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Prevalence and Severity of Menopausal Symptoms and Related Factors Among Women 40-60 Years in Kashan, Iran

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ABSTRACT

Background: Menopause is a unique event in a woman's life which has many symptoms. Frequency and severity of these symptoms vary, and they are based on the woman's epidemiological characteristics.

Objectives: The aim of this study was to determine the prevalence and severity of menopausal symptoms and related factors among women, 40-60 years in Kashan, Iran.

Patients and Methods: In this cross-sectional study, 700 menopausal women in Kashan City were selected using cluster sampling. Data were collected by the Menopause Quality of Life Questionnaire (MENQOL). In addition, demographic variables including; current age, age of menarche and menopause, marital status, educational level, working status and exercise activity levels, were recorded. Data were analyzed using SPSS software version 16 and socio-demographic characteristics were compared using a chi-square test. A P value < 0.05 was considered significant.

Results: The most common symptoms in; vasomotor, psychosocial, physical and sexual domains were; 'night sweats', 'accomplishing less than I used to', 'feeling a lack of energy', and 'change in sexual desire', respectively. Moreover, the most severe symptoms in these domains were; 'night sweats', 'feeling anxious or nervous', 'aching muscles or joints', and 'avoiding intimacy'. There was a statistically significant difference between; the severity of menopausal symptoms and working status (P = 0.017), different educational levels (P = 0.001), exercise activity (P = 0.001), exercise frequency (P = 0.04), and duration of menopause (P = 0.03).

Conclusions: The prevalence of menopausal symptoms in our population is similar to most other communities. Employment, higher educational levels, doing physical activity and duration of menopause of more than five years is associated with milder menopausal symptoms.

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Implication for health policy/practice/research/medical education:

This article has implications for health care providers, especially midwives, for the recognition of menopausal symptoms and related factors in women.

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1. Background

Today, with increasing life expectancy and lifespan, women spend one-third of their lifetime after menopause (1, 2). For many women, menopause may have a negative effect on their lives (3). Menopause is defined by the stopping of menses in women due to decreasing ovarian hormone secretions (4). In most developed countries, the average age of menopause is around 50 years (5). Vasomotor symptoms such as; hot flashes and night sweats; somatic symptoms such as vaginal dryness and dyspareunia; psychological symptoms such as anxiety, nervousness, lack of concentration, overreacting to mild problems, irritability, and poor memory, are all symptoms of menopause (6, 7). However, the severity and influence of these symptoms of menopause in different women and populations are varied (8). In some women, these symptoms are so severe that they affect their social and individual lives (9). Decreased estrogen secretion, metabolic changes, general health and psychosocial factors result in menopausal symptoms (10, 11). The frequency of symptoms can vary based on epidemiological characteristics of the population and the assessment tools used (12). A study by Lee et al. showed that more than 40% of women reported psychosomatic symptoms as, 'sometimes', and in 29% of women this symptom was, 'extremely bothered'. The most common sexual symptom was 'decreasing sexual desire' and 27.1% of women were very bothered by this symptom (13). Furthermore, Rostami in his study reported that; 'feeling anxious or nervous', 'feeling a lack of energy', 'feeling tired or worn out' (94%), 'aching muscles or joints', and 'avoiding intimacy' (92%), were the most common problems in menopausal women (14). Another study in Saudi Arabia showed those 'hot flashes' and 'sweeting' (68.5%), 'vaginal dryness' (37.3%) and 'sexual problems' (30.7%) were the most common symptoms in menopausal women. In addition, the most severe symptoms were hot flashes and excessive sweating (15). Gharaibeh et al. conducted a study which showed that severe, moderate and mild symptoms were experienced by; 15.7%, 66.9% and 17.4% of women, respectively, and there was a significant correlation between the severity of menopausal symptoms and age, educational level, income, menopausal status and the number of children (16). However, in a study by Chim et al. somatic symptoms such as 'low backache with aching muscles and joints' (51.4%) were the most prevalent symptoms. The prevalence of hot flashes, vaginal dryness and night sweats were; 17.6%, 20.7% and 8.9%, respectively. Their study did not show any significant correlation between; educational level, marital status, employment, income status, cigarette smoking and frequency of menopausal symptoms (17).

2. Objectives

Regarding the controversial results of various studies and the individual and social diversity in different communities, we performed this study in order to investigate the prevalence and severity of menopausal symptoms and related factors among women in Kashan City, Iran.

