

# Menopozal Semptomlar ve Etkileyen Faktörler: Türk Kadınları Örneği

## Menopausal Symptoms and Factors Affecting it: A Sample of Turkish Women

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### Özet

**Amaç:** Bu çalışma menopozal semptomları ve etkileyen faktörleri belirlemek amacıyla yapılmıştır.

**Gereç ve Yöntemler:** Tanımlayıcı kesitsel nitelikte yapılan çalışma 40-65 yaş arasındaki 280 kadınla yürütülmüştür. Veriler Kişisel Bilgi Formu ve Menopoz Derecelendirme Ölçeği (MRS) kullanılarak toplanmıştır. Verilerin değerlendirilmesinde yüzde, aritmetik ortalama, Kruskal-Wallis varyans analizi, Mann-Whitney U testi, t testi ve varyans analizleri kullanılmıştır.

**Bulgular:** Çalışmaya katılan kadınların yaş ortalamaları  $54.65 \pm 6.90$ 'dır. MRS ölçeği toplam puan ortalaması  $20.22 \pm 10.11$ 'dir. Somatik belirti alt ölçeği  $3.94 \pm 2.11$ , psikolojik belirti alt ölçeği  $11.54 \pm 6.01$  ve ürogenital belirti alt ölçeği  $4.74 \pm 3.72$ 'dir. Çalışma, kadınların sıcak basması / terleme (%51,4), sinirlilik semptomları (%40), kas ve eklem sorunları (%37,1) ve şiddetli ila çok şiddetli düzeyde cinsel sorunlar (%34,3) yaşadıkları saptanmıştır. Çalışmaya katılanların yaş, eğitim düzeyi, çalışma durumu, medeni durum, gelir durumu, sigara içme davranışı, egzersiz, gebelik sayısı ve menopoz hakkında bilgi, kadınların toplam MRS skorları arasında istatistiksel olarak anlamlı farklılık saptanmıştır ( $p < 0.05$ )

**Sonuç:** Araştırmada elde edilen sonuçlar doğrultusunda kadınların şiddetli menopozal semptomları yaşadığını ve bu semptomların birçok faktörden etkilendiği görülmüştür.

**Anahtar Kelimeler:** Menopoz, Menopozal Semptomlar, Hemşirelik

### Abstract

**Objective:** The aim of this study was to assess menopausal symptoms and factors affecting it.

**Material and Methods:** This descriptive and cross-sectional survey was conducted with a total of 280 women aged 40–65 years. The data was collected with the personal information form and the Menopause Rating Scale (MRS). Data analysis included determining the percentage, arithmetic average, Kruskal–Wallis variance analysis, Mann-Whitney U test, t test, and analysis of variance.

**Results:** The average age of the women participants was  $54.65 \pm 6.90$  years. The mean total MRS was  $20.22 \pm 10.11$ . The somatic symptom subscale was  $3.94 \pm 2.11$ , the psychological symptom subscale was  $11.54 \pm 6.01$ , and the urogenital symptom subscale was  $4.74 \pm 3.72$ . The study was found that the women experienced hot flushes/sweating (51.4%), irritability symptoms (40%), muscle and joint problems (37.1%), and sexual problems at a severe to very severe level (34.3%). The following factors—age, education level, working status, marital status, income status, smoking behavior, exercise, number of pregnancies, and knowledge about menopause statistically affected the total MRS scores of women ( $p < 0.05$ )

**Conclusions:** These results showed that women experienced severe menopausal symptoms and these symptoms were affected by many factors

**Keywords:** Menopause, Menopausal Symptoms, Nursing

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## INTRODUCTION

The female life can be categorized into five periods: childhood, adolescence, sexual maturity, menopause, and old age. Each of these periods has physical, psychic, and hormonal differences. For instance, the climacteric period covering the life cycle after sexual maturity is a transition phase between the reproductive period and old age, characterized by biological, psychological, and social changes. The climacteric period lasts from the age of 40–45 to the age of 65, the beginning of old age. The most obvious event seen in the climacteric period is menopause, which is the interruption of menstruation (1, 2).

