause.[3] The years prior to menopause that encompass the change from normal ovulatory cycles to cessation of menses is known as perimenopausal transition[4] and the term postmenopause is defined as dating from final menstrual period regardless of whether the menopause was induced or spontaneous.[5]

According to WHO, natural menopause takes place between the ages 45 and 55 years for the women worldwide. It is generally accepted that the average age at menopause is about 51 years in Industrialized countries,[5] but in developing countries it ranges from 43 to 49 years.[6-9]

Every woman's experience of the menopause is unique: She may experience all of the symptoms or none of them. Some find the transition barely noticeable while other finds it life altering.[10] Menopause although not a disease is associated with annoying physiological changes and varied symptoms such as

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. 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 ischemic heart disease, osteoporosis.

Objectives

1. To identify sociodemographic factors associated with perimenopausal and postmenopausal women.
2. To study menopause associated health problems in them.
3. To impart health education to improve overall health status of perimenopausal and postmenopausal women.

MATERIALS AND METHODS

A cross-sectional study was conducted at Government colony, Urban Health Centre (UHC), Bandra, Maharashtra, India, in the women of age group of 40-60 years, for the period of 1-year from 1/1/2008 to 31/12/2008.

Total population of government colony is 41,863. Of which female population between 40 and 60 years is 4862 as per a recent survey conducted at UHC, Bandra. There are total 389 buildings of Class I-IV workers. Of these, all 13 buildings of class IV workers were selected. Each building contains 192 houses. All these houses were screened by interns as a part of general Health Survey. Women in the age group of 40-60 years were 415 among this population.

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 have undergone hysterectomy

Of these 415 women, 8 refused to participate in the study and 7 had undergone hysterectomy, they were excluded. Hence, total sample size for the study was 400. A structured questionnaire was prepared. First part of the questionnaire included sociodemographic data such as age, religion, education, occupation, marital status, income etc. and the second part included questions related to symptomatology of menopause and detail general and systemic examination. Psychological symptoms were assessed using hamilton depression rating (HAM-D) scale.[11] A pilot study was conducted to assess feasibility of the study tools (interviews and questionnaire), to estimate the required time for filling the questionnaire and for data collection and to evaluate questionnaire's reliability, for which 50 women from total sample were selected randomly. The sample taken for pilot study was excluded from total sample for final study. Hence, final sample size for the study was 350. The proposal was approved by Institutional Ethical committee. Informed consent of all eligible

participants was taken for participation in the study and prior to the interview. After filling the proforma, health education was given to each women for which a booklet on "care during menopause" was used. This booklet contains all the basic information regarding menopause, its symptomatology, home remedies, diet and exercises during menopause etc. Assigned women were then asked to come for clinical examination at UHC Bandra on appointed Saturday. Examination included detail general examination and systemic examination and relevant investigations.

Data analysis

Pearson's Chi-square test is applied to test the association of categorized independent and dependent variables. If expected number in the cell was below 5 in a table, Fischer's Exact Test (Exact two-sided) was used. $P < 0.05$ is considered as statistically significant. Means and standard deviations (SD) were calculated. Stata SE 10.1, (StataCorp LP, Texas, USA) was used to analyze data.

RESULTS

Table 1 shows the distribution of women according to sociodemographic factors. Of 350 women, about (30.57%) women were in the age group of 45-49 years. Majority were Hindu (72%), followed by Buddhist (15.14%), out of total (37.14%) were educated up to primary school, followed by illiterate women (31.14%), about (86.29%) were housewife and only few (13.71%) were employed. As per modified Kuppuswamy's socioeconomic status (SES) scale, (84.86%) belonged to upper lower IV socioeconomic class, followed by lower middle class III (14%). Of 350, 185 were postmenopausal, and 165 were perimenopausal. Mean age at menopause was found to be 45.32 with SD of ±2.79 with the range of (32-50). Statistically age at the menopause and sociodemographic factors was not significantly associated.

