brief report

Assessment of symptoms of menopause and their severity among Saudi women in Riyadh

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BACKGROUND AND OBJECTIVES: Research on menopause in Arab women is limited. The aim of our study was to assess the commonly experienced symptoms of menopause and their severity among Saudi women.

DESIGN AND SETTING: A cross-sectional study conducted at King Khalid University Hospital (KKUH) in Riyadh, Saudi Arabia.

PATIENTS AND METHODS: Four hundred and ninety healthy women aged 40-55 years and either attending KKUH themselves or accompanying their relatives in outpatient clinics participated in the study. The Menopause Rating Scale (MRS) was used to assess menopausal symptoms and severity.

RESULTS: The mean (SD) age of the women in menopause was 47.9 (6.03) years. The most frequent symptoms were muscle and joint problems occurring in 411 women (83.9%), physical and mental exhaustion in 393 (80.2%), heart discomfort in 358 (73.1%), sleeping disorders in 349 (71.2%), hot flashes in 348 (71.0%), and irritability in 348 (71.0%); in addition, 179 (36.5%) of these women experienced severe psychological distress. Perimenopausal women had higher total and subscales scorings for somatic symptoms than did premenopausal and postmenopausal women (P=.008).

CONCLUSION: The number of Saudi women reporting hot flashes and night sweats was comparable to the number of Western women. In addition, somatic symptoms were more prevalent among perimenopausal than among premenopausal women.

Menopause is defined simply as the permanent cessation of menses.[1] The natural menopause is a gradual process that usually occurs between the ages of 47 and 55 years of age.[2] It is confirmed by the absence of menstrual periods for 12 consecutive months, excluding any other obvious pathological or physiological causes.[1,2] The menopause is characterized by various physiological and psychological changes, including vasomotor symptoms (hot flashes and night sweats), bone loss, urogenital atrophy, urinary tract infections, urinary incontinence, somatic symptoms, sexual dysfunction, loss of skin elasticity, depression, mood swings, sleep disturbance, memory loss, and weight gain.[3] The symptoms experienced by women vary, depending on the individual, their culture, and their ethnicity. The prevalence of symptoms also differs during the transition of the menopause through its various stages, as well as from woman to woman.[2]

Research on the menopause is scarce in Arab countries. A study conducted among Moroccan women found that fatigue and hot flashes were the most frequent complaints, occurring in 61% of the women.[4] Another study found that 45% of perimenopausal women from the United Arab Emirates described hot flashes as their worst symptom.[5] Unfortunately, the research published to date on Arab menopausal women is limited, especially on symptoms and symptom severity. Thus, there is a need to evaluate the quality of life of peri- and postmenopausal women to develop strategies to relieve the common problems associated with the menopausal transition. The objective of this study was to assess the symptoms and their severity commonly experienced by perimenopausal Saudi women in Riyadh.

PATIENTS AND METHODS

This cross-sectional study was conducted over a 3-month period at King Khalid University Hospital (KKUH) in Riyadh during 2010. Women aged 40-55

years, either attending KKUH or accompanying relatives to the primary healthcare clinics, were invited to participate. Exclusion criteria were a history of depression or use of antidepressant drugs, hormone-replacement therapy, or having had undergone bilateral oophorectomy when they were younger than 50 years old. The data collection form included demographic data, menopausal symptoms and their frequencies, grading of severity, and information about whether the woman was receiving drugs (either hormones or anti-depressants).

We used the English version of the Menopause Rating Scale (MRS), validated by Heinemann et al[6] which was translated into Arabic by study researchers. It was pre-tested and validated among 20 women of the same age and from the same health facility. Menopausal status definitions were defined by experts at the Stages of Reproductive Aging Workshop (STRAW) in 2001.[7]

The sample size was calculated using the following formula:

$N=Z^2\times(p)\times(1-p)/d2$

where, Z=1.96 and d=0.05

Assuming an average of proportions of 2 studies (61%[8] and 45%[9]), p= 53%, thus:

$n = (1.96)^2\times(0.53\times0.53)/(0.05)^2 = 431$

Therefore, the minimal sample size required was 431. Assuming a response rate of 80%, the sample size required was 517 participants to detect a 53% prevalence of menopausal symptoms with a 95% confidence level and an acceptable 5% error. In our study, 517 women participated, although 27 questionnaires were excluded (owing to incomplete data and/or participation denial), leaving complete data for 490 women.