The World Health Organization defines menopause as "the end of menstruation due to loss of overactivity" (3). The mean age for onset of menopause, which usually occurs between the ages of 45–54 years, is 51 years (4-6). The age of menopause in Turkish woman was reported as 46–48 years (7). Over 460 million women worldwide are over 50 years old. By 2030, it is estimated that 1.2 billion women will be in the menopausal or postmenopausal period, increasing by 4.7 million annually. In other words, approximately one third of women's lives consist of the menopausal and postmenopausal periods (8).

Women experience some physical and psychological changes in the menopausal period due to the lack of estrogen, so they may face some problems at this time (1). Symptoms such as fever, sweating, palpitation, headache, insomnia, vasomotor symptoms, muscle-bone soreness, depression, attention loss, dysmnnesia, loss of libido, vaginal atrophy, and urinary problems may be experienced by women (4,5,9-13). The incidence of osteoporosis, cardiovascular diseases, and cancers increases in the late menopausal period (1). Özgür *et al.* (2010) found symptoms such as fever (94.2%), sweating (92.5%), insomnia (80.8%), fatigue (84.2%), and nervousness (81.7%) in the menopausal period (10). Rahman *et al.* (2011) assessed menopausal complaints of middle-aged women in Bangladesh and found fatigue to be the most common problem, with 92.9% women suffering from it (11). A similar study assessing menopausal complaints of middle-aged women in Malaysia found the following problems: joint and muscle pain (80.1%), physical and mental fatigue (67.1%), sleep problems (52.2%), hot flushes and sweating (41.6%) (14). Another study discovered the following problems in the climacteric period: irritability (91%), depression (86%), loss of concentration (82%), personality change (81%), sleep disorder (77%), lack of motivation (77%), memory defect (75%), hot flushes (37%), headache (19%), and excessive sweating (18%) (15).

A healthy menopausal period is very important to ensure the well-being of women. Many women who do not receive adequate health care during this period suffer from chronic diseases, and their quality of life is negatively affected with the inability to cope with menopausal complaints. It is the responsibility of the health care personnel to make women comfortable during this period, to determine the factors that

negatively affect their lives, and to use the results to improve women's health (15,16). The study was conducted to determine menopausal symptoms and factors affecting it among Turkish women.

## MATERIAL AND METHODS

### Design

This study used a descriptive and cross-sectional survey design.

### Setting and Sample

The study was conducted with a total of 280 women aged 40–65 years who were admitted to the gynecology polyclinic of a state hospital in Adana City Hospital with a menopausal complaint. The women selected had been experiencing menopause for at least a year and did not use any treatment to reduce menopausal symptoms. The women who experienced a natural progressing menopausal period and agreed to participate in the study from January–September 2017 were included in the study.

### Instruments

The data was collected using the personal information form and the Menopause Rating Scale (MRS).

**Personal information form:** This information form included questions for the participants such as their age, education level, marital status, working status, family type, income status, number of living children, duration of menopause, and information received about menopause.

**Menopause Rating Scale (MRS):** The MRS was developed in German in 1992 to measure the severity of menopausal symptoms by Schneider *et al.* (16). It has been adapted to Turkish by Gürkan in 2005 (17). It is a 4-point Likert-type scale and consists of a total of 11 items, including menopausal complaints, with the options "0 = Never," "1 = Mild," "2 = Moderate," "3 = Severe," and "4 = Very Severe," for each item. The total score of the scale is calculated based on the scores given for each item. While the lowest score that can be taken from the scale is 0, the highest score is 44. The increase in the total scale score indicates greater severity of the complaints. The scale consists of three subscales: somatic, psychological, and urogenital complaints. The total Cronbach's alpha reliability coefficient of the scale is 0.84. For the subscales, Cronbach's alpha was found to be 0.65 for somatic complaints, 0.79 for psychological complaints, and 0.72 for urogenital complaints. In this study, Cronbach's alpha was 0.80.

