



Menopausal Symptoms in Urban Women

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Abstract

The present observational, cross sectional study was carried out in urban women (n=117) from Jammu with natural menopause to evaluate menopausal symptoms in women above the age of 40 belonging to the middle socioeconomic strata from Jammu (extreme northern India) as well as to evaluate the correlation of age on these symptoms by interviewing regarding their menopausal complaints in the following 40-44(n=27), 45-50(n=30) and above 50 (n =60) years age groups. Mean age at menopause was 47.35 years. Mean number of menopausal symptoms in three age groups were as (mean±SD) 10.53±7.33, 7.70± 6.76 and 14.50±10.77 respectively, which varied significantly (F=4.86, df=2, 87, P=0.009). The study reveal, varying nature of symptoms with age and MDSM (Mean Duration since Menopause), with vasomotor symptoms being more prevalent with lesser MDSM and psychological and rheumatic complaints more prevalent with increasing age and MDSM in this region. Such regional studies will help to corroborate data so that health care providers can plan strategies for the middle aged women suffering from these menopausal symptoms.

Key Words

Menopause, Symptoms, Women Health

Introduction

With the increasing life expectancy a women spends almost a third of her life in menopause (1). Menopause is recognized by all women in all cultures as cessation of menstruation for one year. Menopause can thus be said to be a universal reproductive phenomenon. Numerous physical and psychological symptoms have been attributed to the hormonal changes of menopause. This reproductive landmark is not always the same for all women in all cultures. The prevalence of menopausal symptoms varies widely not only among individuals of the same population but also between different ethnic populations. Even there is a great diversity in nature of symptom and frequencies across countries, even in the same cultures (2, 3). Mean age at menopause ranges in Indian women from 40.32 to 48.84yrs (4-17) and in developed countries from 48.0 to 51 yrs (18-21). Studies have been undertaken in past to find out correlation of age and symptomatology of menopause, which also suggest

varying trends (12,13). As menopausal health demand priority in Indian scenario due to increase in life expectancy and growing population of menopausal women, large efforts are required to educate and make these women aware of menopausal symptoms. This will help in early recognition of symptoms, reduction of discomfort and fears and enable to seek appropriate medical care if necessary.

Similar, studies are available in past but still no such study is available from this region. Hence, the present study first of its kind from this region was planned to evaluate menopausal symptoms in women above the age of 40 belonging to the middle socioeconomic strata from Jammu as well as to evaluate the correlation of age on these symptoms.

Material and Methods

The present observational, cross sectional study included women from Woman and Family Welfare Clinic

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of Maharishi Dayanand Institute of Research, over a period of 6 months from 20-12-2004 to 20-6-2005 coming from different parts of Jammu city an extreme region in northern India. Total 117 menopausal women were enrolled and were distributed in the following age, 40-44 years (n=27), 45-50 years (n=30) and above 50 years (n =60). Peri-menopausal and pre-menopausal women were not included in the present study. Women with history of using oral contraceptives pill/HRT, phyto-estrogens, attained premature/surgical menopause or having any serious disease were also excluded.

Using semi-structured questionnaires, 117 Indian women in their menopause were interviewed. Information regarding their complaints both physical and psychological was analyzed. A 30-item checklist derived from Greenes (22) and Neugarten and Kranines checklist (23) was used in the present study as shown in table - 3. The face to face interview taken by the doctors, included socio-economic data, medical history and climacteric symptoms. Each item was read out and the women were asked whether they experienced the symptom mentioned. Data was analyzed for frequency of symptom and mean number of menopausal symptoms and were compared in different age groups.

Statistical analysis : Data was analyzed using computer software Microsoft Excel for windows and SPSS 10.0 for windows. Data presented as percentages for qualitative variable. For qualitative variable mean and Standard deviation was calculated. Statistical significance between the three age groups was assessed by the use of one way ANOVA and nonparametric equivalent Krushel Wallis test. Barferrani 't' test was applied after ANOVA to assess which group varied significantly. A P value of 0.008 (t, 2.62) was considered critical for the statistical significance.

