

Symptoms of natural menopause among Iranian women living in Tehran, Iran

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Abstract

Background: Menopause is a step of a woman's life when hormonal changes cause menstruation to stop permanently. Menopausal symptoms can affect women's health and differ between different races and societies.

Objective: The aim of this study was to survey the symptoms associated with menopause among Iranian women living in Tehran, Iran.

Materials and Methods: In this cross sectional study which has been done between 2004 and 2005, women aged equal or more than 35 years old living in districts of Tehran were selected by multistage randomized cluster sampling. For each woman a questionnaire was completed. The data gained from each questionnaire was analyzed by using SPSS version 13.

Results: At time of study, 2462 women were naturally menopause. The mean age of natural menopause onset was 47.71 (SE=0.11) years. In 52.9% of cases, the onset of menopause was sudden. The symptoms associated with menopause were night sweats (61.2%), joint and muscle pain (59.9%), hot flashes (53.1%), fatigue (45.6%), decreased libido (33.9%), insomnia (33.7%), weight gain (30.1%), forgetfulness (24.9%) and urinary symptoms (17.4%).

Conclusion: This study showed that night sweats, joint and muscle pain and hot flashes are the most common symptoms associated with menopause.

Key words: Age, Menopause, Symptoms, Hot flashes, Night sweats.

Introduction

The menopause is the permanent cessation of menstruation due to loss of ovarian follicular function. Clinically, menopause is diagnosed after 12 months of amenorrhea (1).

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Symptoms experienced at menopause are quite variable, and the etiology of the symptoms is multifactorial (2). Also, menopausal symptoms can affect women's health and wellbeing (3). Some of menopausal symptoms included: hot flashes, urinary incontinence and reduced sexual function (1).

Numerous physical and psychological symptoms have been attributed to the hormonal changes of menopause. The pattern and frequency of these symptoms differ in different societies (4).

The pattern of menopause symptoms experienced by Asian women appears to differ when compared to their Western counterparts. For example, post menopausal women from a number of different Asian countries predominantly reported backaches, muscle pain, shoulder pain or joint pain but suffered less frequently from vasomotor disturbances (5).

Studies on menopause vasomotor symptoms among Western and African-American women showed a relatively higher prevalence of such symptoms than studies conducted among Asian populations (6).

According to this fact that several factors such as genetics, race, socioeconomic status, culture and physical activity may influence the symptoms of menopause, in this paper, we studied and reported the symptoms experienced by Iranian women living in Tehran, capital of Iran who underwent menopause.

Material and methods

This article is a part of the project entitled "Age of menopause and influencing factors in Tehran" performed by Endocrinology and Female Infertility and Epidemiology and Reproductive Health departments of Royan Institute (7). This cross sectional study has been done on urban women of Tehran between 2004 and 2005. This research was approved by Royan Institute Ethics Committee. These women were selected by multistage randomized cluster sampling.

At first, metropolitan districts of Tehran were listed (22 districts at time of study) then clusters of each district were randomly selected according to clusters which were used in health and disease study in 2000 in Iran (8). In each cluster, 50 questionnaires were completed. At first, the eligible cases for the study consisted of all women aged equal or more than 35 years old living in districts of Tehran at the time of study who had consent to enroll in this survey. For each woman a questionnaire was completed by female student midwives. The questionnaire consists of a series of questions concerning women's age, menstruation status, age at menopause and signs and symptoms related to menopause (Amenorrhea for at least 12 months was considered as menopause). Inclusion criteria for statistical analysis consist of women who had natural amenorrhea for at least 12 months at time of study. Exclusion criteria included amenorrhea secondary to ovarian surgery, hysterectomy and chemoradiotherapy. Content validity of the

questionnaire was approved by specialists in obstetrics and gynecology and epidemiologist involved in the study. The interviewers performed questioning at the afternoon (2 PM and later) for prevention of selection bias because it was possible that younger and healthier women were at workplace in the morning. If any woman did not answer the questionnaire, another woman was added to sample size.

Statistical analysis

The data gained from each questionnaire was analyzed by using SPSS version 13.

Results

In this study, 7711 questionnaires were completed. Mean age of interviewed women was 48.48 (SE=0.18) years. Among 7711 interviewed women, 3261 women were menopause at interview time that 2462 women among them were naturally menopause. The mean age at natural menopause onset was 47.71(SE=0.11) years. The onset of menopause was sudden in 52.9% of cases. The symptoms associated with menopause were; night sweats (61.2%), joint and muscle pain (59.9%), hot flashes (53.1%), fatigue (45.6%), decreased libido (33.9%), insomnia (33.7%), weight gain (30.1%), forgetfulness (24.9%) and urinary symptoms (17.4%) (Table I). In this study, 49.3% of women who were menopause used medical intervention for prevention of side effects of menopause (Table II).

Table I. Frequency of symptoms experienced by women underwent natural menopause.

Symptoms	Number	Percentage
Night sweats	1850	61.2%
Joint and muscle pain	1755	59.9%
Hot flashes	1606	53.1%
Fatigue	1378	45.6%
Decreased libido	1027	33.9%
Insomnia	1022	33.7%
Weight gain	910	30.1%
Forgetfulness	733	24.9%
Urinary symptoms	542	17.4%

Table II. Medical intervention used by studied menopause women.

Medical intervention	Number	Percentage
Calcium tablet	930	38
Exercise	576	23.5
Hormone Replacement Therapy (HRT)	166	6.8
Other drugs	537	22
Densitometry	1006	40.9
Others	272	11.1

Discussion

A central aim of preventive medicine is to maintain or improve an individual's quality of life (5). Clinically menopause is important because the decline in estrogen often causes symptoms that adversely affect quality of life (9).

