

Dyadic adjustment and sexual function in postmenopausal women

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Abstract

Aim: To examine the dyadic adjustment and sexual function of postmenopausal women and the affecting individual factors.

Material and Methods: This descriptive-correlational study was conducted with one-hundred thirty-nine postmenopausal women from October 2018 to May 2019 in Turkey. The data of the study was collected using an information form to determine the socio-demographic and gynecological characteristics of postmenopausal women, the Dyadic Adjustment Scale (DAS) and the Female Sexual Function Index (FSFI).

Results: The 139 women completed the study. The mean score of DAS and FSFI were found 104.60 ± 32.98 (0-151) and 12.71 ± 9.48 (2-36), respectively, and a statistically significant positive relationship was found DAS and FSFI ($p=0.000$). There was a significant difference between income levels of women and the DAS scores ($p=0.040$). Additionally, it was found that the FSFI scores of the women having chronic disease were at lower levels ($p=0.000$).

Conclusion: There was a significant positive correlation between dyadic adjustment and sexual function. Nevertheless, further studies are needed to test the effect of dyadic adjustment on sexual function in postmenopausal women.

Keywords: Dyadic adjustment; menopause; sexual function

INTRODUCTION

Menopause, one of the stages in life cycle of women, leads to many physical, psychological and social changes (1,2). Having been arisen from hypoestrogenism, these changes cause genitourinary and vasomotor symptoms, and several psychological symptoms such as mood swings, anxiety and nervousness (3,4). With the increasing life expectancy in today's world, women have to deal with these problems in one-third of their lifetime (2,5,6).

Women's perceptions of menopause are influenced by cultures. In western societies, where Turkey also places, menopause is considered as loss of femininity, sexual dysfunction or end of sex life, and aging (7,8). Because of vasomotor and genitourinary symptoms, increased social isolation, depression and decreased quality of life occur in postmenopausal women (2,4,9). It is stated that spousal support and marriage union play a significant role for women's dealing with the menopausal symptoms (10,11). Önder and Batıgün (5) found that as marital adjustment decreased in postmenopausal women, stress symptoms increased.

One of the important factors affecting the marital relationship is the sexuality between spouses. In women with estrogen and androgen deficiency in menopause, vaginal atrophy and dryness, loss of interest in sex, decrease in sexual satisfaction, dyspareunia, loss of lubrication, breast tenderness and atrophy, clitoral atrophy adversely affect sexual function (12-14). Abadi et al. (15) determined that as the sexual dysfunction increases in menopause, marital relationship and dyadic adjustment decrease. Although professional support is important for postmenopausal women to help them solve their problems, especially the support of their spouses can increase their psychological well-being and marital satisfaction and improve women's coping skills (11,16). Therefore, spouse is considered as an important confidant in menopause (8,15). In this study, the relationship between dyadic adjustment and sexual function status of women in menopause was investigated in order to determine the effect of spousal support in reducing the negatively of sexual functions during menopause. In addition, in this study, the relationship between individual characteristics such as age of woman in menopause,

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age of her spouse, age at marriage, education, income level, parity, type of menopause, duration of menopause, adaptation to menopausal symptoms, body mass index and having chronic disease, and dyadic adjustment and sexual functions were examined.

MATERIAL and METHODS

Research Design and Sample

The study was conducted as a descriptive correlational method with 139 menopausal women in the gynecology outpatient clinics of a training and research hospital in İstanbul/Turkey from October 2018 to May 2019. After investigating the menopausal women in terms of being active in sexual function, the study was carried out with women who have no communication problem and volunteer to participate in the research. With considering the degree of confidence (95%), margin of error (5%), effect size (0.5) and ability test (80%), sample size was determined as 137 women and of those who were volunteer and meeting the criteria were included in the study. In this study 139 women were reached considering that the participants would leave the research or complete the data collection form.

Data Collection Tools

The Information Form: This form consists of the socio-demographic and gynecology characteristics of postmenopausal women.

Dyadic Adjustment Scale (DAS): This scale was designed by Spainer (17). The validity and reliability study on Turkish version of the scale was carried by Fişilolu and Demir (18). Dyadic Adjustment Scale is a thirty-two item scale designed to measure the characteristics of couple relations as perceived by spouses. It has four subscales; a) dyadic consensus subscale is represented by thirteen items addressing the perceived level of agreement regarding basic subjects in marital relationship; b) dyadic satisfaction subscale is represented by ten items questioning negative and positive thinking models and positive and aversive communication. c) dyadic affectional expression subscale is represented by four items measuring the individual perceptions of the couple's agreement on demonstration of affection. d) dyadic cohesion subscale is represented by five items examining the couple's sense of sharing positive emotional connections and conversations. The minimum and maximum scores are 0 and 151 points. High scores show high dyadic adjustment. Cronbach's alpha for DAS in this study was 0.92.

