Clinical and Experimental Health Sciences

Sexual Function Status, Depression and Marital Adjustment in Postmenopausal Women: A Cross-Sectional Study

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ABSTRACT

Objective: In this study, it was aimed to examine the sexual function, depression and marital adjustment of postmenopausal women.

Methods: In this descriptive and cross-sectional study conducted with 502 postmenopausal women, data were collected using the participant description form, Female Sexual Function Scale, Menopause Rating Scale, Beck Depression Inventory, Dyadic Adjustment Scale. Data were evaluated with descriptive statistics, chi-square and correlation analysis.

Results: In the study, it was found that 48% of the women had sexual dysfunction, 8.2% had severe depressive symptoms and their marital adjustment was low. It has been determined that women with sexual dysfunction have increased depression levels, low marital adjustment, and women with low marital adjustment have increased depression levels.

Conclusion: The postmenopausal period is a period that constitutes an important part of a woman's life, has its own symptoms and is a period in which women experience significant changes. It is recommended that education and counseling be provided for sexual problems and depression experienced during this period, that spouses be included in the process, and that women be evaluated with a holistic care focus.

Keywords: Adjustment; depression; postmenopause; sexual dysfunction.

1. INTRODUCTION

During menopause, many physical and psychological changes occur as a result of decreased ovarian functions and estrogen deficiency. As a result of these changes, women may experience some problems and their quality of life may be adversely affected (1,2). The decrease in vaginal and cervical blood flow and secretion results in dryness in the vagina by causing mucosal atrophy. Concomitant estrogen deficiency aggravates atrophy and dryness of the associated vaginal epithelium, negatively affecting sexual intercourse (2). Problems such as decreased sexual desire, arousal and satisfaction, orgasmic disorder, loss of vaginal lubrication and dyspareunia occur. In studies examining sexual dysfunctions in postmenopausal women, it has been determined that women experience sexual desire, sexual satisfaction, orgasm, sexual arousal, lubrication and pain disorders (3).

One of the changes emphasized in the menopause period is the increase in the risk of depressive symptoms that occur independently of each other in the pre and postmenopausal periods. It has been reported that mood changes in women can affect feelings and behavior, since hormonal changes occurring during these periods affect the central nervous system (4). It has been pointed out that as a result of the decrease in estrogen levels, the mood is negatively affected, hot flashes and sweating, sleep disorder due to hormonal changes and stressors in life can cause depression (4,5).

Anxiety and depression experienced in the postmenopausal period can negatively affect sexual life. It has been stated in studies conducted for this subject that anxiety and depression experienced during this period cause an increase in sexual dysfunction (6,7). In a study of 540 menopausal women, it was reported that depression is a strong factor associated with sexual dysfunction and menopause has a significant negative impact on women's sexual lives. In the same study, while vaginal dryness and decreased sexual

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desire were reported as the most common problems, it was concluded that information and understanding of spouses are important to help women manage menopause (8).

The understanding of the spouse and positive marital relationships can help the woman resolve the depression and sexual problems caused by menopause, but depression and sexual problems experienced during this period also negatively affect the marital relations of the couples. Problems in marriage can cause deterioration in sexual life, and sexual problems can cause depression and marital adjustment (9,10).

Women in the menopausal period should be considered in a biopsychosocial and cultural integrity, individuals at risk for mental problems should be identified in the early period and psychological symptoms should be evaluated, the detected mental problems and the effectiveness of the treatment methods to be applied should be closely monitored. If healthcare providers fail to exhibit a favorable demeanor towards addressing sexual health issues, the impact of sexual health on overall well-being and potential remedies may be overlooked (11). Healthcare practitioners should establish supportive environments that facilitate open discussion of sexual concerns, evaluation of sexual capabilities, and educational opportunities for sexual health protection. This is important in terms of protecting and improving of the sexual health of menopausal women, increasing their quality of life and improving marital relations. The purpose of this research is to assess the sexual function, depression levels, and marital adjustment of postmenopausal female, and to investigate the correlation between them. The study questions were as follows:

– What are the sexual function levels of women?

– What are the depression levels of women?

– How is the marital adjustment of women?

– Is there a correlation between sexual function status, depression levels and marital adjustment of women?