3. Patients and Methods

This was a cross-sectional study on 700 menopausal women aged 40-60 in Kashan City that is located in the central part of Iran, with a population of about 400 000. Data were gathered using cluster sampling. Samples were determined based on population coverage from all health-care centers (20 centers) in Kashan City. Then from each region, a street, an alley, and a plaque were randomly selected and sampling was started from the same plaque and continued up until the completion of sampling. Women with mental and physical problems or systemic diseases and women who had had an oophorectomy or hormonal therapy during the previous six months were excluded. Data were collected using the latest edition (2004) of the standard Menopause Quality of Life Questionnaire (MENQOL). This questionnaire had been standardized previously in the Tehran University of Medical Science and its content validity was approved. Furthermore, its reliability was assessed using a Cranach's alpha and calculated as 0.95 (18). MENQOL is a 29-item questionnaire which is divided into four domains; physical, vasomotor, psychosocial, and sexual. With regards to menopausal symptoms, the women were asked if they had experienced these symptoms in the previous one month period, and to grade its severity as; mild, moderate or severe. In these women, a number of demographic variables including; current age, age of menarche and menopause, marital status, educational level, working status and exercise activity were also recorded. Analysis was performed using SPSS software version 16. Data are presented as; means, standard deviations, and percentages. Differences in menopausal severity symptoms according to socio-demographic characteristics were compared by a chi-square test and a P value ≤ 0.05 was considered significant. This study was approved by the Ethical Committee of Kashan University of Medical Sciences and all of the participants signed an informed consent form prior to enrolment.

4. Results

Most of the women (46.3%) were between 55-59 years; 55.6% of women had been postmenopausal for more than 5 years (47.6 ± 4.1 years); 47.6% had an elementary education; 89.9% had a spouse, and 98.3% were housewives. Age of menarche in 71.4% of women was between 12-14 years and the mean (SD) number of children was 4.9 (1.98). In total, 24.7% of the women reported that they took part in physical activity and exercise regularly and in 63.3% of these women it was three times per week or more. Table 1 shows that the common symptoms in; vasomo-

Table 1. Frequency and Severity of Menopausal Symptoms

Symptoms	Frequency, %		Severity, %		
	No	Yes	Mild	Moderate	Severe
Vasomotor Domain					
Hot flashes	19.1	80.9	25.1	32.4	23.3
Night sweats	13.9	86.1	20.9	31.1	34.1
Sweating	27.7	72.3	25.6	28.4	18.3
Psychosocial Domain					
Dissatisfaction with personal life	32.4	67.6	31.3	29	7.3
Feeling anxious or nervous	11.7	88.3	21.3	38.4	28.6
Poor memory	14	86	27	35.9	23.1
Accomplishing less than I used to	9.9	90.1	21.6	45.3	23.3
Feeling down, depressed or blue	17.3	82.7	30.6	34	18.1
Being impatient with other people	16.7	83.3	24.9	32.7	25.7
Feelings of wanting to be alone	27.9	72.1	31	23.6	17.6
Physical Domains					
Flatulence or gas pains	25	75	26.6	29.7	18.7
Aching muscles or joints	11.6	88.4	16.6	31.6	40.3
Feeling tired or worn out	7.6	92.4	19.4	40.1	32.9
Difficulty sleeping	22.4	77.6	24.4	28.7	24.4
Aches in back of neck or head	17	83	24.9	29.1	29
Decrease in physical strength	10.9	89.1	24.1	42.9	22.1
Decrease in stamina	10.9	89.1	14.2	42.9	22.2
Feeling a lack of energy	7.3	92.7	22.7	44.6	25.4
Drying skin	32.6	67.4	27.4	26.4	13.6
Weight gain	38.1	61.9	26.9	25.3	9.7
Increased facial hair	54	46	33.3	9	3.7
Changes in appearance, texture, or tone of skin	26.3	73.7	37.9	29.3	6.6
Feeling bloated	40.7	59.3	31.1	20.1	8
Low backache	18.4	81.6	23.1	30.1	28.3
Frequent urination	45.1	54.9	27.7	16.1	11
Involuntary urination	41.9	58.1	32	17.7	8.4
Sexual					
Change in sexual desire	16.2	83.8	22.2	31.6	30
Vaginal dryness	26.3	73.7	28.1	25.7	19.9
Avoiding intimacy	18.3	81.7	21.3	25.8	34.8

tor, psychosocial, physical and sexual domains were; 'night sweats' (86.1%), 'accomplishing less than I used to' (90.1%), 'feeling a lack of energy' (92.7%), and 'change in sexual desire' (83.8%), respectively. The most severe symptoms in these domains were; 'night sweats' (34.1%), 'feeling anxious or nervous' (28.6%), 'aching muscles or joints' (40.3%), and 'avoiding intimacy' (34.8%), respectively. Findings showed that employed women, women with a higher educational level, those who participated in exercise activity with a frequency of more than three times per week, and women with duration of menopause of more than five years, experienced less severe menopausal symptoms (Table 2). There was a statistically significant difference between; the severity of menopausal symptoms and working status ($P = 0.017$), different educational levels ($P < 0.001$), exercise activity ($P < 0.001$), exercise frequency ($P = 0.04$), and duration of menopause ($P = 0.03$). However, there were no significant differences between; severity of menopausal symptoms and current age, marital status and exercise activity duration.