The Female Sexual Function Index (FSFI): The FSFI was designed by Rosen et al. (19). It was tested for validity and reliability in the Turkish language by Aygin and Eti Aslan (20). The scale is used for defining the sexual dysfunction in women. It is a multidimensional 9-item self-report measure of sexual functioning of women in the last month. Its subscales assess desire, arousal, lubrication, orgasm, satisfaction and pain. Range of scores for each item is from 0 to 5. The highest score to be obtained from

the scale is 36, while the minimum score is 2. The cut-off score of the scale is 26.55. A cut-off total score of ≤ 26.55 has been proposed for diagnosis of female sexual dysfunction (20). Cronbach's alpha for FSFI in this study was 0.97.

Data were collected in 15-20 minutes by the researcher with face to face interview technique.

Data Analysis

SPSS (Windows 15.0) software was used for data analysis. Descriptive statistical methods (mean, standard deviation, mode, median, frequency, minimum and maximum) were used for statistical analysis of data and Mann Whitney U, ChiSquare and Spearman's correlation tests were calculated for determining the relationship between the descriptive tests and scales.

Ethical Approval

Ethics committee approval was obtained from the Noninvasive Clinic Ethical Committee of a university hospital. Verbal and written consent was obtained from the participants who met the criteria for being included in the research sample and agreed to participate in the research. The study was conducted in accordance with the Declaration of Helsinki. To ensure the privacy, data were collected in a room with only a participant and researcher.

RESULTS

The mean age of the women participated in the study was 56.19 ± 7.88 (42-86) and for their spouses it was 60.82 ± 7.53 (47-87). The mean age at marriage of women was 18.61 ± 3.46 (13-36). While the mean pregnancy numbers of women were 3.59 ± 1.78 (0-10); the mean parity was 2.71 ± 1.29 (0-7). The mean duration of menopause of women was 8.51 ± 7.17 (1-32) years.

82.7% (n=115) of the participant women were primary school graduates; 90.6% (n=126) of them were unemployed; income level of 65.5% (n=91) of them was equal to their expenditure. 84.2% (n=117) of women were natural, and 15.8% (n=22) of them were surgical menopauses. While 54.7% (n=76) of the women stated that they were not able to adapt to menopausal symptoms, only 3.6% (n=5) of them reported that they took hormone therapy. 53.7% (n=74) of women had chronic disease, the most common chronic disease was cardiovascular diseases (hypertension, hyperlipidemia, cardiac dysfunction etc.) with the rate of 39.6%. It was found that 56.1% (n=78) of the women were obese (>30 kg/m²) (Table 1).

Table 2 shows the scores of scales and subscales. The mean score of DAS was 104.60 ± 32.98 , FSFI score was 12.71 ± 9.48 . There is a statistically significant difference between the DAS total score and the dyadic satisfaction subscale score of the DAS and income level ($Z_{MWU} = 6.024$, $p = 0.04$), ($Z_{MWU} = 6.035$, $p = 0.04$) (Table 3).

Comparing the FSFI with the characteristics of women, a statistically significant difference was found with having chronic disease ($Z_{MWU} = -2.552$, $p = 0.01$). Accordingly,

Table 1. Characteristics of women

		n	%
Education	Literate	15	10.8
	Primary	115	82.7
	High School	7	5.00
	Bachelor's Degree	2	1.4
Employment Status	Employed	13	9.4
	Unemployed	126	90.6
Income Level	Lower than Expenditure	45	32.4
	Equal to Expenditure	91	65.5
	Higher than Expenditure	3	2.2
Type of Menopause	Natural Menopause	117	84.2
	Surgical Menopause	22	15.8
Adaptation to Menopausal Symptoms	Yes	63	45.8
	No	76	54.7
Taking Hormone Therapy	Yes	5	3.6
	No	134	96.4
Smoking	Yes	19	13.7
	No	120	86.3
Having Chronic Disease	Yes	74	53.7
	No	65	46.8
Type of Chronic Disease	Cardiovascular Disease	55	39.6
	Diabetes	37	26.6
	Respiratory Disease	2	1.4
	Cancer	7	5.00
	Normal	9	6.5
Body Mass Index	Overweight	52	37.4
	Obese Class I	78	56.1