2. MATERIALS AND METHODS

2.1. Study Type

This study is a descriptive and cross-sectional type study.

2.2. The Sample Size of the Study

The study population comprised all postmenopausal female who visited the gynecology outpatient clinic of a hospital in Izmir between January and November 2019. Sample calculation was done with the GPower 3.1 program. The sample size was determined using a calculation that took into account the scales employed in the study, along with the mean scores and prevalence rates obtained from prior studies on similar groups, as the number of women in the population was unknown (9,12,13). In these studies, the prevalence of sexual dysfunction in women was found to be 56.4%, the prevalence of depression was found to be 27.5% and the mean score of the Dyadic Dyadic Adjustment Scale was found to be 92.11±11.2. Using these prevalences and mean scores, the largest sample size was found to be 379 in the calculation made with a 5% margin of error and a 95% confidence interval. The study was participated by 502 women who fulfilled the criteria for inclusion in the research. The acceptance criteria were as follows: women aged 45-60, who have not menstruated for the past year, who have entered menopause naturally, who do not use hormone replacement therapy, who are married, can speak Turkish, volunteering to participate for this study.

2.3. Measures

2.3.1. Participant Information Form: The form, prepared by researchers using literature, consists of 17 questions questioning women's sociodemographic (age, education level, income level, spouse's age, duration of marriage, Body Mass Index) and obstetric characteristics (number of living children) and information about menopause (age of menopause, duration of menopause, status of receiving information about menopause, what menopause means to them) (9,12-15).

2.3.2. Menopause Rating Scale (MRS): This tool was measured severity of menopausal symptoms. A 5-point Likert-type scale consisting of 11 items can be scored between 0-44. Scores of 0-11 were considered "mild," 12-23 as "moderate," 24-33 as "severe," and 34-44 as "very severe". The Cronbach alpha value was found 0.84 by Can Gürkan adapted into Turkish in 2005 (16) and it was found 0.89 in this study.

2.3.3. Female Sexual Function Index (FSFI): It is a scale that evaluates sexual dysfunction in female. The scale consists of 19 items and six subscale. The subscales are desire, lubrication, sexual success, orgasm, arousal, and pain. The score that can be obtained from the scale varies between 2-36, and a high score indicates improved sexual function (17). In the studies, the functional status was classified as good if the FSFI score was >30, moderate if it was between 23-29, and bad if it was <23 (17,18). In this study sexual dysfunction was accepted in women with a score of 23 and below. The Cronbach alpha value was determined to be 0.82 by Rosen et al., 0.95 by Oksuz and Malhan adapted into Turkish in 2005, and 0.97 in the present study (17).

2.3.4. Beck Depression Inventory (BDI): This 21-item scale, developed in 1961, was adapted into Turkish by Hisli in 1988 (19). The BDI measures specific behaviors associated with depression through its 21 items. A score ranging from 0 to 63 can be obtained from the scale, with a higher total score indicating a more severe case of depression. 0-9 points from the scale can be interpreted as minimal; 10-16 points as mild, 17-29 points as moderate and 30-63 points as severe depressive symptoms. The Cronbach alpha value was

reported to be 0.80 by Hisli, and 0.90 in the current study (19).

2.3.5. Dyadic Adjustment Scale (DAS): It is a scale developed to measure marital adjustment, the quality of marriage and the quality of adjustment. It is a likert type scale that can be applied to married or couples living together. The scores obtained from the scale, which consists of a total of 32 items and four sub-dimensions (satisfaction, consensus, affectional expression, and cohesion) range from 0 to 151. A high total score indicates good marital adjustment. The Cronbach alpha value was reported to be 0.96 by Spainer, 0.92 by Fişiloğlu and Demir, who conducted the Turkish validity and reliability study and 0.85 in this study (20).

2.4. Data Collection

The data were obtained from women who applied to the Gynecology Outpatient Clinic of Izmir Health Sciences University Tepecik Training and Research Hospital between January and November 2019 and met the sampling criteria. In order to protect the privacy of the women, the data were collected by the researchers in approximately 30 minutes using data collection tools in the interview room in the outpatient clinic using face-to-face interviews.