Table 2. Severity of Menopausal Symptoms According to Demographic Variables

Demographic Variables	Mild, No (%)	Moderate, No (%)	Severe, No (%)	Total, No (%)	P value
Age, y					0.48
40-44	5 (33.3)	8 (53.3)	2 (13.3)	15 (100)	
45-49	23 (28)	55 (67.1)	4 (4.9)	82 (100)	
50-54	90 (32.3)	171 (61.3)	18 (6.5)	279 (100)	
55-60	84 (25.9)	222 (68.5)	18 (5.6)	324 (100)	
Educational Level					0.001
Illiterate	71 (23.7)	200 (68.6)	23 (7.7)	299 (100)	
Primary school	95 (28.5)	219 (65.8)	19 (5.7)	333 (100)	
Secondary school	8 (33.3)	15 (62.5)	1 (4.1)	24 (100)	
Diploma or higher	28 (63.6)	16 (36.4)	0 (0)	44 (100)	
Marital Status					0.16
Spouse	174 (27.7)	414 (65.8)	41 (6.5)	629 (100)	
Without spouse	28 (39.4)	40 (56.3)	3 (4.2)	71 (100)	
Working Status					0.017
Employment	7 (58.4)	5 (41.6)	0 (0)	12 (100)	
Housewife	194 (282)	452 (65.7)	42 (6.1)	688 (100)	
Duration of Menopause, y					0.03
Less than 5 years	100 (32.2)	196 (63)	15 (4.8)	300 (100)	
5 years and more	141 (36.2)	233 (60)	15 (3.8)	389 (100)	
Exercise Activity					0.001
Yes	74 (42.8)	93 (53.8)	6 (3.5)	173 (100)	
No	128 (24.3)	363 (68.9)	36 (6.8)	527 (100)	
Exercise Frequency, weekly					0.04
Less than 3 times	49 (49.5)	46 (46.5)	4 (4)	99 (100)	
3 times and more	37 (50)	36 (48.6)	1 (1.4)	74 (100)	
Exercise Duration					0.25
30 minutes or less	43 (38.4)	65 (58)	4 (3.6)	112 (100)	
More than 30 minutes	31 (50.8)	29 (47)	1 (1.6)	61 (100)	

5. Discussion

Most of the women had a complaint of 'night sweets' and that were severe in 34.1% of cases. Many studies reported that 'hot flashes' and 'sweeting' were the most common and severe symptoms in menopausal women (15, 19). That was similar to our findings. Although, in a Singaporean study by Chim, the frequency of hot flashes and night sweats was 17.6% and 8.9%, respectively, and that was considerably lower than our results (17). Vasomotor symptoms are usually related to hormonal changes during menopause periods (20), so this difference may have been due to genetic or socio-cultural diversity and also differences in diet, especially the consumption of phytoestrogenic foods, between the two groups. The most prevalent psychosocial symptom in our study population was; 'accomplishing less than I used to', but the most severe symptom was 'feeling anxious or nervous'. A study in Tehran showed that, 'feeling anxious or nervous', was the most common problem in this domain (14). However, in several studies, the most common and severe symptom that was reported by women was, 'poor memory' (11, 17, 21). Regarding somatic symptoms, our study showed that most of the women had a complaint of, 'feeling a lack of energy', but the most severe symptom was, 'aching muscles or joints'. This finding is similar to several studies in Iran (14, 19, 22), Ecuador (11), Singapore (17), and Oman (21). Somatic and psychological symptoms are not related to menopausal status because these symptoms are multi-factorial, rather than due to hormonal imbalance and middle-aged women usually experience these symptoms due to health problems related with aging. Our results concerning sexual symptoms showed that 83.3% of women had a 'change in sexual desire', but 'avoiding intimacy', was more severe than other sexual symptoms. In one study, 92% of women reported, avoid-