Table 2. The results of scales

Scales	X ±(SD)	Min	Max
DAS	104.60±32.98	0	151
Dyadic Consensus	50.69±16.12	0	65
Dyadic Satisfaction	34.23±12.90	0	50
Dyadic Affectional Expression	9.05±2.60	0	12
Dyadic Cohesion	10.61±6.09	0	24
FSFI	12.71±9.48	2	36
Desire	3.50±1.92	2	10
Arousal	6.02±5.72	0	20
Lubrication	6.42±6.29	0	20
Orgasm	4.73±4.81	0	15
Satisfaction	6.58±3.15	0	15
Pain	5.73±6.06	0	15

Table 3. Relationship between characteristics of women and DAS

		DAS (Subscales)		Dyadic Consensus		Dyadic Satisfaction		Dyadic Affectional Expression		Dyadic Cohesion	
		$\bar{X} \pm (SD)$	Z_{Mwu}^{***p}	$\bar{X} \pm (SD)$	Z_{Mwu}^p	$\bar{X} \pm (SD)$	Z_{Mwu}^p	$\bar{X} \pm (SD)$	Z_{Mwu}^p	$\bar{X} \pm (SD)$	Z_{Mwu}^p
Adaptation to Menopausal Symptoms	Yes	102.65±30.23	-0.914	50.23±14.52	-0.352	33.01±11.39	-0.901	8.85±2.55	-0.966	10.53±5.84	-0.013
	No	106.22±35.21	0.360	51.07±17.41	0.720	35.25±14.03	0.360	9.22±2.65	0.330	10.67±6.32	0.990
		$\bar{X} \pm (SD)$	$^{**}\chi^2_p$	$\bar{X} \pm (SD)$	χ^2_p	$\bar{X} \pm (SD)$	χ^2_p	$\bar{X} \pm (SD)$	χ^2_p	$\bar{X} \pm (SD)$	χ^2_p
Education	Literate	87.73±35.13		43.60±17.84		28.20±13.19		8.46±3.27		7.46±6.04	
	Primary	107.24±32.28	6.410	51.92±15.54	4.926	35.17±12.96	5.720	9.15±2.50	0.456	10.99±6.09	6.290
	High School	99.00±37.54	0.090	48.00±21.00	0.170	32.85±10.57	0.120	8.57±3.10	0.920	9.57±4.79	0.090
	Bachelor's	99.00±14.14		43.00±9.89		30.50±4.94		9.50±2.12		16.00±2.82	
Income Level	Lower than Expenditure	94.17±35.00	6.024	46.28±16.93	4.533	30.37±12.47	6.035	8.62±2.86	4.858	8.88±5.88	
	Level equal to Expenditure	109.41±31.40	0.040	52.69±15.59	0.100	36.03±12.96	0.040	9.18±2.45	0.080	11.50±6.13	4.609
	Higher than Expenditure	115.00±8.54		56.33±3.51		37.66±2.51		11.66±1.52		9.33±4.06	
Body Mass Index	Normal	103.00±32.41		49.00±15.32		33.77±10.48		9.00±2.00		11.22±7.51	
	Overweight	109.71±29.10	1.349	52.28±14.29	1.147	36.75±12.09	1.414	9.26±2.71	0.293	11.40±5.44	1.572
	Obese Class I	101.38±35.37	0.500	49.83±17.41	0.560	32.61±13.53	0.490	8.92±2.61	0.860	10.01±6.34	0.450

*ZMWU: Mann Whitney U **p<0.05 *** χ^2 : ChiSquare

it was found that the FSFI scores of the women having chronic disease were at lower levels. Analyzing the FSFI subscales, a significant difference was found between desire ($Z_{Mwu} = -2.197, p = 0.02$), arousal ($Z_{Mwu} = -2.357, p = 0.01$), lubrication ($Z_{Mwu} = -2.544, p = 0.01$), orgasm ($Z_{Mwu} = -2.467, p = 0.01$) and pain ($Z_{Mwu} = -2.341, p = 0.01$) subscales with having chronic disease ($p > 0.05$). When the types of the chronic diseases were analyzed, it was found that there was a significant difference between the cardiovascular diseases and the FSFI ($Z_{Mwu} = -3.064, p = 0.00$). Examining the FSFI subscales, there was a significant difference between desire ($Z_{Mwu} = -2.272, p = 0.02$), arousal ($Z_{Mwu} = -2.865, p = 0.00$), lubrication ($Z_{Mwu} = -3.227, p = 0.00$), orgasm ($Z_{Mwu} = -3.227, p = 0.00$) and pain ($Z_{Mwu} = -2.987, p = 0.00$), and the cardiovascular diseases. It

was found that there was a significant difference between the type of menopause and the lubrication subscale score of the FSFI ($Z_{Mwu} = -2.363, p = 0.01$) (Table 4).