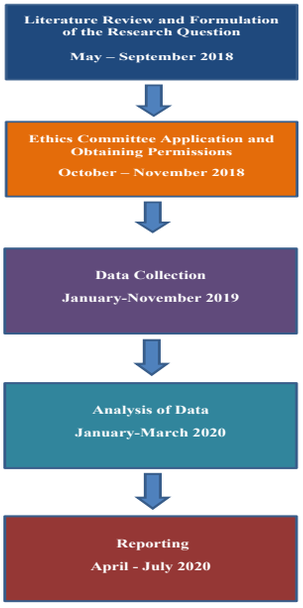
2.5. Data Analysis

Statistical Package for Social Sciences 22.0 (Version 22, SPSS Inc., Chicago, IL, USA) for Windows was utilized for analyzing the data. The suitability of the variables for normal distribution was evaluated with the Kolmogorov-Smirnov test. It was determined that the data were not normally distributed, and nonparametric tests were used. Data were evaluated with descriptive statistics (number, percent, mean, standart deviation, median and interquartil range). The dependent variable of the study is being in the climacteric period, and the independent variables are women's sexual function, marital adjustment and depression level. Pearson correlation analysis was used to examine the relationship between the scale score averages. If the correlation coefficient is 0.00-0.25, it is accepted that there is a very weak relationship between the variables, 0.26-0.49 weak, 0.50-0.69 medium, 0.70-0.89 high, 0.90-1.00 very high (21). The relationship between depression and sexual function levels according to the severity of menopausal symptoms of women and the relationship between depression levels according to sexual function levels (using row percentages) was analyzed using the chi-square test. In chi-square analysis, Fisher exact test was performed if the number of data in the eyes was <5. It was accepted as statistical significance when the $p<0.05$ condition was met.

2.6. Ethical Approval

The study was approved by Health Science University Izmir Tepecik Research and Training Hospital's Non Interventional Clinical Studies Institutional Review Board (Date:14.11.2018 IRB: 13-17). This research conforms to the provisions of the Declaration of Helsinki. In this study all participants gave informed consent for the research, and that their anonymity was preserved.

2.7. Research Flowchart



3. RESULTS

In this study, the mean age of the female was 52.23±4.37 years. The majority of them had a primary school education (57.2%) and reported lower income compared to expenses (63.5%). The mean length of their marriages was 32.38±5.92 years. 75.5% of women stated that they did not receive information about the menopause period, and 46.2% stated that they perceived menopause as a natural, normal process. The mean age at menopause was 47.83±2.46 years, and the mean duration of menopause was 4.40±3.12 years. MRS mean score of the participants was 19.41±8.75 and it was determined that 19.3% of women experienced mild menopausal symptoms, 49.2% moderately, 25.9% severe and 5.6% very severe (Table 1).

The mean FSFI score for the participants was 31.66±21.27. It was discovered that 48% of the female had sexual dysfunction (FSFI score <23 points), 14.4% had moderate sexual function, and 37.6% had good sexual function (FSFI score >30 points). The mean BDI score of participants was 13.71±9.63. The results indicated that 42.8% had minimal, 27.5% mild, 21.5% moderate, and 8.2% had severe depressive symptoms. In addition, it was determined that the DAS total (63.82±18.66) and subscale mean scores of the participants were low (Table 2).

In this study, it was defined that there was a weak negative correlation between women's MRS mean score and FSFI mean score (r=-0.276 p=0.000), a moderate positive correlation with BDI mean score (r=0.542 p=0.000), a very weak negative correlation with their DAS mean score (r=-0.213 p=0.000). It

was found that there was a very weak negative correlation (r= – 0.136 p= 0.002) between the FSFI mean scores of the participants and their BDI mean scores, and a very weak positive correlation with the DAS mean score (r=0.106 p=0.017). A weak negative correlation (r=-0.094, p=0.036) was found between the mean scores of the BDI and the DAS in the female (Table 3).