### Procedures

First of all, the women included in the study were informed about the purpose of the study. They were also assured that the information collected would not be read by anybody apart from the researchers, and it would be used for scientific purposes. In this way, the women's verbal permission was taken. A face-to-face interview method was used to adminis-

ter the questionnaires by the researcher. The time taken to complete the questionnaire was approximately 25 to 30 min.

### Ethical consideration

Formal permission was obtained from the place where the study was carried out. The study was approved by the academic board of Obstetric and Gynecologic Clinic, Adana City Hospital, Ministry of Health, Turkey. In order to obtain women's informed consent, all participants were informed of the purpose of the study, ensured that the collected information would be used solely for scientific purposes, would be kept confidential and not shared by others except the researchers. Informed consent was obtained from all participants in this study and the study was conducted in accordance with the principles of the Declaration of Helsinki.

### Statistical Analysis

The data was evaluated using SPSS 16.0. Demographic parameters were evaluated in percentage figures. The Kruskal–Wallis variance analysis, Mann-Whitney U test, t test, and analysis of variance were applied to examine the difference between the mean score of MRS with regard to each woman's socio-demographic factors. Significance in all statistical analyses was defined as  $P < 0.05$ .

## RESULTS

The study determined the mean age of the women to be  $54.65 \pm 6.90$  years, and 31.4% were in the age range of 50–54 years. While 40% were primary school graduates, 82.9% were not working, 91.4% were married, and 94.3% were living in nuclear families. The study also found that 48.6% of the women had a balanced income, and 88.6% of the women had social security.

Among the participants, 77.1% had a pregnancy number of 1–3 and 80% had a living number of 1–3. The mean menopausal age of women was  $50.05 \pm 1.65$  years; 28.6% of women were in the premenopausal period, 31.4% were in the premenopausal period, and 40% were in the postmenopausal period. Within the participants, 82.9% did not receive any information about menopause, 45.7% expressed menopause as a natural process, 40% associated it with the loss of their femininity, and 34.3% described it as the end of fertility (Table 1).

**Table 1. Distribution of descriptive characteristics of women**

Descriptive characteristic	N	%
<b>Age</b>		
45-49	64	22.9
50-54	88	31.4
55-59	64	22.9
60 and above	64	22.9
<b>Education status</b>		
Literate	16	5.7
Primary School	112	40.0
Secondary School	32	11.4
High School	80	28.6
University	40	14.3
<b>Working Status</b>		
Employed	48	17.1
Unemployed	232	82.9
<b>Marital Status</b>		
Married	256	91.4
Single	24	8.6
<b>Family size</b>		
Nuclear	264	94.3
Extended	16	5.7
<b>Income Status</b>		
Less income than expenditures	104	37.1
Equal income and expenditures	136	48.6
More income than expenditures	40	14.3
<b>Health insurance</b>		
Yes	248	88.6
No	32	11.4
<b>Smoking status</b>		
Yes	48	17.1
No	232	82.9
<b>Exercise status</b>		
Yes	80	28.6
No	200	71.4
<b>Number of pregnancies</b>		
Yok	16	5.7
1-3	216	77.1
4 and above	48	17.1
<b>Number of living children</b>		
Absent/not	16	5.7
1-3	224	80.0
4 and above	40	14.3
<b>Menopause Period</b>		
Premenopause	80	28.6
Perimenopause	88	31.4
Postmenopause	112	40.0
<b>Knowledge about menopause</b>		
Yes	48	17.1
No	232	82.9
<b>Meaning of menopause for women</b>		
natural, a normal process	128	5.7
disappearance of femininity	112	40.0
End of your productivity	96	34.3
feeling you aging	80	28.6
reduction/ending of your sexuality	88	31.4

The mean score of the somatic, psychological, and urogenital symptom subscale was  $3.94 \pm 2.11$ ,  $11.54 \pm 6.01$ , and  $4.74 \pm 3.72$ , respectively. The mean score of the total MRS was  $20.22 \pm 10.11$  (**Table 2**).

