

AGE AND SYMPTOMATOLOGY OF MENOPAUSE IN KARACHI, PAKISTAN

Mehreen Adhi, Rabia Hasan, Shaheen Shoaib, Shoaib Tauheed

Department of Physiology and Pathology, Dow University of Health Sciences, Dow Medical College, Karachi, Pakistan

Background: Menopause depicts end of woman's reproductive life usually occurring between ages 45 and 55. Many studies have been carried out to determine the mean age at menopause in different countries. In Pakistan, the greatest hurdle is ascertainment of correct age of women causing difficulty in determining the correct age at menopause. The objective of this study was to overcome this hurdle and to determine the mean age at menopause and occurrence of different symptoms at menopause in Pakistan. **Methods:** An observational cross sectional study was carried out in which the correct ages of 212 women from different hospitals, workplaces and housewives were estimated using Matriculation Certificates and/or National Identification Cards between February-November 2004. Age at menopause and associated symptoms were recorded. Menopausal age of the subjects' mothers was also documented. Epi Info Version 3.3 was used for data analysis. **Results:** Mean age at menopause was determined to be 44.5 years (± 0.8 years) ranging from 32-62 years. The predominant symptom experienced was hot flashes (82%). There was no significant negative impact of menopause on libido in our subjects ($p > 0.05$). A significant similarity was observed between menopausal ages of 110 women and their mothers ($p < 0.001$). **Conclusion:** Mean age at menopause in Karachi, Pakistan is significantly lower than in West, which highlights need for studying social, economic and cultural basis of this difference. However, strong conclusions about menopausal age can only be made by large scale population-based studies. The symptoms experienced are similar as elsewhere in the world, although occurring with varying frequencies. There is a familial pattern to the onset of menopause.

Keywords: Menopause, Hot Flashes, Libido

INTRODUCTION

The human ovaries become unresponsive to gonadotropins with advancing age, and their function declines, so that the sexual cycles disappear. This unresponsiveness is associated with, and probably caused by a decline in the number of primordial follicles, which becomes precipitous at the time of menopause. The menses become irregular and usually cease between the ages of 45 and 55 years, thus marking the end of a woman's reproductive life.¹

Premature menopause is defined as menopause that occurs at an age more than two standard deviations below the mean estimated for the reference population. In practice, in the absence of reliable estimates of the distribution of age at natural menopause in populations in developing countries, the age of 40 years is frequently used as an arbitrary cut-off point, below which menopause is said to be premature.²

Premature menopause may occur for several reasons, including premature ovarian failure (POF), or from secondary changes, such as the surgical removal of both ovaries (oophorectomy), during a hysterectomy (surgical removal of uterus), certain types of cancer treatment (such as chemotherapy or pelvic radiation), mumps, and certain autoimmune disorders such as lupus or rheumatoid arthritis. Also, women who smoke tend to go through menopause at

an earlier-than-average age.³ Other conditions like different socioeconomic status, race, parity, height, weight, skinfold thickness, lifestyle and education also affect the age at menopause.⁴

Clinical symptoms of menopause include vasomotor instability, genitourinary symptoms, osteoporosis and increased incidence of bone fractures, increased incidence of thrombo-embolic and ischemic heart disease, and psychological symptoms of anxiety, depression, and memory loss.⁴ Reproductive hormonal fluctuations may underlie some of the common symptomatology of the perimenopause.⁵

Many studies have been carried out all over the world to determine the mean menopausal age of women⁸⁻¹⁶ but in Pakistan, the greatest hurdle in carrying out such studies has been the ascertainment of the correct age of women, as women refrain from telling their correct ages making such studies difficult and causing discrepancies in the results. Thus, we made an effort to take only those women into consideration who had documented ages, so as to make a correct estimate of the mean menopausal age and the symptomatology of menopause in Pakistan.

MATERIAL AND METHODS

It was an observational cross sectional study carried out on 212 women in Karachi between February-

November 2004. A structured questionnaire was prepared and 212 women between 30–62+ years were selected by stratified sampling and were provided with the questionnaire. The questionnaire contained details about the present age, socioeconomic background, age at menopause, different types of symptoms experienced at menopause, post menopausal hirsutism, loss of libido, and the menopausal age of the subjects' mothers. For the correct estimate of each subject's present age, the National Identification Cards and/or Matriculation Certificates were used as a proof, thus taking only documented ages into account.

The subjects included women between the ages 30–62+ years working in different hospitals and workplaces and housewives, who had either undergone natural menopause, those who had undergone hysterectomy and those who had undergone Hormone Replacement Therapy (HRT). Most of the women who had undergone HRT were well educated and belonged to a relatively high socio-economic group. The subjects included belonged to different socio-economic backgrounds so that discrepancies in results related to socio-economic conditions, and thus the nutritional status could be avoided and generalized results (rather than those pertaining to a single socio-economic group) could be obtained. Subjects whose ages were not documented or those who hadn't had a 12-month consecutive cessation of menstruation were excluded. Informed consent of each subject was taken and confidentiality and anonymity of the record was maintained.