Table 1. *Characteristics of women (n=502)*

Variables	Mean±SD	min-max
Mean age (year)	52.23±4.37	45-60
Mean age of spouse (year)	56.78±6.20	46-75
Mean mariage period (year)	32.38±5.92	17-48
Mean menopause age (year)	47.83±2.46	42-57
Mean duration menopause (year)	4.40±3.12	1-14
	n	**%**
Education level		
Illiterate	54	10.8
Literate	52	10.3
Primary school	287	57.2
Secondary school	87	17.3
Higher school	22	4.4
Income level		
Income<expense	319	63.5
Income=expense	159	31.7
Income>expense	24	4.8
Number of children		
0	6	1.2
1	44	8.8
2	226	45.0
3	132	26.3
4 and more	94	18.7
Body Mass Index		
Normal (18.5-24.9)	119	23.7
Over weight (25.0-29.9)	200	39.8
Obese (30.0 – 34.9)	135	26.9
Morbid obese (>35)	48	9.6
Status of obtaining ınformation on menopause period	123	24.5
Yes	379	75.5
No		
The meaning of menopause for women		
A natural, normal process	232	46.2
The disappearance of femininity	52	10.4
End of productivity	87	17.3
Feeling old	121	24.1
Decrease / end of sexuality	10	2.0
TOTAL	**502**	**100**

In the study, 4.2% of women with mild menopausal symptoms, 20.3% of women with moderate symptoms, 18.7% of women with severe symptoms, and 4.8% of women with very severe symptoms scored less than 23 on the FSFI, and the outcome is statistically significant (x^2=83.246; p=0.000). In addition, 15.7% of women experiencing mild menopausal symptoms and 23.5% of women experiencing moderate symptoms had minimal depressive symptoms. It was determined that the majority (10.3%) of women who experienced severe menopausal symptoms experienced moderate depressive symptoms (x^2=164.188; p=0.000) (Table 4).

Table 2. *Female Sexual Function Index, Beck Depression Inventory and Dyadic Adjustment Scale mean score of women*

	Mean±SD (min-max)	Median (IQR)
MRS Total Score	19.41±8.75 (0-44)	19.00 (12.00)
	n (%)	
Mild (0-11 points)	97 (19.3	
Moderate (12-23 points)	247 (49.2)	
Severe (24-33 points)	130 (25.9)	
Very severe (34-44 points)	28 (5.6)	
	Mean±SD (min-max)	**Median (IQR)**
FSFI Total Score	31.66±21.27 (4-88)	23.00 (52.00)
Sexual desire	7.17±4.54 (2-10)	8.00 (3.00)
Arousal	5.85±4.90 (0-20)	3.00 (12.25)
Lubrication	5.84±4.66 (0-20)	4.00 (13.00)
Orgasm	4.32±3.68 (0-15)	4.00 (9.00)
Satisfaction	4.07±3.39 (0-15)	5.00 (7.00)
Pain	4.56±3.59 (2-15)	5.00 (9.00)
	n (%)	
Bad (<23 puan)	241 (48.0)	
Moderate (23-29 puan)	72 (14.4)	
Good (>30 puan)	189 (37.6)	
	Mean±SD (min-max)	**Median (IQR)**
BDI Total Score	13.71±9.63 (0-51)	11.00 (11.25)
	n (%)	
Minimal (0-9 points)	215 (42.8)	
Mild (10-16 points)	138 (27.5)	
Medium (17-29 points)	108 (21.5)	
Severe (30-63 points)	41 (8.2)	
	Mean±SD (min-max)	**Median (IQR)**
DAS Total Score	63.82±18.66 (29-123)	61.00 (18.00)
Dyadik concensus	19.13±14.08 (0-65)	17.00 (17.00)
Dyadik satisfaction	28.72±4.71 (17-45)	28.00 (5.00)
Affectional expression	4.21±2.36 (0-12)	4.00 (4.00)
Dyadik cohesion	11.75±3.02 (2-19)	12.00 (4.00)

IQR: Interquartil range, MRS: Menopause Rating Scale, FSFI: Female Sexual Function Index, BDI: Beck Depression Inventory, DAS: Dyadic Adjustment Scale

Table 3. *The Correlation Between Mean Scores of the women's Menopause Rating Scale, Female Sexual Function Index, Beck Depression Inventory and Dyadic Adjustment Scale*

Scale	FSFI	BDI	DAS
MRS	r= – 0.276* p= 0.000	r= 0.542* p= 0.000	r= – 0.213* p= 0.000
FSFI		r= – 0.136* p= 0.002	r= 0.106* p= 0.017
BDI			r= – 0.094* p= 0.036

**Pearson correlation analysis, MRS: Menopause Rating Scale, FSFI: Female Sexual Function Index, BDI: Beck Depression Inventory DAS: Dyadic Adjustment Scale*

In the study, it was defined that the majority of female with good sexual function according to FSFI, experienced minimal (18.9%) and mild (9.8%) depressive symptoms. It was determined that 13.1% of women with poor sexual functions experienced moderate depressive symptoms and 5.8% experienced severe depressive symptoms. It was defined that the levels of sexual function in women had a significant impact on their depression status (x^2=37.943; p=0.000) (Table 5).