Statistical analysis was performed using SPSS statistical software (IBM, Armonk, NY, USA). The data were presented as proportions for each severity subscale, and expressed as mean (standard deviation, SD) and percentages. ANOVA (F-test) and chi-square calculations were used to compare continuous and categorical data, respectively. Urogenital scores were corrected to a normal distribution by adding one. *P* value of less than .05 was considered statistically significant.

RESULTS

The mean (SD) age of the whole sample (n=490) was 51.4 (6.9) years, with a median 50.0 years. The mean age at menopause was 47.9 (6.0) years (median, 49 years). The most frequently presenting symptoms of the 11 items composing the MRS are shown in **Table 1**. The severity of symptoms by menopausal status is shown in **Table 2**. Total and subscale MRS scores are shown in **Table 3**. Considering the total items of the MRS, more than two-thirds of the study group suffered from either severe menopausal (36.1%) or moderate symptoms (37.1%). Total score as well as each subscale of the MRS significantly increased in relation to the menopausal stage. Perimenopausal women had higher total and subscales scores than premenopausal and postmenopausal women, but only somatic scores were significantly different.

DISCUSSION

Previously, several studies have been performed to evaluate the age of women at menopausal onset. In Saudi studies, the mean (SD except where noted) ages were 48.9 years (standard error, 0.3 years),[10] 48.1 (5.9),[11] 48.4 (3.8) years,[12] and 47.9 (6.0) in our study. In other Asian countries the mean age of onset varied: Malaysia, 49.4-51.1 years;[13] Thailand, 48.7 years;[14] Singapore, 49.1 years,[15-19] all mostly lower than the average age in industrialized countries of 51 years.[20]

The classical menopausal symptoms were hot flashes and night sweats (71%), which were more prevalent in our participants than in women from other Arab countries[4,5] and other Asian countries (Sarawak: 41.6%;[21] Malaysia: 53.0 or 57.1%[11] [results from 2 different studies]),[21-27] but similar to that in Western countries (45%-75%).[20] In addition, previous studies have suggested that ethnic background influences a woman's

Table 1. Frequency of menopausal symptoms as assessed by Menopausal Rating Scale (MRS) in the study population.

Menopausal symptoms	Frequency (n=490)	Percentage (%)
Somatic score		
Hot flushes	348	71.0
Heart discomfort	358	73.1
Sleeping problems	349	71.2
Muscle and joint problems	411	83.9
Psychological symptoms		
Depressive mood	331	67.6
Irritability	348	71.0
Anxiety	269	54.9
Physical and mental exhaustion	393	80.2
Uro-genital score		
Sexual problems	164	33.5
Bladder problems	186	38.0
Dryness of the vagina	132	26.9

Table 2. Severity of menopausal symptoms as assessed by MRS according to menopausal status in the study population.