When the correlations between the DAS and the FSFI scales were examined, it was found that there was a weak positive linear with its whole subscales ($r = 0.266, p = 0.00$) (Table 5). When the FSFI is compared with the characteristics of women, a moderate negative linear relationship was found between age ($r = -0.391, p = 0.00$), age of spouse ($r = -0.430, p = 0.00$) and menopause duration ($r = -0.337, p = 0.00$). Accordingly, as the age of women, age of their spouse, and the menopause duration increases, their sexual function decreases (Table 6). When DAS and characteristics of women compared, there was no significant difference between the DAS score and age,

Table 4. Relationship between characteristics of women and FSFI

	FSFI		Desire		Arousal		Lubrication		Orgasm		Satisfaction		Pain	
	$\bar{X} \pm (SD)$	$Z_{Mann-Whitney}^{***p}$	$\bar{X} \pm (SD)$	$Z_{Mann-Whitney}^p$	$\bar{X} \pm (SD)$	$Z_{Mann-Whitney}^p$	$\bar{X} \pm (SD)$	$Z_{Mann-Whitney}^p$	$\bar{X} \pm (SD)$	$Z_{Mann-Whitney}^p$	$\bar{X} \pm (SD)$	$Z_{Mann-Whitney}^p$	$\bar{X} \pm (SD)$	$Z_{Mann-Whitney}^p$
Type of Menopause	12.11±9.30	-1.662 0.090	3.42±1.88	-1.242 0.210	5.70±5.66	-1.552 0.120	5.83±6.02	-2.363 0.010	4.40±4.71	-1.817 0.060	6.35±2.99	-1.479 0.130	5.58±6.11	-0.902 0.360
	15.87±10.02		3.90±2.09		7.72±5.85		9.59±6.89		6.50±5.04		7.81±3.72		6.54±5.85	
Surgical Menopause	11.95±8.94	-0.867 0.380	3.47±1.77	-0.014 0.980	5.68±5.57	-0.667 0.490	6.03±5.99	-0.686 0.490	4.53±4.63	-0.412 0.680	6.28±2.79	-0.994 0.320	5.06±5.52	-0.867 0.38
	13.35±9.93		3.52±2.04		6.30±5.86		6.75±6.55		4.90±4.98		6.84±3.42		6.28±6.46	
Adaptation to Menopausal Symptoms	10.92±9.32	-2.552 0.010	3.14±1.71	-2.197 0.020	4.95±5.59	-2.357 0.010	5.12±6.15	-2.544 0.010	3.87±4.90	-2.467 0.010	6.33±3.10	-0.774 0.430	4.81±6.25	-2.341 0.010
	14.78±9.32		3.90±2.06		7.23±5.67		7.90±6.15		5.73±4.53		6.87±3.20		6.78±5.71	
Having Chronic Disease	9.69±8.66	-3.064 0.000	3.03±1.65	-2.272 0.020	4.32±5.30	-2.865 0.000	4.16±5.75	-3.227 0.000	3.10±4.41	-3.227 0.000	6.09±2.97	-1.672 0.090	4.10±6.10	-2.987 0.000
	14.71±9.52		3.80±2.02		7.13±5.74		7.90±6.22		5.81±4.78		6.91±3.24		6.79±5.83	
No														

**p<0.05

*ZMWU: Mann Whitney U

Table 5. Correlations among scales

	DAS		Dyadic Consensus		Dyadic Satisfaction		Dyadic Affectional Expression		Dyadic	
	r	**p	r	p	r	p	r	p	r	p
FSFI	0.266	0.000	0.150	0.080	0.269	0.000	0.180	0.030	0.289	0.000
Desire	0.347	0.000	0.246	0.000	0.340	0.000	0.177	0.030	0.328	0.000
Arousal	0.276	0.000	0.175	0.040	0.260	0.000	0.187	0.020	0.323	0.000
Lubrication	0.295	0.000	0.174	0.040	0.281	0.000	0.222	0.000	0.328	0.000
Orgasm	0.303	0.000	0.192	0.020	0.282	0.000	0.253	0.000	0.333	0.000
Satisfaction	0.353	0.000	0.247	0.000	0.357	0.000	0.297	0.000	0.324	0.000
Pain	0.237	0.000	0.145	0.080	0.246	0.000	0.165	0.052	0.234	0.000