**Table 2. MRS scores of Women**

MRS	Scale Min-Max	Research Min-Max	X±SD
Somatic symptoms	0-8	1-8	3.94±2.11
Psychological symptoms	0-24	0-24	11.54±6.01
Uro-genital symptoms	0-12	0-12	4.74±3.72
Total	0-44	4-44	20.22±10.11

While 57.1% of the women experienced depressed mood and tiredness, 54.3% experienced anxiety, 48.6% experienced hot flushes/sweating, and 42.9% experienced heart discomfort at a mild to moderate degree. The study also discovered that 51.4% of the women experienced hot flushes/sweating, 40% experienced irritability, 37.1% experienced muscle and joint problem, and 34.3% experienced sexual problem at a severe to very severe level (**Table 3**).

The comparison between the descriptive characteristics and MRS scores is presented in Table 4. When the MRS scores were compared with the women's age group, the psychological symptom subscale scores of the 45–49 age groups were higher than the other MRS subscales in all the age groups. When the MRS scores were compared with the women's education status, the psychological symptom subscale scores of primary school graduate women were higher than the other MRS subscale scores in all the education status groups. The following factors—age, education level, smoking behavior, exercise habits, number of pregnancies, knowledge about menopause—were all seen to statistically affect the MRS subscale ( $P > 0.05$ ).

When the total MRS scores were examined according to descriptive characteristics, they were discovered to be higher in the patients who were primary school graduates ( $25.57 \pm 11.5$ ), unemployed ( $21.13 \pm 10.21$ ), single ( $31.33 \pm 8.22$ ), and in the premenopausal period ( $20.60 \pm 11.80$ ). The factors age, education level, working status, marital status, income status, smoking behavior, exercise habits, number of pregnancies, and knowledge about menopause, were seen to statistically affect the total MRS scores of women ( $P > 0.05$ ) (**Table 4**).

**Table 3. Distribution of Severity Of Menopausal Symptom Experienced By Women**

Menopausal Symptom	No Symptom		Mild - moderate		Severe-very severe	
	N	%	N	%	N	%
Hot flushes, sweating	-	-	136	48.6	144	51.4
Heart discomfort	104	37.1	120	42.9	56	20.0
Sleep problem	88	31.4	112	40.0	80	28.6
Depressive mood	40	14.3	160	57.1	80	28.5
Irritability	32	11.4	136	48.5	112	40.0
Anxiety	64	22.9	152	54.3	64	22.9
Tiredness	48	17.1	160	57.1	72	25.7
Sexual problem	72	25.7	112	40.0	96	34.3
Bladder problem	96	34.3	112	40.0	72	25.7
Dryness of vagina	112	40.0	112	40.0	56	20.0
Muscle and joint problem	64	22.9	112	40.0	104	37.1