Symptom Severity assessed by MRS	Pre-menopausal (n=165)		Peri-menopausal (n=75)		Post-menopausal (n=250)		Total n (%)	Test of Significance
	No.	%	No.	%	No.	%		
Somatic score								
No or little (0-2)	32	19.4	7	9.3	28	11.2	67 (13.7)	χ^2 linear-by-linear =4.829* *P*=.028
Mild (3-4)	28	17.0	11	14.7	45	18.0	84 (17.1)	
Moderate (5-7)	73	44.2	33	44.0	110	44.0	216 (44.1)	
Severe (≥8)	32	19.4	24	32.0	67	26.8	123 (25.1)	
Psychological score								
No or little (0-1)	17	10.3	5	6.7	32	12.8	54 (11.0)	χ^2 =5.938 *P*=.430
Mild (2-3)	33	20.0	13	17.3	61	24.4	107 (21.8)	
Moderate (4-6)	54	32.7	24	32.0	72	28.8	150 (30.6)	
Severe (≥7)	61	37.0	33	44.0	85	34.0	179 (36.5)	
Uro-genital score								
No or little (0)	68	41.2	31	41.3	106	42.4	205 (41.8)	χ^2=1.942 *P*=.925
Mild (1)	22	13.3	8	12.0	35	14.0	66 (13.5)	
Moderate (2-3)	45	27.3	17	22.7	65	26.0	127 (25.9)	
Severe (≥4)	30	18.2	18	24.0	44	17.6	92 (18.8)	
Total score								
No or little (0-1)	19	11.5	4	5.3	20	8.0	43 (8.7)	χ^2=6.46 *P*=.374
Mild (2-3)	33	20.0	10	13.3	45	18.0	88 (17.9)	
Moderate (4-6)	55	33.3	28	37.3	99	39.6	182 (37.1)	
Severe (≥7)	58	35.2	33	44.0	86	34.4	177 (36.1)	

perception of her symptoms.[21]

The most prevalent symptoms were joint and muscular discomfort (83.9%) and physical and mental exhaustion (80.2%). These findings correspond to data for Asian[6,11,12,14,16,21,22,26] and White women.[9,29,30] However, some of these symptoms could be caused by vitamin D deficiency as well, which is widely prevalent in Saudi women.

Our study showed that peri-menopausal women experienced more severe somatic symptoms than did premenopausal women. This can be explained by ageing, which can cause menopausal-like symptoms, or by hormonal fluctuations in estrogen levels.[15,29,31] The latter is the most likely, because no significant differences in somatic symptoms were observed between peri- and postmenopausal women, and a significant positive relationship was observed between total MRS score and menopausal stage, irrespective of age.

Contrary to our results, other Asian studies have shown that urogential symptoms were experienced more frequently by postmenopausal women.[13,18,21,25,28] These differences emphasise the presence of several factors that contribute to a decline in sexual activity in middle-aged perimenopausal women.[32,34] In our study, more than a third of the participants showed severe psychological symptoms (36.5%), and approximately a quarter (25.1%) showed severe somatic symptoms. However, menopausal symptoms are more frequent

Table 3. Mean values of total and subscale score of MRS according menopausal status.

Mean values of MRS	Pre-menopausal (n=165)	Peri-menopausal (n=75)	Post-menopausal (n=250)	Test of Significance
Somatic score				
Min-Max	0-16	0-15	0-15	F=4.833
Mean (SD)	5.68 (3.40)	7.00 (3.45)	6.46 (3.22)	*P*=.008
Psychological score				
Min-Max	0-15	0-14	0-15	F=1.222
Mean (SD)	5.47 (3.32)	5.85 (3.07)	5.19 (3.37)	*P*=.296
Urogenital score				
Min-Max	0-13	0-9	0-13	F=0.812
Mean (SD)	2.84 (2.29)	3.04 (2.37)	2.69 (2.05)	*P*=.444
Total Score				
Min-Max	0-43	0-33	0-34	F=1.889
Mean (SD)	13.00 (7.51)	14.89 (7.05)	13.34 (6.90)	*P*=.152

and severe in black women. In one study, black women had higher total MRS scores (odds ratio: 2.3; 95% confidence interval: 1.6-3.5) and a higher prevalence of menopausal somatic and psychological symptoms; moreover, increased symptom severity was observed among Afro-Caribbean, Hispanic, and Colombian menopausal women.[35] However, this has not been described in any Asian population. The high prevalence of severe symptoms in this study reflects the need to consider perimenopausal symptoms as explanations for any recent complaints among Saudi women in this age group.

A limitation of this study was its cross-sectional design, which does not exclude other confounding effects of the natural ageing process that may have influenced the symptoms. Second, the MRS scale used was not self-administered but completed by an interviewer, which could have influenced the magnitude of the absolute scores of the total and subscales. For a successful evaluation of the severity of menopausal symptoms and their predictors in perimenopausal Saudi women, future large-scale national clinical studies are recommended.

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