*r= Spearman's correlation **p<0.05

Table 6. Correlation of characteristics of women and scales

	Age		Age of Spouse		Age at Marriage		Gravidity		Parity		Menopause Duration	
	r	p	r	p	r	p	r	p	r	p	r	p
FSFI	-0.391	0.000	-0.430	0.000	0.029	0.730	-0.132	0.120	-0.053	0.530	-0.337	0.000
Desire	-0.362	0.000	-0.368	0.000	0.049	0.560	-0.159	0.060	-0.094	0.270	-0.314	0.000
Arousal	-0.364	0.000	-0.422	0.000	0.025	0.770	-0.120	0.160	-0.036	0.670	-0.307	0.000
Lubrication	-0.369	0.000	-0.422	0.000	-0.008	0.920	-0.100	0.240	-0.013	0.880	-0.299	0.000
Orgasm	-0.350	0.000	-0.393	0.000	-0.018	0.830	-0.98	0.250	0.008	0.920	-0.279	0.000
Satisfaction	-0.218	0.010	-0.229	0.000	-0.024	0.780	-0.086	0.310	-0.033	0.700	-0.221	0.000
Pain	-0.335	0.000	-0.364	0.000	-0.002	0.980	-0.091	0.280	-0.62	0.470	-0.263	0.000
DAS	-0.122	0.220	-0.173	0.040	0.035	0.680	-0.082	0.330	-0.099	0.240	-0.086	0.310
Dyadic Consensus	-0.056	0.510	-0.117	0.170	0.003	0.970	-0.086	0.330	-0.086	0.310	-0.025	0.770
Dyadic Satisfaction	-0.084	0.320	-0.113	0.180	-0.034	0.670	-0.052	0.540	-0.054	0.530	-0.026	0.760
Dyadic Affectional Expression	-0.040	0.650	-0.130	0.120	0.023	0.790	-0.070	0.410	-0.074	0.380	-0.058	0.500
Dyadic Cohesion	-0.149	0.080	-0.206	0.010	0.121	0.150	-0.082	0.330	-0.040	0.630	-0.147	0.080

*r= Spearman's correlation **p<0.05

age of spouse, age at marriage, parity, and duration of menopause ($p>0.05$). It was found that there was a weak negative significant relationship between dyadic cohesion subscale score of the DAS and age of spouse ($r=-0.206$, $p=0.01$) (Table 6).

DISCUSSION

In this study, the dyadic adjustment and sexual functions of women in menopause, and the affecting factors were examined, the mean age of postmenopausal women were 56.19 ± 7.88 , and this result is compatible with the mean ages found in North American Menopause Society (21) and in the studies carried out with women in Turkey (22,23). In this study, it was found that mean age of women's marriage was 18.61 ± 3.46 and their educational level was found to be at low levels. Ghlipour and Farzanegan (24) stated that the mean age of women's marriage in a similar population to this study in Iranian was 23.4. In this study, it was determined that many of women were unemployed and their income levels were equal to and lower than their expenditures. Delprato et al. (25) reported that there was a bidirectional relationship between the women's education levels, early marriage and low socio-economic levels. As the level of education increased, the marriage age increased. Many of the women experienced a natural menopause. More than half of the women in menopause stated that they did not adapted to menopausal symptoms and they did not take any hormone therapies. Most of the women had chronic diseases such as cardiovascular disease and diabetes. In addition, 93.5% of these women were overweighted and obese (Table 1). As the increasing age and body mass index, chronic diseases such as diabetes mellitus and cardiovascular disease increases. This condition negatively affects the life qualities of women particularly in menopause (26). Furthermore, as the having chronic diseases increases, the psychological stress levels also increase (27). In this study, the fact that menopause and chronic disease may negatively affect mental states. In their study investigating the anxiety in menopause, Bremer et al. (23) reported that most of the postmenopausal women experienced anxiety, worry about family, insomnia, stress, isolation. Vivien-Taylor and Hickey (28) stated that depression increases in menopause, Hendrickx et al. (29) also reported that there was a linear relationship between the mental health and sexual desire, and sexual dysfunction.