Results

The study population comprised of 117 menopausal women with 23.07, 25.64 and 51.28% being enrolled in 40-44 years, 45-50 years and >50 years age groups respectively. Mean age at menopause was 47.35 years. Out of total women enrolled in the study 83.76% were married and 16.24% were divorced/ widowed, whereas 68.37% of them were literate and only 31.62% were illiterates. Most of women (59.82%) had an active or hectic (25.64%) life style and only 14.52% had sedentary lifestyle. On inquiry about dietary patterns 60.68% were

vegetarian, 27.35% were non-vegetarian and 11.96% were on mixed diet and only 68.37% gave history of regular consumption of coffee and tea, 3.41% among total population were alcoholics and only 2.56% gave history of smoking and 0.85% had the habits of chewing tobacco. On interview 76.92% of the menopausal women felt firmly that they were affected by menopause in negative manner and only 23.03% felt that they were not affected by menopause. (Table-1)

The mean age at menopause observed in our study was 47.53 years. Mean number of menopausal symptoms in three age groups were as (mean±SD) 10.53±7.33, 7.70±6.76 and 14.50±10.77 in 40-44 years, 45-50 years and >50 years age groups respectively suggesting that at transition of menopause and in postmenopausal period the number of symptoms were more and in-between number of complaints were less. Statistical significant variation was observed in between 45-50 years and >50 years age groups (t=3.10, p=.002, HS) (Table-2, Fig-1)

Fatigue & lack of energy (72.93%), headache (55.9%), hot flushes, cold sweats, cold hand and feet 53.86 % each and weight gain (43.13%) were most frequent complained menopausal symptoms in the present study (Table-3).

Table 1. Demographic Characteristics

Age distribution	Number	Percent
40-44 years	27	23.07
45-50 years	30	25.64
>50 years	60	51.28
Total	117	
Mean age at menopause	47.35 years	
Marital status		
Married	98	83.76
Divorced/Widowed	19	16.24
Education status		
Literate	80	68.37
Illiterate	37	31.62
Sexual activity		
Active	38	32.47
Inactive	79	67.52
Life style		
Active	70	59.82
Hectic	30	25.64
sedentary	17	14.52
Dietary life style		
Veg	71	60.68
Non-veg	32	27.35
Mixed	14	11.96
Alcohol	4	3.41
Coffee & Tea	80	68.37
Smoking	3	2.56
Tobacco chewing	1	0.85
Affected by Menopause		
Negative manner	90	76.92
Not affected	27	23.03



Table-2: Mean number of menopausal symptoms

Age distribution	Mean No. of menopausal (mean ±SD)	(Barferrani 't' test)
40-44 years, group-I	10.53±7.33	Group I vs Group II t=1.29, p=0.19, NS Group II vs Group III t=3.10, p=.002, HS Group I vs Group III t=1.81, p=0.07, NS
45-50 years, group-II	7.70± 6.76	
>50 years group-III	14.50±10.77	
ANOVA	F=4.86,df=2,87, P=0.009	

Kruskal Wallis analyses of variance also yielded significant results-Chi square =6.20,p=0.04, HS = Highly Significant