With the data collected, the mean menopausal age was determined and the frequency of occurrence of different symptoms at menopause was ascertained. A comparison was made between the menopausal age of subjects and their mothers in 110 subjects, as the rest of the subjects could not recall the menopausal age of their mothers.

The Chi-square test was used for significance testing and p value less than 0.05 was taken as statistically significant. Epi Info Version 3.3 was used for data analysis.

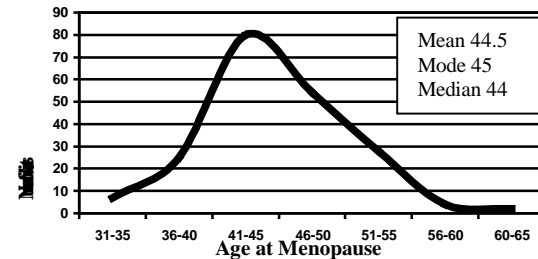
RESULTS

A total of 212 women were included out of which 12 were excluded due to either incorrect estimation of their present ages or due to the fact that they had not had a 12 month consecutive period of cessation of menstruation. The mean menopausal age of the remaining 200 women was determined to be 44.5 years (±0.8 years) widely ranging from 32 years to 62 years. (Figure-1).

Out of these 200 women, 67% of them had acquired natural menopause and all of these women

had menopause between 40–50 years of age. 16% of women had hysterectomy and thus an earlier age at menopause (between 30–40 years), while 17% of women had menopause between 50–62 years and most of these women had undergone HRT.

Figure-1: Distribution of Menopausal Age in the study population



There were many overlapping symptoms experienced by women at menopause but the most predominant symptom was hot flashes in 82% of women. Nine percent of the women complained predominantly of palpitation while only 5% of sweating. The other symptoms experienced by women included headaches, extreme tiredness, loneliness, anxiety and reduced level of concentration and depression. Although 10% of all women experienced loss of libido, menopause did not have a statistically significant negative impact on sexual function in our subjects ($p>0.05$). None of our subjects complained of postmenopausal hirsutism. (Table-1).

Table-1: Frequency of different symptoms, loss of libido and hirsutism after menopause.

Predominantly Experienced Symptoms	Number of Women (%)
Hot Flashes	164 (82%)
Palpitations	18 (9%)
Sweating	10 (5%)
Anxiety and reduced level of consciousness	3 (1.5%)
Tiredness, loneliness and depression	3 (1.5%)
Headaches	2 (1%)
Loss of Libido	20 (10% of all women) ($p>0.05$)
Postmenopausal Hirsutism	0

Of the 200 women, the menopausal ages of only 110 women's mothers could be ascertained. A comparison was made between the menopausal ages of the subjects and their mothers and a statistically significant similarity was obtained ($p<0.001$).

DISCUSSION

The mean age at menopause and its symptomatology has been determined in many countries⁸⁻¹⁶ but in Pakistan, such studies have always been difficult to carry out due lack of evidence of the correct ages of the women causing misleading results.

The median age at menopause reported from the West (50.3 years)⁸ is higher as compared to the range of 45–47 years in developing countries.⁷ The mean age at menopause has been found to be 50.7 years in Malaysia⁹ while in southern Thailand it is 48.7 years (range 40–57 years).¹⁰ In USA, it is 50.60 years,¹¹ in France it is 52 years,¹² while in the United Kingdom, the mean age of menopause is 50 years and 9 months.¹³ However in UAE, the mean age at menopause is 47.3 years (range 40–59 years) which is significantly lower like other developing countries, and may be influenced by genetic factors, parity and previous use of oral contraceptives.⁸ Similarly, a lower mean age of 45.50 years has been reported in Mexico,¹⁴ and in neighbouring India, the mean age has been found to be 44.6 years and as low as 43.55 years in two separate studies.^{15,16}

In Pakistan, the mean age at menopause has been found to be 49 years (± 3.6 years) in rural women of Lahore¹⁸ and 47 years in three socio-economic urban groups in Karachi.¹⁹ These ages are relatively higher than our result. The mean age in our study would have varied if we had not included women who have undergone hysterectomy and those who have undergone HRT. It has been concluded that hysterectomy and hormone therapy shape women's thinking about the end of reproductive life, blur the concepts of menopause and post menopause and confuse the measurement of age at menopause.⁶ Nevertheless, all studies in Pakistan including ours, have shown mean menopausal ages which are still lower than in the West.

The age in India is very similar to that of our mean of 44.5 years, which is also significantly lower than the age in the West. The lower age at menopause could reflect additional social, economic, environmental or genetic factors that were not explored in our study, and there might be some similar factors that affect the menopausal ages in developing countries like India and Pakistan, which need to be explored.