In this study, DAS score of the participants was found as 104.60 ± 32.98 (0-151) and FSFI score was 12.71 ± 9.48 (2-36) (Table 2). These results show that dyadic adjustment of women was low, and they had sexual dysfunction. Hypoestrogenism in menopause causes vaginal atrophy and fragility. Due to vascular changes, blood flow is reduced. This causes lack of lubrication and deficiency in elasticity of sexual organs (30). Besides these physical changes, psychosocial dimensions of sexuality such as sexual arousal, sexual desire and sexual fantasies were affected negatively (31). For this reason, in the studies investigating sexuality of women, sexuality is generally

examined physical and psychosocial dimensions (32,33). One of the important factors that affect female sexuality is dyadic adjustment. Rosen et al. (34) stated that sexual dysfunction in one of the spouses affects psychological balance in sexual life between couples. Sis Çelik and Pasinlioğlu (35) found a negative significant relationship between menopausal symptoms and marital adjustment. In their study examining the relationship between dyadic adjustment and sexual satisfaction in postmenopausal women in Turkey, Beyazit and Sahin (22) found that as menopausal symptoms increase, marital adjustment decreases, and they reported that changes in menopause affect the social and sexual life of women.

When the characteristics of women and their DAS scores were evaluated, it was found that the adjustment levels of the women with high income level had high dyadic consensus levels and dyadic satisfaction (Table 3). Contrary to this study, in their study determining the association between Turkish women's menopausal symptoms and their marital adjustment, Sis Çelik and Pasinlioğlu (35) did not determine a relationship between income level and dyadic adjustment scores. Since the socio-economic level could provide individuals to meet their basic needs, it was thought that this would positively affect the dyadic adjustment. Because, high socioeconomic level can have a positive effect on the psychological state of couples. Depression and anxiety are more common in low-income people. Kavlak and Hisar (33) found that as the anxiety level of women in menopause increases, their sexual satisfaction decreases.

Another result obtained in this study is the fact that there was a statistically significant relationship between the FSFI total score and the FSFI subscale scores of desire, arousal, lubrication, orgasm and pain, and having chronic diseases (Table 4). This result shows that chronic diseases negatively affect sexual functions of women especially in menopausal period. In addition, according to another result, the sexual functions of women with cardiovascular system diseases are adversely affected. Nazarpour et al. (31) also reported that chronic diseases have negative effects on sexual function in postmenopausal women.

In this study, when the relationship between the DAS total score and DAS subscale scores, and the FSFI total score and FSFI subscale scores are examined, a positive correlation was found. It was found that there was a statistically significant relationship between the total score of FSFI and the dyadic satisfaction, dyadic affectional expression and dyadic cohesion subscales scores of DAS (Table 5). In addition, a statistically significant positive relationship was found between the dyadic consensus and dyadic affectional expression subscales of DAS, and the desire, arousal, lubrication, orgasm and satisfaction subscales of FSFI. A statistically significant positive relationship was found between dyadic satisfaction and dyadic cohesion subscales of DAS, and desire, arousal, lubrication, orgasm, satisfaction and pain subscales of the FSFI (Table 5). Considering the significant relationship between DAS and

FSFI total score and their subscales, it was interpreted that dyadic adjustment is related with physical and psychosocial traits for postmenopausal women. In the postmenopausal period, sexual functions can be influenced by cultural patterns, individual characteristics, and the relationship between couples/partners, and there is a positive relationship between sexual satisfaction and interpersonal relationships (22). Pazmany et al. (36) reported that there is a relationship between sexual adjustment and communication among couples. They stated that adjusted couples having a high level of dyadic cohesion can express their feelings more easily and that this improves couples' sexual functions. Ghaffari (37) found that psychological well-being in the couples with higher DAS scores was higher, they gave more value to each other and they communicate well with each other. While Beyazit and Sahin (22) reported that as increasing postmenopausal symptoms, marital adjustment and sexual satisfaction were negatively affected, Hendrickx et al. (29) stated that women with higher dyadic consensus have higher rates of having sexual intercourse and more positive attitudes towards sexual intercourse. Lou et al. (38) determined that women with higher marital adjustment had less sexual dysfunction in China. They also stated that women who are not satisfied with their spouses and who have low marital adjustment scores increase the risk of sexual dysfunction in the postmenopausal period.