**Table 4. Comparison of MRS Scores with descriptive characteristics of women**

Descriptive characteristics	MRS			
	Somatic symptoms subscale	Psychological symptoms subscale	Uro-genital symptoms subscale	Total subscale
<b>Age</b>				
45-49	5.00±2.07	13.5±6.23	5.25±3.55	23.75±11.14
50-54	3.00±1.60	11.0±6.50	6.09±3.49	20.09±10.15
55-59	3.62±2.19	10.12±6.67	4.75±4.20	18.50±11.96
60 and above	4.50±2.07	11.75±3.44	2.37±2.36	18.62±4.98
	F= 15.126 <b>P=0.000</b>	F= 3.824 <b>P=0.010</b>	F= 14.803 <b>P=0.000</b>	F= 3.868 <b>P=0.000</b>
<b>Education status</b>				
Literate	2.50 ±1.54	9.50±2.58	1.00±1.03	13.00±5.16
Primary School	5.28±2.22	14.57±6.34	5.71±4.23	25.57±11.5
Secondary School	4.0±1.90	14.50±7.09	6.25±3.75	24.75±9.45
High School	2.70±1.01	7.50±3.69	4.10±3.16	14.30±6.46
University	3.20±1.48	9.60±1.03	3.60±1.87	16.40±2.08
	F= 30.247 <b>P=0.000</b>	F= 26.848 <b>P=0.000</b>	F= 9.941 <b>P=0.000</b>	F= 27.191 <b>P=0.000</b>
<b>Working Status</b>				
Employed	2.66±1.11	8.83±5.16	4.33±3.89	15.83±8.40
Unemployed	4.20 ±2.17	12.10±6.03	4.82±3.68	21.13±10.21
	t=7.149 <b>p=0.000</b>	t=3.498 <b>p=0.001</b>	t=0.837 p=0.403	t=3.369 <b>p=0.001</b>
<b>Marital Status</b>				
Married	3.90±2.05	10.93±5.74	4.34±3.53	19.18±9.64
Single	4.33±2.68	18.00±5.00	12.00±9.00	31.33±8.22
	MW-U=2.784 p=0.434	MW-U=992.000 <b>p=0.000</b>	MW-U=960.000 <b>p=0.000</b>	MW-U=896.000 <b>p=0.000</b>
<b>Family Type</b>				
Nuclear	3.96±2.14	11.33±6.08	4.66±3.52	19.96±10.19
Extended	3.50±1.54	15.00±3.09	6.00±6.19	24.50±7.74
	MW-U=1.888 p=0.463	MW-U=1088.000 <b>p=0.001</b>	MW-U=2048.000 p=0.838	MW-U=1.568 p=0.083
<b>Income Status</b>				
Less income than expenditures	3.92±2.21	12.00±7.48	5.76±4.15	21.69±12.39
Equal income and expenditures	3.82±1.86	10.76±4.77	3.94±3.29	18.52±7.48
More income than expenditures	4.40±2.60	13.00±5.16	4.80±3.29	22.20±10.57
	F= 1.158 P=0.316	F= 2.645 P=0.073	F= 7.449 <b>P=0.001</b>	F= 3.847 <b>P=0.023</b>
<b>Health insurance</b>				
Yes	4.09 ±2.08	11.51±6.13	4.83±3.85	20.45±10.26
No	2.75±1.95	11.75±5.04	4.00±2.38	18.50±8.78
	t=3.457 <b>p=0.001</b>	t=-0.207 p=0.836	t=1.722 p=0.091	t=1.028 p=0.305
<b>Smoking status</b>				
Yes	4.06±2.08	15.33±7.23	8.16±3.47	26.83±11.28
No	3.33±2.15	10.75±5.42	4.03±3.36	18.86±9.30
	t=-2.210 <b>p=0.028</b>	t=4.148 <b>p=0.000</b>	t=4.580 <b>p=0.000</b>	t=1.028 <b>p=0.000</b>

Table 4. (Devamı...)