Fig: 1 Mean Number of Menopausal symptoms

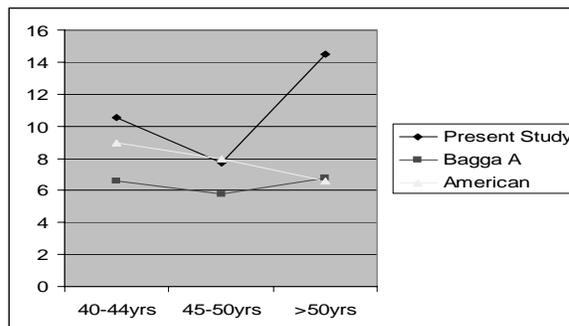


Table 3 Menopausal symptoms

S. No.		(40-44 yrs) n = 27 (MDSM=2.31 yrs)	(45-50 yrs) n = 30 (MDSM=3.70 yrs)	(> 50 yrs) n = 60 (MDSM=8.15 yrs)	Total (%)
1	Hot Flashes	18(66.6%)	15(50%)	27(45%)	53.86
2	Cold Sweats	18(66.6%)	15(50%)	27(45%)	53.86
3	Weight Gain	12(44.4%)	15(50%)	21(35%)	43.13
4	Flooding	0(0%)	0(0%)	0(0%)	0
5	Rheumatic Pains	12(44.4%)	12(40%)	36(60%)	48.13
6	Aches in Back of Neck and Skull	6(22.2%)	9(30%)	30(50%)	34.06
7	Cold Hand and Feet	18(66.6%)	18(60%)	21(35%)	53.86
8	Numbness and tingling	18(66.6%)	0(0)	27(45%)	31.2
9	Breast Pain	6(22.2%)	0(0)	6(10%)	10.73
10	Constipation	6(22.2%)	0(0)	9(15%)	12.4
11	Diarrhoea	0(0)	0(0)	9(15%)	5
12	Skin Crawls	0(0)	18(60%)	9(15%)	25
13	Fatigue, Lack of Energy	22(88.8%)	21(70%)	36(60%)	72.93
14	Headache	21(77.7%)	12(40%)	30(50%)	55.9
15	Palpitation of Heart	6(22.2%)	12(40%)	12(20%)	27.4
16	Dizzy Spells	15(55.5%)	9(30%)	15(25%)	36.83
17	Blind Spots before Eyes	3(11.1%)	3(10%)	15(25%)	15.36
18	Irritable nervous	12(44.4%)	15(50%)	9(15%)	36.46
19	Blud depressed	6(22.2%)	6(22.2%)	27(45%)	29.8
20	Forgetfulness	6(22.2%)	9(30%)	30(50%)	34.06
21	Excitability/Anxiety	18(66.6%)	3(10%)	6(10%)	28.86
22	Sleep disturbance	12(44.4%)	6(20%)	27(45%)	36.46
23	Poor concentration	3(11.1%)	6(20%)	6(10%)	13.7
24	Crying spells	6(22.2%)	0(0)	6(10%)	10.73
25	Feeling of Suffocation	3(11.1%)	0(0)	6(10%)	7.03
26	Worry about body	9(33.3%)	3(10%)	0(0)	14.43
27	Fright, panic	3(11.1%)	0(0)	0(0)	3.7
28	Worry about nervous breakdown	9(33.3%)	0(0)	6(10%)	14.54
29	Loss of interest in most things	0(0)	9(30%)	9(15%)	13.1
30	Pressure/tightness in head and body	1(3.33%)	0(0)	3(5%)	2.77

The most frequent menopausal symptoms in the age group of 40-44 years with mean duration since menopause(MDSM=2.31 years) were fatigue, lack of energy (88.8%), headache (77.7%), hot flushes, cold sweats, cold hand and feet, numbness/tingling and excitability/ anxiety 66.6% each respectively. In the age group of 45-50 years (MDSM=3.70 years), fatigue ,lack of energy (70%),cold hand

and feet (60%),hot flushes, cold sweats, weight gain, irritability and nervousness (50%) were common complaints. Whereas, rheumatic pains, fatigue, lack of energy (60%) followed by headache, pain in back, forgetfulness, neck and skull pain (50%), sleep disturbance and depression (45%) were frequent symptoms in the age group>50 years with MDSM=8.15 years. (Table-3)

Discussion

Demographic characteristics in the present study are at par with Shah R (12) except features like sexual activity, as only 32.47% were sexually active in present study in contrast to 58.4% being sexually active in the study of Shah R (12). Dietary life style in present study varied from the study of Shah R (12) as (27.35% vs 81.8%) were non-vegetarian, (68.37% vs 22%) coffee & tea drinker and (0.85% vs 35%) tobacco chewer. Whereas, percentage of patients affected by menopause in negative manner were nearly same as with few previous studies (11, 12). 76.92% were affected in a negative manner in present study; where as 65.6% and 85% were affected in a negative manner by menopause in the study of Shah R (12) & Singh A (11).

The mean age at menopause observed in our study was 47.53 years. A wide range in mean age at menopause in Indian women from 40.32 to 48.84yrs (4-17) and in developed countries from 48.0 to 51 yrs (18-21) have been suggested in the past as shown in table-4 .Mean age at menopause in Indian women is less in comparison to women from developed countries. Mean age at menopause in the present study corresponded with Sengupta & Rjkhowa (15) Kaw *et al* (16), Mastana, (17) Kim *et al* (18), Malacara *et al* (19).These diversities may probably be because of regional, community and ethnic variations. Genetic and environment factors may also play role (24).