Table 2 shows occurrence of symptoms in study population. Vasomotor symptoms were present in 74 (21.14%) of total participants. Of 185 postmenopausal women, 46 (24.86%) women experienced it. Whereas, out of 165 perimenopausal women, 28 (16.96%) complained it. The proportion of hot flashes was found to be more in postmenopausal group than in perimenopausal women, but statistically it was not significant. Majority of the women 56 (16%) experienced hot flashes for 1-3 years. Vulvovaginal symptoms were present in 68 (19.43%) of total women. They were more common in postmenopausal women (31.89%) as compared to perimenopausal women (5.45%). Statistically, it was found to be significant. Most of them (82.35%) were experiencing it for last 1-5 years. Urological symptoms were present in 82 (23.43%) of total women, mostly in postmenopausal women. Statistically, it was found to be significant. Majority of women 71.95% having it for last 1-5 years. Psychological symptoms were present among 53 (15.14%) women. Of 165 perimenopausal women 9 (5.45%) and out of 185 postmenopausal women 44 (12.57%) complained it. Statistically, also it was found to be significant. Psychosexual symptoms were present in 40 (11.43%) of total women. They were more common

Table 1: Distribution of women according to sociodemographic factors

Variables	Number	Percentage
Age (years)		
40-44	105	30
45-49	107	30.6
50-54	76	21.7
55-60	62	17.7
Religion		
Hindu	252	72
Muslim	37	10.6
Buddhist	53	15.1
Others	8	2.3
Education		
Illiterate	109	31.1
Primary	130	37.1
Secondary	98	28
Higher secondary	12	3.4
Graduate	1	0.3
Marital status		
Married	292	83.4
Unmarried	5	1.4
Widowed	48	13.7
Separated	5	1.4
Socioeconomic status		
Upper middle	4	1.1
Lower middle	49	14
Upper lower	297	84.9
Employment status		
Employed	302	86.3
Unemployed/housewife	48	13.7
Age at menarche		
<12 years	64	18.3
12-14 years	240	68.6
>14 years	46	13.1
Parity		
1-2 children	111	31.7
3-4 children	226	64.6
>4 children	8	2.3
Not applicable	5	1.4

in postmenopausal women (25.56%) as compared to premenopausal women (3.77%). Statistically, also it was found to be significant. Of the total women, 44.85% complained of muscle and joint pain. Women who have given the history of weight gain after the age of 40 were 52 (14.86%). Hirsutism was present in 5 (1.43%). Of the total, 137 (39.14%) women did not report any symptom. Of 233 symptomatic women, only 83 women were taking treatment for the same, remaining 150 women were not taking any sort of treatment. When assessed about their knowledge of hormone replacement therapy (HRT), no women knew about HRT or no woman was taking HRT for their menopausal symptoms.

DISCUSSION

In this study, mean age at natural menopause is 45.32 years (SD ± 2.79). In a study, conducted by Shah *et al.* among the women in Mumbai, the mean age at menopause was 44.7 years.[12] In a study, conducted by Kapur *et al.* among women in the Haridwar district of Uttarakhand, a state located in northern India, mean age at menopause was 46.82 years.[13] In another study, conducted by Sharma *et al.*[14] among urban women in Jammu, the mean age at menopause was 47.35 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.

No significant association was found between age at menopause and religion, education, employment status, marital status, SES, age at menarche, parity. Our findings are consistent with Kriplani and Banerjee,[15] Pedro *et al.*[16] and Blumel *et al.*[17] who found no association between the various sociodemographic, cultural and reproductive factors and age at onset of menopause.

Although hot flashes are 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 (44.86%), urological symptoms (23.43%), vasomotor symptoms (21.14%), vulvovaginal symptoms (19.43%), psychological symptoms (15.14%), weight gain (14.86%), psychosexual symptoms (11.43%) and hirsutism (1.43%). Prevalence of vasomotor symptoms (hot flashes and night sweats) is much lower than that of the western countries. Hot climate of our country may mask the similar symptoms associated with climacteric.