ing intimacy (14). In Ecuadorian women (11) this rate was 76.5%, in Korean women (23) the most common symptom was a 'change in sexual desire' that was severe in 27.1% of cases. In Singaporean women the most common and severe symptom was avoiding intimacy (17). But in two studies the prevalence of 'change in sexual desire' was approximately 30.7% (15, 19). Our study showed that the severity of menopausal symptoms had a significant association with; working status, educational level, exercise activity, exercise frequency and duration of menopause. Several studies have shown that women who had longer education, reported milder menopausal symptoms (16, 21, 24). But one study in Taiwan showed that educated women had more menopausal symptoms compared to less-educated women (25). Results of a study in Singapore also demonstrated that there was no association between education and menopausal symptoms (17). Several studies have also shown the impact of working status on the severity of menopausal symptoms (17, 22, 23). In some of these studies, employment had a negative impact on menopausal symptoms, while in others employment was a modifier. This finding shows that employment is a stressor for some women whereas for others it is an opportunity for more communication with other people and therefore they experience milder symptoms. Women with a longer duration of menopause reported a lower severity of symptoms because they had more time to adapt to the menopausal changes and therefore reported a lower severity of symptoms. This finding is similar to studies by Lee et al. (23), Gharaibeh (16) and Lee and Kim (24). Our study showed that physical activity has a positive effect on menopausal symptoms, so that women who had an exercise activity rate of more than three times per week, reported lower severity symptoms. Similar findings have been shown in a study by Moilanen et al. They reported that in women who had physical activity four times a week, menopausal symptoms such as 'night sweats', 'irritability' and 'mood swings' were reduced (26). Other studies emphasized the positive effects of physical activity on an improvement in menopausal symptoms (27, 28). Exercise which releases endorphins into the blood helps to reduce vasomotor symptoms (hot flashes and sweats) and it also had positive effects on the women's mood, general well-being, sleep disturbance and cognitive functions (29, 30). Also, physical activity can reduce sexual problems by strengthening the muscles and joints and maintaining body fitness (30). One of our study's limitations was recall bias, because we asked the women to recall symptoms in the previous month. However, it seems that this is an appropriate time-frame for the recall of many of the symptoms. The prevalence of menopausal symptoms in our population is similar to the majority of other communities. In addition, socio-demographic characteristics and lifestyle such as; employment, higher educational levels, doing physical activity and duration of menopause of more than five years, are associated with milder menopausal symptoms. Therefore, we would emphasize educating women about menopausal changes and encouraging women to have a more active lifestyle.

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Authors' Contribution

Masoumeh Abedzadeh-Kalahroudi (research design), Mahboubeh Taebi (article writing), Zohreh Sadat (data analysis), Farzaneh Saberi (final report writing) and Zahra Karimian (data gathering).

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References

1. McKinney ES, Ashwill JW, Murray SS, James SR, Gorrie TM, Droske SC. *Maternal-Child Nursing*. St. Louis: Elsevier Science Health Science Division; 2012.
2. Speroff L, Fritz LSMA. *Clinical Gynecologic Endocrinology and Infertility: 7th ed.* Philadelphia: Lippincott Williams & Wilkins; 2005.
3. Chedraui P, Aguirre W, Hidalgo L, Fayad L. Assessing menopausal symptoms among healthy middle aged women with the Menopause Rating Scale. *Maturitas*. 2007;**57**(3):271-8.
4. Greendale GA, Lee NP, Arriola ER. The menopause. *Lancet*. 1999;**353**(9152):571-80.
5. Leplège A, Dennerstein L. Menopause and quality of life. *Qual Life Res*. 2000;**9**:689-92.
6. Bosworth HB, Bastian LA, Kuchibhatla MN, Steffens DC, McBride CM, Skinner CS, et al. Depressive symptoms, menopausal status, and climacteric symptoms in women at midlife. *Psychosom Med*. 2001;**63**(4):603-8.
7. Vandenakker CB, Glass DD. Menopause and aging with disability. *Phys Med Rehabil Clin N Am*. 2001;**12**(1):133-51.
8. Gold EB, Sternfeld B, Kelsey JL, Brown C, Mouton C, Reame N, et al. Relation of demographic and lifestyle factors to symptoms in a multi-racial/ethnic population of women 40-55 years of age. *Am J Epidemiol*. 2000;**152**(5):463-73.
9. Anderson E, Hamburger S, Liu JH, Rebar RW. Characteristics of menopausal women seeking assistance. *Am J Obstet Gynecol*. 1987;**156**(2):428-33.
10. Binfa L, Castelo-Branco C, Blumel JE, Cancelo MJ, Bonilla H, Munoz I, et al. Influence of psycho-social factors on climacteric symptoms. *Maturitas*. 2004;**48**(4):425-31.
11. Chedraui P, Hidalgo L, Chavez D, Morocho N, Alvarado M, Huc A. Menopausal symptoms and associated risk factors among postmenopausal women screened for the metabolic syndrome. *Arch Gynecol Obstet*. 2007;**275**(3):161-8.
12. Heinemann K, Ruebig A, Potthoff P, Schneider HP, Strelow F, Heinemann LA, et al. The Menopause Rating Scale (MRS) scale: a methodological review. *Health Qual Life Outcomes*. 2004;**2**:45.
13. Li S, Holm K, Gulanick M, Lanuza D. Perimenopause and the quality of life. *Clin Nurs Res*. 2000;**9**(1):6-23; discussion 4-6.
14. Rostami A, Ghofranipour F, Ramazanzadeh F. The Effect of Health Education Program on Quality of Women's Life in Menopause. *Daneshvar Med*. 2004.
15. Al-Olayet AY, Al-Qahtani IF, Al-Essa DI, Al-Saleek FH, Al-Moutary