<b>Exercise status</b>				
Yes	3.40±1.57	9.80±3.99	3.50±1.92	16.70±5.36
No	4.16±2.26	12.24±6.52	5.24±4.13	21.64±11.17
	t=-3.198	t=-3.798	t=-4.798	t=-4.979
	<b>p=0.002</b>	<b>p=0.000</b>	<b>p=0.000</b>	<b>p=0.000</b>
<b>Number of pregnancies</b>				
Yok	3.00±0.00	15.00±3.09	6.00±1.03	24.00±4.13
1-3	3.74±2.05	11.03±6.44	4.96±3.74	19.74±10.53
4 and above	5.16±2.29	12.66±3.85	3.33±3.85	21.16±9.30
	KW= 16.051	KW= 17.738	KW= 16.416	KW= 9.598
	<b>p=0.000</b>	<b>p=0.000</b>	<b>p=0.000</b>	<b>p=0.008</b>
<b>Number of living children</b>				
Absent/not	3.00±0.00	15.00±3.09	6.00±1.03	24.00±4.13
1-3	3.85±2.10	11.00±6.33	4.82±3.75	19.67±10.35
4 and above	4.80±2.34	13.20±4.02	3.80±4.07	21.80±10.09
	KW= 6.408	KW= 20.064	KW= 10.538	KW= 9.680
	<b>p=0.041</b>	<b>p=0.000</b>	<b>p=0.005</b>	<b>p=0.008</b>
<b>Menopause Period</b>				
Premenopause	4.30±2.20	11.60±6.96	4.70±3.54	20.60±11.80
Perimenopause	3.00±1.76	11.18±6.34	5.27±3.53	19.45±10.68
Postmenopause	4.42±2.06	11.78±4.96	4.35±3.95	20.57±8.21
	F=14.050	F=0.252	F=1.505	F=0.374
	<b>p=0.000</b>	p=0.777	p=0.254	p=0.688
<b>Knowledge about menopause</b>				
Yes	3.33±1.11	7.00±4.48	2.16±1.97	12.50±5.61
No	4.06±2.24	12.48±5.86	5.27±3.77	21.82±10.10
	t=-3.365	t=-6.114	t=-8.238	t=-8.902
	<b>p=0.001</b>	<b>p=0.000</b>	<b>p=0.000</b>	<b>p=0.000</b>

**Table 5** shows the comparison of MRS scores with menopausal perceptions of women. When the menopausal perceptions of women were compared with the MRS subscale scores of women who did not perceive menopause as a natural process, higher scores were detected on the somatic symptom subscale and a statistically significant difference was found. When the menopausal perceptions of women were compared with the MRS subscale scores of women who thought they had lost their femininity, higher scores were recorded on the somatic symptom subscale and a statistically significant difference was found.

When the menopausal perceptions of women were compared with the MRS subscale scores of women who did not feel old, there were higher scores on the psychological and urogenital symptom subscale and a statistically significant difference was found.

## DISCUSSION

In the menopausal period, physical and psychological changes occur due to the lack of estrogen, and women may experience some problems. In this study, the MRS mean to-

tal score was found to be  $20.22 \pm 10.11$ . In the original MRS text, when the score of "35 and/or higher" was obtained, very severe symptoms were detected; "20-34" was severe, "15-19" was medium, "1-14" was mild, and "0" exhibited no symptoms. The results of this study determined that menopausal symptoms experienced by women were "severe". While Sert (2009) found that women experienced mild menopausal symptoms ( $12.75 \pm 5.76$ ), Özgür (2009) found them to be moderate ( $15.32 \pm 8.14$ ), Sis (2010) categorized them as severe ( $22.67 \pm 8.06$ ) (10, 18). Tao et al. (2013) found the mean total MRS score to be  $12.04 \pm 6.82$  in Chinese women (19), and Chou et al. (2014) found it to be  $14.2 \pm 8.80$  (13). Chuni and Sreeramareddy (2011) reported that the mean total MRS score was  $5.3 \pm 3.8$ ,  $12.3 \pm 3.4$ , and  $16.2 \pm 4.8$ , respectively, for pre-menopausal, menopausal and postmenopausal Nepalese women (12). The results of the present study are similar to those of Sis. The mean MRS score in this study was much higher than in some suggested references. This is considered to result from socio-demographic characteristics such as education level, working status, and cultural differences of women populations in this study.