The results of this study indicate that the onset of menopause was sudden in more than half of studied women (52.9%). This finding was similar to Yahya study in Lahore (66.2%) (4).

While Ayatollahi *et al* in Shiraz, one of the main cities of Iran, studied 948 women with natural menopause and found that 52.75% of studied women experienced gradually menopause (10). The difference between these studies performed on Iranian women may be due to difference in sample size, study population and method of sampling.

Studies of women undergoing menopause in other countries (Japan, Greece, Mexico) have found differences in symptoms commonly reported by women in Western industrialized nations (9). The present study showed that night sweats (61.2%), joint and muscle pain (59.9%) and hot flashes (53.1%) are the most common symptoms associated with menopause in Iranian women. In another study in Iran, joint and muscle pain (75.1%), night sweats (69%) and hot flashes (67.9%) were reported as most frequent symptoms that are similar to present study (11). Similarly, in study performed by Soltani in Ilam (one of western province of Iran) on 306 women underwent menopause, skeletal complications (84.5%), sleeping disturbance (62.5%) and hot flashes (37.3%) were the most common symptoms associated with menopause (12). Waidyasekera *et al* found that joint and muscle discomfort, physical and mental exhaustion and hot flashes were the most prevalent menopausal symptoms among Sri Lankan women (13). In Malaysia, the most common symptoms were found to be joint and muscle discomfort (84.3%), followed by anxiety (71.4%), physical and mental discomfort (67.2%), hot flashes and sweating (67.1%) (14). In Turkey, muscle -joint -bone pain was the symptom most often associated with menopause (2). In Loh study in Singapore, muscle and joint ache was the most commonly reported symptom (52.6%) (6) while in South American (Movima, Bolivia) it was shown that loss of libido (51%), hot flashes (45%), genital itching (40.8%) and dyspareunia (40%) were the main complaints of the menopause (15).

These differences in frequencies of symptoms may be associated to differences of race, life style,

culture, genetics and diet. For example musculoskeletal symptoms in women of menopausal age may be related to hormonal changes or, they may be due to women's roles within particular culture (2).

Conclusion

The finding of this study was in consist of other studies performed in Asian countries and showed that joint and muscle pain are one of the most common symptoms in menopause women in Tehran. The similarity in menopause symptoms between different Asian countries in comparison to Western societies could emphasize on the effect of culture, genetics, race and environment on symptoms experienced by menopause women

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References

1. Greendale GA, Lee NP, Arriola ER. The menopause. *Lancet* 1999; 353: 571-580.
2. Sievert LL. Menopause as a measure of population health: an overview. *Am J Hum Biol* 2001; 13: 429-433.
3. Daley A, MacArthur C, Stokes-Lampard H, McManus R, Wilson S, Mutrie N. Exercise participation, body mass index, and health-related quality of life in women of menopausal age. *Br J Gen Pract* 2007; 57: 130-135.
4. Yahya S , Rehan N. Age, pattern and symptoms of menopause among rural women of Lahore. *J Ayub Med Coll Abbottabad* 2002; 14: 9-12.
5. Haines CJ, Xing SM, Park KH, Holinka CF. Prevalence of menopausal symptoms in different ethnic groups of Asian women and responsiveness to therapy with three doses of conjugated estrogens/medroxy progesterone acetate: The Pan-Asia menopause (PAM) study. *Maturitas* 2005; 52: 264-276.
6. Loh FH, Khin LW, Saw SM, Lee JJM, Gu K. The age of menopause and the menopause transition in a multiracial population: a nation-wide Singapore study. *Maturitas* 2005; 52: 169-180.
7. Ashrafi M, Ashtiani SK, Malekzadeh F, Amirchaghmaghi E, Kashfi F, Eshрати B. Factors Associated with Age at natural Menopause in Iranian Women Living in Tehran. *Int J Gynaecol Obstet* 2008; 102: 175-176.
8. Mohammad K, Sadat Hashemi SM, Farahani FK. Age at menopause in Iran. *Maturitas* 2004; 49: 321-326.
9. Stewart DE. Menopause in highland Guatemala Mayan women. *Maturitas* 2003; 44: 293-297.
10. Ayatollahi SM, Ghaem H, Ayatollahi SA. Menstrual-reproductive factors and age at natural menopause in Iran. *Int J Gynaecol Obstet* 2003; 80: 311-313.

11. Ayatollahi SM, Ghaem H, Ayatollahi SAR. Age at natural menopause and socio-demographic determinants in Shiraz. *Journal of Mazandaran University of Medical Sciences* 2004; 14: 51-59.
12. Soltani O. Menopausal prevalence and related factors among women referred to Mostafa Khomeini hospital of Ilam, in 2001. *Journal of Ilam University of Medical Sciences* 2003; 10: 44-49.
13. Waidyasekera H, Wijewardena K, Lindmark G, Naessen T. Menopausal symptoms and quality of life during the menopausal transition in Sri Lankan women. *Menopause* 2009; 16: 164-170.
14. Jahanfar Sh, Abdul Rahim bA, Shah Reza b K, Nor Azura bt I, Sharifah Nora bt S A D, Siti Asma' bt AR. Age of Menopause and Menopausal Symptoms Among Malaysian Women Who Referred to Health Clinic in Malaysia. *Shiraz E-Medical Journal* 2006; 7: 1-9.
15. Castelo-Branco C, Palacios S, Mostajo D, Tobar C, von Helde S. Menopausal transition in Movima women, a Bolivian Native-American. *Maturitas* 2005; 51: 380-385.