Table: 4 Mean Age at Menopause

Indian studies	Region	Mean age (years)
Present study	urban women from Jammu	47.53
Singh & Ahuja [4]	Women of Assam	40.32
Sengupta,1993 [5]	Kaibarta (Assam)	42.95
Kulkarni& Joshi [6]	Deshastha Bramin Maharashtra	43.46
Kar &Mahanta [7]	Singhpoh women	43.65
Balgir,1985 [8]	Sikligar women, Punjabi	43.71
Sharma &Singh [9]	Choudary Women Kangra	43.84
Singh & Ahuja [4]	Arora women Punjabi	43.96
Gosh & Kumari [10]	Sindhi women Delhi	44.60
Singh & Ahuja [4]	Pubjabi women	44.68
Singh & Arora [11]	women from rural north India	44.1
Shah R <i>et al</i> [12]	women from Mumbai	44.7
Bagga A[13]	Hindu Kalita women	44.94
Rakshit S [14]	Maharashtrian Brahmin	45.84
Sengupta & rjkhowa [15]	Ahom women of Dibrugarh in Assam	47.10
Kaw <i>et al</i> [16]	Assam Women	47.50
Mastana [17]	Among labanas North West India	47.68
Sharma & Singh [9]	Brahmin women Himachal	48.84
Studies from outside India		
Kim YH <i>et al</i> [18]	Urban area of Korea	48.29
Malacara JM <i>et al</i> [19]	States of Mexico	48.0
Mckinlay <i>et al</i> [20]	South East Asian women	51
Oldenhav & Netelenbos [21]	Developed countries	51

Numbers of symptoms were consistently more in early and late menopause period in the present study. Similar trends were observed by Bagga A (13) with less number of complaints but not in women from USA included in the study of Bagga A (13) for the comparison.(Fig-1) The possible explanation could be that with transition of menopause women are most distressed, which is relatively earlier in Indian women. They start recognizing and coping up with these menopausal symptoms with the passage of time. However in postmenopausal period with complete cessation of hormone release the menopausal complaints worsen in both severity and frequency.

Common menopausal symptoms vary compared with other reports from India and abroad as shown in table-5. These diversities probably exist because women experience reduction in estrogen levels in a wide variety of ways with great inter-individual variations.

Table: 5 Most Frequent Menopausal Symptoms

Present study Jammu	Fatigue & lack of energy (72.93%), Headache (55.9%), Hot flushes, Cold sweats, cold hand and feet 53.86 % each, Weight gain (43.13%)
Indian Studies	
Bagga A(13) (Pune)	Loss of interest (93%), Pressure/tightness in head (83%) Weight gain (67%) , Hot flushes (54%)
Shah, <i>et al</i> (12) (Mumbai)	Muscle and joint pains (37.4%), Fatigue (35.6%), Hot flushes (19.4%), Sweating (18.6%), Insomnia (20.6%), Headache (13.8%)
Kaur <i>et al</i> (25)	Diminished acuity of vision
Singh& Arora (11) (Punjab)	Diminished acuity of vision and Hot flushes
Outside India	
Schnatz <i>et al</i> (26) (USA)	Mood swings (77.9%), Decrease in energy (75.9%), Sleeping problems (73.4%), Memory problems (67.1%)
Kim <i>et al</i> (18) (Korea)	Fatigue, Hot flushes, Numbness hands and feet, Irritability
American Women (13)	Weight gain (61.5%), Ache in back of neck & skull (53.8%), Fatigue & lack of energy (53.0%), Headache (45.7%)

The present study revealed varying nature of symptoms with age and MDSM (Table-6) .Lesser the age at menopause and MDSM, more are the vasomotor symptoms. Psychological and rheumatic complaints are prevalent with increasing age and MDSM. These findings were in agreement to the previous findings (15,27) which suggest that incidence of vasomotor symptoms is much higher at transition of menopause and decline with the advancing age and menopause (27).Whereas, psychological and rheumatic complaints are major feature in late menopause as reported in American women and also in Indian women by Baga (15).



Table 6.

Study	40-44 yrs (MDSM=2.31 years)	45-50 yrs (MDSM=3.70 years)	> 50 yrs (MDSM=8.15 years)
Present Study	Fatigue & lack of energy (88.8%)	Fatigue & lack of energy (70%)	Fatigue, lack of energy, Rheumatic pain (60%)
Bagha (15)	Loss of interest (97.6%),	Loss of interest (94.1%),	Loss of interest (88.0%)
American women (15)	Weight gain (62.1%)	Weight gain (66.7%)	Weight gain (64.7%)

Conclusion

The present study revealed mean age at menopause to be 47.35 years. Mean number of menopausal symptoms were 10.53, 7.70 and 14.50 in the 40-44, 45-50 and above 50 years age groups respectively. Most frequent menopausal symptoms were fatigue & lack of energy (72.93%) followed by headache (55.9%), hot flushes, cold sweats, and cold hand and feet (53.86%) weight gain (43.13%). Vasomotor symptoms being more prevalent with lesser MDSM and psychological and rheumatic complaints more prevalent with increasing age and MDSM. Such regional studies not only create awareness but also help in education of women regarding an early identification of common menopausal symptoms.