**Table 5. Comparison of MRS Scores with menopause perception of women**

Menopause perception of women	MRS			
	Somatic symptoms subscale	Psychological symptoms subscale	Uro-genital symptoms subscale	Total subscale
<b>Natural, a normal process</b>				
Yes	3.50±1.77	11.37±5.49	5.12±3.34	20.00±8.33
No	4.31±2.30	11.68±6.42	4.42±3.99	20.42±11.42
	t=-3.344 <b>p=0.001</b>	t=-0.434 p=0.665	t=1.605 p=0.110	t=-3.356 p=0.722
<b>Lost your femininity</b>				
Yes	4.42±2.36	11.71±6.16	5.00±4.05	21.14±11.02
No	3.61±1.86	11.42±5.92	4.57±3.48	19.61±9.43
	t=3.046 <b>p=0.003</b>	t=0.389 p=0.698	t=0.944 p=0.346	t=1.199 p=0.232
<b>End of your fertility</b>				
Yes	4.08±1.85	12.33±3.58	5.3±3.68	21.17±9.11
No	3.86±2.23	11.13±6.92	4.00±3.69	18.99±12.84
	t=0.851 p=0.396	t=1.915 p=0.056	t=-2.435 <b>p=0.016</b>	t=0.255 p=0.799
<b>feeling you aging</b>				
Yes	4.10±2.40	12.04±6.18	5.52±3.52	21.66±12.10
No	3.88±1.99	10.30±5.38	2.80±3.50	16.98±10.87
	t=0.786 p=0.726	t=-2.338 <b>p=0.021</b>	t=-5.846 <b>p=0.000</b>	t=-3.121 <b>p=0.002</b>
<b>reduction/ending of your sexuality</b>				
Yes	4.29±2.19	11.58±6.63	4.91±3.71	20.79±10.69
No	3.18±1.70	11.45±4.40	4.36±3.72	19.00±8.63
	t=-4.603 <b>p=0.000</b>	t=-0.192 p=0.848	t=-1.155 p=0.249	t=-1.492 p=0.137

The present study found that all women suffered from hot flushes, with a majority of them describing this complaint as severe/very severe. Women also reported different degrees of discomfort, sleep disorders, depressive mood, irritability, anxiety, tiredness, sexual problems, bladder problems, dryness of vagina, and muscle and joint problems. Similar studies using the same scale are presented below. In line with the results of this study, Chuni and Sreeramareddy (2011) found that 69.7% of women in the menopausal period experienced hot flushes, and the majority of them described this complaint as severe/very severe. They also found the frequency and severity of the symptoms experienced by menopausal women as follows: sleep disorders (78.7%), physical and mental fatigue (73.5%) (12). Chedraui *et al.* (2007) found that the five most frequent symptoms were muscle and joint problems (77%), depressive mood (74.6%) and sexual problems

(69.6%) (20). Nappi and Nijland (2008) found that menopausal women complained about hot flushes (52%), insomnia (44%) and mental fluctuations (37%) (21). Chou *et al.* (2014) determined that the two most prevalent menopausal symptoms were physical and mental exhaustion (90.3%), joint and muscle discomfort (88.5%) (13). Islam *et al.* (2015) stated that physical symptoms were the most prevalent symptoms compared with psychological and vasomotor symptoms (22). According to the results of the studies conducted in different settlement units of Turkey, the most common menopausal complaints are joint-muscle pain (77%–83%), hot flushes-night sweats (73%–87%), insomnia-fatigue (71%–82%), nervousness-tension (71%–78%), and headache-dizziness (62%–73.6%) (18, 23,24,25).

The present study demonstrated a statistically significant difference between the age, education status, smoking

behavior, exercise habits, number of pregnancies, number of living children, knowledge about menopause, and the MRS score ( $P < 0.05$ ). Similarly, İnceboz *et al.* (2010) found a significant difference between the MRS and the variables of age, education level, working status, marital status, parity, and knowledge about menopause (26). They determined that the mean scores of the MRS and the subscale scores were higher in young girls, unemployed persons, smokers, women who did not exercise, women who had not been pregnant, women without children, and women without knowledge about menopause. In the study of Tan (2012), the mean scores of total menopausal symptoms were lower among the participants who were well educated, and working (27). In Tan's study, somatic-vegetative symptoms were higher in smokers (27). İnceboz *et al.* (2010) found unemployed women and those without knowledge about menopause to have higher mean MRS scores (26).