Table 4. *Sexual Function and Depression Levels of Women According to the Severity of Menopausal Symptoms*

MRS	FSFI				BDI				
	Good	Medium	Bad	Total	Minimal	Mild	Moderate	Severe	Total
Mild	51 (10.2)	25 (5.0)	21 (4.2)	97 (19.3)	79 (15.7)	8 (1.6)	5 (1.0)	5 (1.0)	97 (19.3)
Moderate	113(22.5)	32 (6.3)	102(20.3)	247(49.2)	118(23.5)	79(15.7)	43 (8.6)	7 (1.4)	247(49.2)
Severe	23 (4.6)	13 (2.6)	94 (18.7)	130(25.9)	12 (2.4)	46 (9.2)	52 (10.3)	20(4.0)	130(25.9)
Very severe	2 (0.4)	2 (0.4)	24 (4.8)	28 (5.6)	6 (1.2)	5 (1.0)	8 (1.6)	9 (1.8)	28 (5.6)
Total	189(37.7)	72 (14.3)	241(48.0)	502(100.0)	215(42.8)	138(27.5)	108 (21.5)	41(8.2)	502(100.0)
Statistical Analysis				x^2= 83.246* p= 0.000					x^2=164.188 p= 0.000

**Fisher exact test, Chi-square analysis was performed by taking row percentages, MRS: Menopause Rating Scale, FSFI: Female Sexual Function Index, BDI: Beck Depression Inventory*

Table 5. *Depression Status of Women by Sexual Function Levels*

FSFI	BDI				
	Minimal	Mild	Moderate	Severe	Total
Good	95 (18.9)	49 (9.8)	36 (7.2)	9 (1.8)	241 (48.0)
Moderate	46 (9.2)	17 (3.4)	6 (1.2)	3 (0.6)	72 (14.3)
Bad	74 (14.7)	72 (14.3)	66 (13.1)	29 (5.8)	189 (37.7)
Total	215 (42.8)	138 (27.5)	108 (21.5)	41 (8.2)	502 (100.0)
Statistical Analysis					x^2= 37.943 p= 0.000

Chi-square analysis was performed by taking row percentages.
FSFI: Female Sexual Function Index BDI: Beck Depression Inventory

4. DISCUSSION

The study aimed to assess the sexual function, depression and dyadic adjustment in postmenopausal women and examine their corelation. For this purpose, the questions of this study are;

- What is the sexual function status of women in the climacteric period?
- What are the depression levels of women in the climacteric period?
- What is the dyadic adjustment of women in the climacteric period?
- Is there a relationship between the sexual function status, depression and dyadic adjustment of women in the climacteric period?

The results showed that 48% of the women participated in the study suffered from sexual dysfunction. In studies conducted in different countries using FSFI to examine the sexual function of postmenopausal female, the rate of sexual dysfunction ranges from 88.7-58% (22-25). In the study conducted in the west of Turkey, it was reported that 86.4% of women experienced sexual dysfunction (15), and in the study of in the east, this rate was found to be as 59.7% (14). Half of female in the perimenopausal period and three-quarters of female in the postmenopausal period experience one or more sexual problems. Sexual problems is seen more frequently in the postmenopausal period than in the perimenopausal period (11). In this study, the prevalence of sexual dysfunction was found to be lower than in other studies in the literature. The reason for this is thought to be related to mean age of menopause and the mean duration of menopause of the women.