When the relationship between the DAS total score and the subscales scores of DAS, and age of women, age of her spouse, age at marriage, parity, menopause duration was examined, there was a negative significant relationship between the age of the spouses and the dyadic cohesion subscale of DAS (Table 6). This result was thought to be related to the decrease in attractiveness with old age. Amos and McCabe (39) reported that attractiveness directly affects sexuality in both men and women and increases sexual satisfaction. In addition, in this study, when the relationship between the FSFI total score and FSFI subscales, and the ages of women, age of their spouse, age at marriage, parity and menopause duration was examined, there was a negative significant relationship between the age of the woman, the age of her spouse and menopause duration, and the total score and subscale scores of the FSFI (Table 6). The menopausal period usually coincides with middle age and old age. Increasing age and aging in all body cells especially the genitals, increase physical, social and psychological changes. This situation negatively affects sexuality by increasing the incidence of psychological disorders such as anxiety and depression (39). This can cause sexuality to be perceived as a duty, especially in marriage and may adversely affect dyadic adjustment. Hendrickx et al. (29) reported that women having loss of interest in sex had sexual intercourse only because their partner desired, and this situation reduced dyadic sexual intercourse. According to them, partners perceive this sexual intercourse as 'not real'.

CONCLUSION

In this study, dyadic adjustment and sexual function status and the affecting characteristics of postmenopausal women were investigated, a weak positive correlation was found between dyadic adjustment and sexual function. Although psychological, cultural and environmental differences affect women, there are certainly other emotional, social and practical aspects of these women' experience that can be applied to other women populations. The results of this study may be used in interventions to increase sexual function in postmenopausal women. Therefore, health professions can increase sexual function of postmenopausal women by increasing dyadic adjustment. Nevertheless, further studies are needed to test the effect of dyadic adjustment on sexual function in postmenopausal women.

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REFERENCES

1. Farrell E. Genitourinary syndrome of menopause. RACGP 2017;46:481-4.
2. Kaunitz AM, Pinkerton JV, Manson JE. Women harmed by vaginal laser for treatment of GSM-the latest casualties of fear and confusion surrounding hormone therapy. Menopause 2019;26:338-40.
3. Hoga LAK, Rodolpho JRC, Gonçalves BG, et al. Women's experiences of menopause: a systematic review protocol of qualitative evidence. JBI Database System Rev Implement Rep 2014;12:72-81.
4. Mitchell CM, Reed SD, Diem S, et al. Efficacy of vaginal estradiol or vaginal moisturizer vs placebo for treating postmenopausal vulvovaginal symptoms a randomized clinical trial. JAMA 2018;178:681-90.
5. Önder M, Batıgün AD. Premature and normal menopause: An evaluation in terms of stress, marital adjustment and sex roles. Dusunen Adam 2016;29:129-38.
6. Gupta N, Aggarwal M, Sinha R, et al. Study on prevalence and severity of urogenital complaints in postmenopausal women at a tertiary care hospital. J Midlife Health 2018;9:130-4.
7. Clayton AH, Goldstein I, Kim NN, et al. The international society for the study of women's sexual health process of care for management of hypoactive sexual desire disorder in women. Mayo Clinic Proceedings 2018;93:467-87.
8. Yıldız E, Dinçgez Çakmak B, et al. Frequency, Severity and risk factors of pelvic organ prolapse in perimenopausal women. Okmeydanı Medical J