The present study revealed that the participants engaging in physical activity obtained lower mean scores on the MRS and its subscales. This result showed the importance of exercise in reducing menopausal symptoms. Similarly, Sternfeld *et al.* (2014) reported that physical activity played an important role in reducing menopausal symptoms (28). Skrzypulec *et al.* (2010), found that heavy physical exercise was less effective on menopausal symptoms whereas light physical exercise in leisure was more effective on menopausal symptoms (29). They also found that women engaging in regular exercise felt more comfortable and complained less frequently and severely of menopausal symptoms.

The present study determined that women in pre- and postmenopausal periods experienced more somatic and psychological complaints. Similarly, Chou *et al.* (2014) and Chuni and Sreeramareddy (2011) found that women in the postmenopausal period experienced more somatic and psychological complaints (12, 13). It is thought that hormonal changes during menopause may cause some mental changes through the central nervous system and affect emotions and behaviors. As a result, psychological problems in women show that they are in the pre- and postmenopausal periods in which estrogen levels show a rapid decline.

The present study determined that the subjects who had knowledge about menopause had lower mean scores on the MRS and its subscale, and therefore experienced less menopausal complaints. Similar results were found in the studies of İnceboz *et al.* (2010) and Çelik and Pasinlioğlu (2014) (26, 30). Menopause is a transitional period, and it requires special attention to determine the health needs of women in this period. Health professionals should continually implement training programs and play an effective role in assessing the needs of menopausal women.

The present study found that women who did not perceive menopause as a natural normal process had more somatic symptoms, and the difference between women's menopausal perceptions was statistically significant. İnceboz *et al.* (2010) found that the mean MRS scores were higher in women who

interpreted menopause as a bad period (26). Ciftcili *et al.* (2009) stated that women in the menopausal period deem it as a natural process, knowing that related changes are temporary (31). It is an expected and known condition, and women who perceive it as a natural process are aware that menopause is a transitional period in their lives. Such women are prepared for the changes they will experience during the menopausal period.

In the present study, the MRS and subscale mean scores were found to be higher in women who perceived menopause as menstrual loss. The difference between the somatic symptom subscale and the perception of menstrual loss was found to be statistically significant. Similarly, Çelik and Pasinlioğlu (2014) found that those who thought their feminine features disappeared due to menopause received higher mean MRS score than those who disagreed with this idea (30).

Women who perceived menopause as the end of fertility were found to have more menopausal complaints. In Turkey, some women give importance to fertility culturally and the fertility of a woman leads to an increase in her social status. Menopause for these women is an unwanted situation. Therefore, the end of fertility causes them to perceive menopausal symptoms more intensely.

The present study found that those who perceived menopause as the "feeling of getting old" and "decrease in/end of sexuality" experienced more somatic, psychological, and urogenital symptoms in the climacteric period. The study further determined that the difference between the total MRS and psychological and urogenital subscale scores were statistically significant in terms of the women's perception of menopause as the "feeling of getting old." Similarly, Sis Çelik and Pasinlioğlu (2014) determined that women who perceived menopause as the "feeling of getting old" and "decrease in/end of sexuality" had higher mean MRS scores, and the difference was statistically significant (30). These results may be due to the anatomical and hormonal changes that occur in menopause. It is also suggested that the women's negative opinions about menopause increase their symptoms in the climacteric period.

As a conclusion, According to the study results, women experience severe menopausal symptoms. Their age, education levels, working status, marital status, smoking behavior, exercise habits, number of pregnancies, and knowledge about menopause affected the severity of menopausal complaints. In addition, women who perceived menopause as the "feeling of getting old" and "decrease in/end of sexuality" have more menopausal symptoms. In line with these results, the study recommends organizing training activities for women to reduce the severity and adverse effects of menopausal symptoms in the premenopausal period, and to help women cope with these symptoms. The study also recommends taking into consideration women's individual and sociocultural characteristics while these training activities are planned.

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#### Research Contribution Rate Statement Summary

The authors declare that, they have contributed equally to the manuscript

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