It was defined that 21.5% of the women included in the study experienced moderate depressive symptoms and 8.2% had severe depressive symptoms. A systematic review in China found that among women in the climacteric period, 15.3% had moderate and 3.7% had severe depression (26). In a study conducted with 287 women aged 45-60 years in Poland, 39% of women had moderate levels and 2% had severe levels (3). In a study of 435 female in Bangladesh, 24.5% of women had moderate levels and 7% had severe levels (27). In another study conducted in Iran (1520 women aged 40-64 years), it was defined that 55% of female had minimal, 26% mild, 11% moderate and 8% severe depressive symptoms (28).

Although the cause of depression is not known exactly, it was stated that it has a potential relationship with menopause and hormonal changes in menopause (29). The results of this study were found to be in a similar range with the previous studies, and it was thought that the severity of the depressive state experienced in the climacteric period was related to the menopausal symptoms experienced. In the study, it was determined that the depression levels of women increased with the increase in menopausal symptoms. It was stated that 23.5% of female who experienced menopausal symptoms moderately, and the majority of women who experienced severe symptoms experienced moderate depressive symptoms. In the literature, it has been stated that problems experienced during menopause increase the stress and depression levels in women (4,13,30-32). In addition, the majority of women with good sexual functions in the study experienced minimal and mild depressive symptoms. It was defined that female who experienced sexual dysfunction experienced moderate and severe depressive symptoms. In the literature, it was seen that depression causes sexual dysfunction in the climacteric period (6,15,29,33-35). The correlation between sexuality and depression is often complex and depression can be both a cause and a result of a sexual problem. Although low desire, depression or anxiety are the most common sexual side effects, reaching orgasm can be more difficult in the presence of depression. In addition, mood swings can cause relationship problems due to sexual problems (5,13).

It was found that the marital adjustment of the female included in the study was low. The dyadic compatibility score obtained in studies conducted in different countries using the same scale was found to be higher than the score obtained in this

study (5,8,34). The reason why the dyadic adjustment of the women included in this study was found to be lower than in other studies with similar samples in the literature was thought to be related to the sexual dysfunction, depressive state and menopausal symptoms. In the study, it was determined that postmenopausal women with good sexual functions and low depression levels had better marital adjustment.

In the literature, it was determined that the quality of the relationship with the partner and the adjustment were related to the sexual function, and the sexual dysfunction decreased the adjustment in the marriage (5,33,35). In a study with 1520 female aged 40 to 64, it was determined that women with low marital adjustment had more depressive symptoms than women with good marital adjustment (28). In the study with 100 women, marital adjustment was found to be negatively related to depression, and it was determined that depression levels increased in women with marital adjustment problems (36). With the effect of the changes experienced, the spouse, family and friend relationships of women in the menopausal period may deteriorate, and their physical and mental problems are exacerbated. Sexuality has important functions in reinforcing the intimacy between spouses, sharing pleasure, and reducing the tension that will occur while coping with the problems in marriage. It is reported that sexual dysfunctions have negative effects on intimacy in marriage (9,33). and the results obtained from the study support this information too. The increase in marital adjustment can also positively affect the psychological health of the individual and reduce the symptoms of emotional stress.

This study has some limitations. The research sample is limited to women who agreed to participate in the study at the university hospital. Therefore, the results obtained from the study cannot be generalized to the whole population.

5. CONCLUSION

In this study, it was found that approximately half of the postmenopausal women experienced sexual dysfunction, one third experienced moderate and mild depression, and their marital adjustment was low. Women with sexual dysfunction have higher depression levels and lower marital adjustment. It was determined that women with low depression levels had better marital adjustment. Nurses and health professionals should include spouses in education and counseling services regarding the problems and solutions they may experience during this period in order to increase the social support and marital adjustment of postmenopausal women. They should inform women and their partners in the climacteric period about possible sexual problems, their causes and solutions, and create environments where women and their partners can express their sexual problems comfortably. They should evaluate women in this period both gynecologically and psychologically, question how the woman perceives this period and support her to express herself comfortably. Women in the postmenopausal period should be routinely screened for depression, and if there are signs and symptoms specific to depression, they should be referred to the necessary units.

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Research idea: MK,NEC
Design of the study: MK,NEC
Acquisition of data for the study: MK
Analysis of data for the study: MK,NEC
Interpretation of data for the study: MK,NEC
Drafting the manuscript: MK,NEC
Revising it critically for important intellectual content: MK,NEC
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