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References

1. Us Census Bureau 1996 Global aging into the 21st century-The wall chart by US.
2. Obermeyer CM. Menopause across cultures: a review of the evidence. *Menopause* 2000; 7(3):184-92.
3. Robinson G. Cross-cultural perspectives on menopause. *J Nerv Ment Dis* 1996; 184(8):453-8.
4. Singh L, Ahuja S. Trend of menopause among the women of Punjab. *Anthrop Anz* 1980; 38:297-300.
5. Sengupta S, Gogoi G. Menarche and menopause among the kaibarta women of dibrugarh. *Assam I Assam Sci Soc* 1993;35:113-119
6. Kulkarni VS, Joshi M. Reproductive life of two endogamous groups of maharashtra. *Man in Ind* 1979; 59:71-90.
7. Kar RK, Mahanta S. Menarche and menopause among the singpho women of arunachal Pradesh. *Ind J Phys Anthropol & Human Genet* 1975;1:51-57
8. Balgir RS. Age at menarche and menopause among sikligars of Punjab. *J Indian Medical Asso* 1985; 83:195-97.
9. Sharma N, Singh R. Age at menarche and menopause of Brahmins and choudary females of kangra valley. Proceedings of international symposium on human growth, Patiala-India. 1980.
10. Gosh AK, Kumari S. Effect of menarcheal age on fertility. *J Ind Anthropol Soc* 1973;8:165-172
11. Singh A, Arora AK. Profile of menopausal women in rural north India. *Climacteric* 2005;8(2):177-84.
12. Shah R, Kalgutkar S, Savardekar L, Chitlang S, Iddya U, Balaiah D. Menopausal symptoms in urban Indian women. *Obs & Gynae Today* 2004; 11(10):667-70.
13. Bagga A. Age and symptomatology of menopause: a case study. *Obs & Gynae Today* 2004; 11(10):660-66
14. Rakshit S. Reproductive life of maharashtrian Brahmin women. *Man in Ind* 1962; 56:65-70.
15. Sengupta S, rjkhwa M. Menarche and menopause in Ahom women of Dibrugarh in Assam. *J Hum Ecol* 1996 ; 7(3) : 211-13.
16. Kaw D, Khunna B, Vasishtha K. Factors influencing the age at natural menopause. *J Obstet Gynecol Ind* 1994;44:273-77.
17. Mastana SS. Age at menopause among the lobanas of North West India. *J Hum Ecol* 1996;7(2):151-153
18. Kim YH, Ha EH, Shin SJ. A study on the menopausal symptoms and quality of life in middle aged women. *Taehan Kanho Hakhoe Chi* 2003;33(5):601-8
19. Malacara JM, Canto de Cetina T, Bassol S *et al.* Symptoms at pre and postmenopause in rural and urban women from three States of Mexico. *Maturitas* 2002; 43(1):11-9.
20. Mckinlay SM, Brambilla DJ, Possner JG. The normal menopause transition. *Maturitus* 1992; 14(2):103-105.
21. Oldenhave A, Netelenbos C. Pathogenesis of climacteric complaints: ready for the changes. *Lancet* 1994; 343(8898):649-53.
22. Green JG. A factor analytic study of climacteric symptoms. *J Psychosomat Res* 1976; 20:425-30.
23. Neugarten BL, Kraines R. Menopausal symptoms in women of various ages. *Psychosom Med* 1965; 27(3):266-73.
24. McKinlay S, Jeffery M, Thompson B. An investigation of the age at menopause. *J Biosoc Sci* 1972; 4:161-73
25. Kaur S, Walia I, Singh A. How menopause affects the lives of women in suburban Chandigarh, India. *Climacteric* 2004 ; 7(2):175-80.
26. Schnatz PF, Banever AE, Greene JF, O'sullivan DM. Pilot study of menopause symptoms in a clinic population. *Menopause* 2005 ;12(5):623-629
27. Brown Wj, Mishra GD, Dobson A. Changes in physical symptoms during the menopause transition. *Int J Behav Med* 2002; 9(1):53-67.