Next in the frequency was a urinary complaints (23.43%), including increase frequency of micturition, stress incontinence, urge incontinence. All urinary symptoms were common in the age group of 50-54 years. Vulvovaginal symptoms (19.43%) followed urological symptoms. Of this Vaginal dryness was present in 25%, Leucorrhoea was present in 61.76% and vaginal irritation was present in (13.24%) and psychosexual symptoms including loss of libido and dyspareunia was present in 13.70%. In a study, conducted by Jahanfar *et al.*[18] among Malaysian women, 42.8% of menopausal women reported vaginal dryness including sensation of dryness or burning in the vagina, difficulty in the sexual intercourse, but only 21.4% reported sexual problems inclusive of change in sexual desire, in sexual activity and satisfaction, this seems to be best explained by the physical changes associated with reduced estrogen levels in menopause.

Psychological symptoms were present in 15.14% women, out of which, irritability constituted (30.19%), insomnia (26.42%), anxiety (15.09%), lack of concentration (15.09%). Psychological symptoms were more in postmenopausal women (12.57%) as compared with perimenopausal women (5.45%). Statistically, also it was found to be significant. Those women who were having psychological symptoms were assessed for depression using HAM-D scale,[11] depression was present 13.21%, it was more common in perimenopausal women (22.22%) as compared to postmenopausal women (11.36%), but statistically it was not found to be significant. About 14.86% women

Table 2: Distribution of women according to occurrence of symptoms

Symptoms among women	Perimenopausal women (*n* = 165)	Postmenopausal women (*n* = 185)	*P*
Vasomotor symptoms			
Hot flashes	18 (10.9)	32 (17.3)	χ^2=3.26, *P*=0.071, df=1
Night sweats	10 (6.1)	14 (7.6)	
None	137 (83.0)	139 (75.1)	
Vulvovaginal symptoms			
Vaginal dryness	2 (1.2)	15 (8.1)	χ^2=38.94, *P*=0.0001**, df=1
Vaginal irritation	2 (1.2)	7 (3.8)	
Leucorrhoea	5 (3.0)	37 (20)	
None	156 (94.5)	126 (68.1)	
Urological symptoms			
Increase in frequency of micturition	4 (2.4)	26 (14.1)	χ^2=95.51, *P*=0.0001**, df=1
Stress incontinence	0 (0)	45 (24.3)	
Urge incontinence	1 (0.6)	11 (5.9)	
None	160 (97)	103 (55.7)	
Psychological symptoms			
Irritability	4 (2.4)	12 (6.5)	χ^2=22.80, *P*=0.0001**, df=1
Insomnia	1 (0.6)	13 (7.0)	
Anxiety	2 (1.2)	6 (3.2)	
Depression	2 (1.2)	5 (2.7)	
Lack of concentration	0 (0)	8 (4.3)	
None	156 (94.5)	141 (76.2)	
Psychosexual symptoms			
Loss of libido	4 (2.4)	20 (12.1)	χ^2=29.09, *P*=0.0001**, df=1
Dyspareunia	2 (1.2)	14 (7.6)	
None	153 (92.7)	99 (53.5)	
Others			
Muscle and joint pain	74 (44.9)	83 (44.9)	
Weight gain	42 (25.5)	10 (5.4)	
Hirsutism	1 (0.6)	4 (2.2)	

**Highly significant

in our study had a history of weight gain. perimenopausal women (25.45%) gained more weight than postmenopausal women (5.41%). In a study, conducted by Von Mühlen *et al.*[19] on menopausal women, 45% of women had propensity to gain weight.

Main strengths of our study are this is community-based study, which has helped to make aware the women about menopausal symptoms and we also tried to give health education through a booklet care during menopause, which is of prime importance and also distributed the copies of same to every participant. The study also had some limitations. The assessment methods were quite subjective. As menopause is a retrospective event, recall bias may occur. Due to time constraint follow-up of the participants could not be done.