- 2018;34:148-53.
9. Fişkın G, Hotun Şahin N, Kaya İG. Views of the climacteric women about menopause: A qualitative analysis. *J Academic Res in Nursing* 2017;3:122-8.
 10. Kutob RM, Yuan NP, Wertheim BC, et al. Relationship between marital transitions, health behaviors, and health indicators of postmenopausal women: Results from the women's health initiative. *J Womens Health* 2017;26:313-20.
 11. Schneider HPG, Birkhäuser, M. Quality of life in climacteric women. *Climacteric* 2017;20:187-94.
 12. Kamilos MF, Borelli CL. New therapeutic option in genitourinary syndrome of menopause: Pilot study using microablative fractional radiofrequency. *Einstein* 2017;15:445-51.
 13. AlAwlaki A, Amor H, Hammadeh M. Role of hormones in hypoactive sexual desire disorder and current treatment. *J Turk Ger Gynecol Assoc* 2017;210-8.
 14. Pınar ŞE, Yıldırım G, Duran Aksoy Ö, et al. A problem peculiar to women: Mental health in menopause. *Intl J Human Sciences* 2015;2:787-98.
 15. Abadi OSRR, Cheraghi MA, Tirgari B, et al. Feeling an invisible wall: The experience of Iranian women's marital relationship after surgical menopause: A qualitative content analysis study. *J Sex Marital Ther* 2018;44:627-40.
 16. Heidari M, Shahbazi S, Ghafourifard M, et al. Prediction of marital satisfaction based on emotional intelligence in postmenopausal women. *J Menopausal Med* 2017;23:196-201.
 17. Spanier GB. Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *J Marriage Fam* 1976;38(1):15-28.
 18. Fişiloğlu H, Demir A. Applicability of the dyadic adjustment scale of marital quality with Turkish couples. *Eur J Psychol Assess* 2000;16(3):214-218.
 19. Rosen R, Brown C, Heiman J, et al. The female sexual function index (fsfi): A multidimensional self-report instrument for the assesment of female sexual function. *J Sex Marital Ther* 2000;26(2):191-208.
 20. Aygin D, Eti Aslan F. The Turkish adaptation of the female sexual function index. *Turkiye Klinikleri J Med Sci* 2005;25(3):393-399.
 21. North American Menopause Society. Estrogen and progestogen use in postmenopausal women: Position statement of The North American Menopause Society. *Menopause* 2010;17:242.
 22. Beyazit F, Sahin B. Determining the factors influencing the intimate relationship between sexual satisfaction and dyadic adjustment in postmenopausal women. *Menopause Review* 2018;17:57-62.
 23. Bremer E, Jallo N, Rodgers B, et al. Anxiety in menopause: A distinctly different syndrome? *The J Nurse Practitioners* 2019;15:374-8.
 24. Gholipour HF, Farzanegan MR. Science direct marriage crisis and housing costs: empirical evidence from provinces of Iran. *J Policy Model* 2015;37:107-23.
 25. Delprato M, Akyeamong K, Dunne M. Intergenerational education effects of early marriage in Sub-Saharan Africa. *World Development* 2017;91:173-92.
 26. Ambikairajah A, Walsh E, Tabatabaei-Jafari H, et al. Fat mass changes during menopause: A meta analysis. *Am J Obstet Gynecol* 2019;1-67.
 27. Öyekçin DG, Gülpek D, Sahin EM, et al. Depression, anxiety, body image, sexual functioning, and dyadic adjustment associated with dialysis type in chronic renal failure. *Int J Psychiatry Med* 2012;43:227-41.
 28. Vivian-Taylor J, Hickey M. Menopause and depression: Is there a link? *Maturitas* 2014;79:142-6.
 29. Hendrickx L, Gijs L, Janssen E, et al. Predictors of sexual distress in women with desire and arousal difficulties: Distinguishing between personal, partner, and interpersonal distress. *J Sex Med* 2016;13:1662-75.
 30. O'Neill S, Eden J. The pathophysiology of menopausal symptoms. *Obst Gyna Rep Med* 2012;27:303-9.
 31. Nazarpour S, Simbar M, Tehrani FR. Factors affecting sexual function in menopause: A review article. *Taiwan J Obstet Gynecol* 2016;55:480-7.
 32. Kao A, Binik YM, Amsel R, et al. Biopsychosocial predictors of postmenopausal dyspareunia: The role of steroid hormones, vulvovaginal atrophy, cognitive-emotional factors, and dyadic adjustment. *J Sex Med* 2012;9:2066-76.
 33. Kavlak T, Hisar F. The impact of anxiety on sexual satisfaction in menopausal women. *J Human Sci* 2017;14:2722-9.
 34. Rosen NO, Dube JP, Corsini-Munt S, et al. Partners experience consequences, too: A comparison of the sexual relational, and psychological adjustment of women with sexual interest/arousal disorder and their partners to control couples. *J Sex Med* 2019;16:83-95.
 35. Sis Çelik A, Pasinlioğlu T. The symptoms of climacteric period and the role of the nurse. *Erciyes University Fac Health Sci J* 2013;1:48-56.
 36. Pazmany E, Bergeron S, Verhaeghe J, et al. Dyadic sexual communication in pre-menopausal women with self-reported dyspareunia and their partners: Associations with sexual function, sexual distress and dyadic adjustment. *J Sex Med* 2015;12:516-28.
 37. Ghaffari M. Spiritual well-being and dyadic adjustment: Mediator effects for family strengths. *Iran J Psychiatry Behav Sci* 2016;10:1-8.
 38. Lou WJ, Chen B, Zhu L, et al. Prevalence and factors associated with female sexual dysfunction in Beijing, China. *Chin Med J* 2017;130:1389-94.
 39. Amos N, McCabe M. The importance of feeling sexually attractive: Can it predict an individual's experience of their sexuality and sexual relationships across gender and sexual orientation? *Int J Psychol* 2017;52:354-64.