Menopause is accompanied by various symptoms like hot flashes, night sweats and various psychic symptoms, of which hot flashes is known to occur in about 75% of the women and may continue for as long as 40 years.¹ The symptomatology of menopause also differs in different areas of the world. Hot flashes in the West, shoulder pain in Japan and loss of vision in India, are the hallmarks of menopause.⁷ In UAE, the commonest symptom is hot flashes and occurs in 45% of women.⁸ The symptoms observed in our study were very similar to those occurring elsewhere in the world, but the frequency of occurrence of different symptoms vary in different countries.⁸⁻¹⁰

The frequency of female sexual dysfunction increases with age, and menopause has a negative

influence on sexual life.¹⁷ Although 10% of our subjects complained of sexual dysfunction after menopause, but menopause did not have a statistically significant negative impact on the libido in our study.

Our study also depicted a statistically significant similarity in the menopausal ages of our subjects and their mothers. This may point towards a familial pattern related to the onset of menopause.

Nevertheless, a small sample size and the reliance on the memory of our subjects for the menopausal age of their mothers were the limitations of our study.

CONCLUSION

The mean menopausal age determined by our study is significantly lower than in the West and this highlights the need for studying social, economic and cultural basis of this difference. The symptoms experienced are similar as in other parts of the world, although occurring with varying frequencies. A similarity observed between the menopausal ages of our subjects and their mothers suggests a familial pattern related to the onset of menopause.

It is recommended that large scale population based studies with documented ages should be carried out in future so that the stronger conclusions about the mean age at menopause can be made in Pakistan.

ACKNOWLEDGMENTS

We appreciate the contribution of Amber Zahid, Asea Naeem, Zahra Deen, Shahzeen Fatima, Halima Suria and Farwa Riaz in data collection and Aisha Zuberi and Farwa Riaz for their help in preparing a multimedia presentation for this study.

REFERENCES

1. Ganong WF. Review of Medical Physiology. 21st Ed. India: McGraw Hill Co; 2003.
2. Menopause Terms: Premature Menopause. Updated: 2007 Oct [Cited: 2007 Nov 28] http://www.heartspring.net/perimenopause_symptoms.html.
3. Overview of Menopause. Updated: 2006 Aug [Cited: 2007 Nov 28] Available from: <http://imaginis.com/womenshealth/menopause.asp>.
4. Noreh J, Sekadde-Kigundu C, Karanja JG, Thagana NG. Median age at menopause in a rural population of western Kenya. *East Afr Med J*. 1997;74:634-8.
5. Santoro N. The menopausal transition. *Am J Med*. 2005;118:8-13.
6. Topo P, Hemminki E. Is menopause withering away?? *J Biosoc Sci*. 1995;27:267-76.
7. Singh A, Kaur S, Walia I. A historical perspective on menopause and menopausal age. *Bull Indian Inst Hist Med Hyderabad*. 2002;32:121-35.
8. Rizk DE, Bener A, Ezimokhai M, Hassan MY, Micallef R. The age and symptomatology of natural menopause among United Arab Emirates women. *Maturitas*. 1998;29:197-202.
9. Ismael NN. A study on the menopause in Malaysia. *Maturitas*. 1994;19:205-9.

10. Peeyananjarassri K, Cheewadhanaraks S, Hubbard M, Zoa Manga R, Manocha R, Eden J. Menopausal symptoms in a hospital-based sample of women in south ern Thailand. *Climacteric*. 2006;9:23-9.
11. Anderson ER, Hamburger SBA, Re bart RW. Characteristics of menopausal women seeking as sistance. *American journal obstetrics and gynecology*. 1987;2:433-8.
12. Salat-Baroux J. [The menopause and its problems (author's transl)]. *Sem Hop*. 1980;56:1343-5.
13. Rymer J, Morris EP. "Extracts from "Clinical evid ence": Menopausal symptoms. *BMJ*.2000;321:1516-9.
14. Alvarado Zaldívar G, Rivera Da mm R, Ruiz MR, Flores Lozano F, Malacara JM, Forsbac h G. Factors possibly associated with the age at the onset of menopause. Multi-centre study. *Ginecologia y obstetrica de Me xico*. 1995;63:432-8.
15. Singh L, Ahuja S. An estimation of reproductive performance in the women of Punjab. *Anthropol Anz*. 1980;37:266-70.
16. Randhawa I, Premi HK, Gupta T. The age at menopause in the women of Himachal Pradesh, and the factors affecting the menopause. *Indian J Public Health*. 1987;31:40-4.
17. Gregersen N, Hilmand CB, Jensen PT, Giralddi AG. Sexual dysfunction in the menopause. Incidence, pharmacological treatment and side effects. *Ugeskr Laeger*. 2006;168:559-63.
18. Yahya S, Rehan N. Age, pattern and symptoms of menopause among rural women of Lahore. *J Ayub Med Coll Abbottabad*. 2002;14:9-12.
19. Wasti S, Robinson SC, Akhtar Y, Khan S, Badaruddin N. Characteristics of menopause in three socioeconomic urban groups in Karachi, Pakistan. *Maturitas*. 1993;16:61-9

Address For Correspondence:

Mehreen Adhi, D-1, Best Homes, 160-F, Block-3, P.E.C.H.S, Karachi-75400, Pakistan. Tel: +92-21-4552244

Email: mehreen_adhi@yahoo.com