CONCLUSION

Commonest symptom in our study was muscle and joint pain followed by urological complaints, vasomotor symptoms, vulvovaginal symptoms, psychological symptoms, weight gain, psychosexual symptoms and hirsutism. Menopausal symptoms are either ignored or not spoken of. It is suggested that establishment of menopausal clinic within the current primary health care

system can centralize attention to menopausal women and their needs. There is a necessity of a multidisciplinary approach to the problems of menopause with more stress on promotive and preventive interventions. National health authorities should examine the implications of the projected rapid growth in the number of postmenopausal women between 1990 and 2030. They should anticipate the provision of relevant health services, health education and promotional activities to cope up with the health needs of women in their postmenopausal years.

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REFERENCES

1. Kaw D, Khunna B, Vasishtha K. Factors influencing the age at natural menopause. J Obstet Gynaecol India 1994;44:273-7.
2. Evans B. Life Change: A Guide to Menopause an its Effects and Treatment. 3rd ed., Ch. 1. London: Pan Book Publisher; 1988. p. 13.
3. Houck JA. How to treat a menopausal woman: A history, 1900 to 2000. Curr Womens Health Rep 2002;2:349-55.
4. Speroff L, Fritz MA. Clinical Gynecologic Endocrinology & Infertility. 7th ed. Philadelphia: Lippincott Williams & Wilkins; 2005.
5. Research on the menopause in the 1990s. Report of a WHO Scientific Group. World Health Organ Tech Rep Ser 1996;866:1-107.

6. Aaron R, Muliyil J, Abraham S. Medico-social dimensions of menopause: A cross-sectional study from rural south India. Natl Med J India 2002;15:14-7.

7. Beau CM. Ages at menopause & menarche in a high attitude. Himalayan population. Ann Hum Biol 1983;10:365-70.

8. Bharadwaj JA, Kendurkar SM, Vaidya PR. Age and symptomatology of menopause in Indian women. J Postgrad Med 1983;29:218-22.

9. Brambilla DJ, McKinlay SM. A prospective study of factors affecting age at menopause. J Clin Epidemiol 1989;42:1031-9.

10. Loutfy I, Abdel Aziz F, Dabbous NI, Hassan MH. Women's perception and experience of menopause: A community based study in Alexandria, Egypt. East Mediterr Health J 2006;12:93-106.

11. Hamilton M. A rating scale for depression. J Neurol Neurosurg Psychiatry 1960;23:56-62.

12. Shah R, Kalgutkar S, Savardekar L, Chitlang S, Iddya U, Balaih D. Menopausal symptoms in urban women. Obstet Gynaecol Today 2004;11:667-70.

13. Kapur P, Sinha B, Pereira BM. Measuring climacteric symptoms and age at natural menopause in an Indian population using the Greene Climacteric Scale. Menopause 2009;16:378-84.

14. Sharma S, Tandon VR, Mahajan A. Menopausal symptoms in Urban women. JK Sci 2007;9:13-7.

15. Kriplani A, Banerjee K. An overview of age of onset of menopause in northern India. Maturitas 2005;52:199-204.

16. Pedro AO, Pinto Neto AM, Paiva LH, Osis MJ, Hardy E. Age at natural menopause among Brazilian women: Results from a population-based survey. Cad Saude Publica 2003;19:17-25.

17. Blumel JE, Castelo-Branco C, Binfa L, Gramegna G, Tacla X, Aracena B, *et al*. Quality of life after the menopause: A population study. Maturitas 2000;34:17-23.

18. Jahanfar SH, Abdul R, Shah R, Nor A, Sharifah N, Siti A. Age at menopause and menopausal symptoms among Malaysian women who referred to health clinic in Malaysia. Shiraz E-med J 2006;7:1-9.

19. Von Mühlen DG, Kritz-Silverstein D, Barrett-Connor E. A community-based study of menopause symptoms and estrogen replacement in older women. Maturitas 1995;22:71-8.