RN, Al-Mudimeg LM, et al. Severity of menopausal symptoms, and knowledge attitude and practices towards menopause among Saudi women. *Sci Res Essays*. 2010;**5**(24):4077-9.
16. Gharaibeh M, Al-Obeisat S, Hattab J. Severity of menopausal symptoms of Jordanian women. *Climacteric*. 2010;**13**(4):385-94.
17. Chim H, Tan BH, Ang CC, Chew EM, Chong YS, Saw SM. The prevalence of menopausal symptoms in a community in Singapore. *Maturitas*. 2002;**41**(4):275-82.
18. Golyan Tehrani S, Mir Mohammad Ali M, Mahmoudi M, Khaledian Z. Study of quality of life and its patterns in different stages of menopause for women in Tehran. *Hayat J*. 2003;**8**(33-41).
19. Askari F, Basiri Moghadam K, Basiri Moghadam M, Torabi S, Gholamfarkhani S, Mohareri M. Age of Natural Menopause and the Comparision of Incidence of Its Early Complications in Menopause Transition stages in Women From Gonabad City. *Ofoghe-e-Danesh*. 2012.
20. Kakkar V, Kaur D, Chopra K, Kaur A, Kaur IP. Assessment of the variation in menopausal symptoms with age, education and working/non-working status in north-Indian sub population using menopause rating scale (MRS). *Maturitas*. 2007;**57**(3):306-14.
21. El Shafie K, Al Farsi Y, Al Zadjali N, Al Adawi S, Al Busaidi Z, Al Shafaee M. Menopausal symptoms among healthy, middle-aged Omani women as assessed with the Menopause Rating Scale. *Menopause*. 2011;**18**(10):1113-9.
22. Delavar MA, Hajiahmadi M. Factors Affecting the Age in Normal Menopause and frequency of Menopausal Symptoms in Northern Iran. *IRCMJ*. 2011;**13**(3):192-8.
23. Lee MS, Kim JH, Park MS, Yang J, Ko YH, Ko SD, et al. Factors influencing the severity of menopause symptoms in Korean postmenopausal women. *J Korean Med Sci*. 2010;**25**(5):758-65.
24. Lee Y, Kim H. Relationships between menopausal symptoms, depression, and exercise in middle-aged women: a cross-sectional survey. *Int J Nurs Stud*. 2008;**45**(12):1816-22.
25. Cheng MH, Wang SJ, Wang PH, Fuh JL. Attitudes toward menopause among middle-aged women: a community survey in an island of Taiwan. *Maturitas*. 2005;**52**(3-4):348-55.
26. Moilanen JM, Mikkola TS, Raitanen JA, Heinonen RH, Tomas EI, Nygard CH, et al. Effect of aerobic training on menopausal symptoms--a randomized controlled trial. *Menopause*. 2012;**19**(6):691-6.
27. Canario AC, Cabral PU, Spyrides MH, Giraldo PC, Eleuterio J, Jr., Goncalves AK. The impact of physical activity on menopausal symptoms in middle-aged women. *Int J Gynaecol Obstet*. 2012;**118**(1):34-6.
28. Karacan S. Effects of long-term aerobic exercise on physical fitness and postmenopausal symptoms with menopausal rating scale. *Sci Spor*. 2010;**25**(1):39-46.
29. Duff SM. Effect of physical activity on menopausal symptoms in non-vigorously active postmenopausal women: University of Saskatchewan; 2009.
30. Li C, Borgfeldt C, Samsioe G, Lidfeldt J, Nerbrand C. Background factors influencing somatic and psychological symptoms in middle-age women with different hormonal status. A population-based study of Swedish women. *Maturitas*. 2005;**52**(3-4):306-18.