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RESEARCH

SEXUAL FUNCTION AND QUALITY OF LIFE IN A SAMPLE OF POSTMENOPAUSAL WOMEN ADMITTED IN A MENOPAUSE CLINIC IN TURKEY

Abstract

Introduction: Sexual issues in postmenopausal women have garnered limited interest despite their high prevalence. Menopause is a natural part of ageing in women and has been reported to have a negative impact on the quality of life. In the present study, we examined the association between sexual functions and quality of life parameters in postmenopausal women.

Materials and Method: In total, 67 postmenopausal women who sequentially presented to climacteric clinics were enrolled in this study. All participants were administered a structured sociodemographic data form, a 7-item relationship assessment scale, female sexual function index and the 36-item short-form health survey -SF-36-.

Results: Mean age, mean age at the beginning of menopause and mean menopause duration were 52.6±6.14, 46.46±5.58 and 6.23±4.94 years, respectively. 36-item short-form health survey -SF-36-social function score was positively correlated with sexual desire, arousal, degree of lubrication, ability to achieve orgasm, intercourse satisfaction, female sexual function index pain domain score, and total female sexual function index score. Moreover, 36-item short-form health survey -SF-36-physical function score was positively correlated with arousal, pain and total female sexual function index score. 36-item short-form health survey -SF-36-physical role difficulties score was positively correlated with the ability to achieve orgasm and female sexual function index pain scores. female sexual function index score correlated with SF-36 social function, physical function and physical role difficulties subscale scores. 36-item short-form health survey -SF-36-social function score predicted arousal, ability to achieve orgasm, intercourse satisfaction, pain and total female sexual function index scores after controlling for age and menopause duration.

Conclusion: In the evaluation of sexual functioning in postmenopausal women, problems related to relationship with partner and quality of life, especially physical functions, should be take into account carefully.

Keywords: Post-menopause; Life quality; Sexual dysfunction, physiological; Sexual dysfunction, psychological

ARAŞTIRMA

TÜRKİYE'DEKİ BİR MENOPOZ KLİNİĞİNE BAŞVURAN BİR GRUP POSTMENOPOZAL KADINDA CİNSEL İŞLEV VE YAŞAM KALİTESİ

Öz

Giriş: Yüksek prevalans oranına rağmen postmenopozal kadınlarda görülen cinsel sorunlara yeterince ilgi gösterilmemiştir. Menopoz kadınlardaki yaşlanma sürecinin doğal bir parçasıdır ve yaşam kalitesi üzerine negatif bir etkisi olduğu bilinmektedir. Bu çalışmada, yaşam kalitesi alt boyutları ile postmenapozal dönemdeki cinsel fonksiyonlar arasındaki ilişkiyi inceledik.

Gereç ve Yöntem: Menopoz kliniğine başvuran postmenopozal 67 hasta çalışmaya dahil edildi. Tüm katılımcılara yapılandırılmış sosyodemografik form, 7 maddelik ilişki değerlendirme ölçeği , kadın cinsel işlev ölçeği ve kısa form sağlık ölçeği -SF-36- uygulandı.

Bulgular: Ortalama yaş 52.6±6.14 yıl, ortalama menopoz başlangıç yaşı 46.46±5.58 yıl ve ortalama menapoz süresi 6.23±4.94 yıldır. SF- 36 sosyal fonksiyon skorları, cinsel istek, uyarılma, ıslanma düzeyi, orgazm olabilme, ilişki memnuniyeti, kadın cinsel işlev ölçeği ağrı içeren skorları ve kadın cinsel işlev ölçeği toplam skorları ile pozitif korelasyona sahiptir. kısa form sağlık ölçeği -SF-36- fiziksel rol güçlük skorları, orgazma ulaşma ve ağrı skorları ile pozitif korelasyon göstermektedir. Kadın cinsel işlev ölçeği, sosyal işlev, fiziksel işlev ve SF-36 fiziksel rol güçlük alt ölçeği ile koreledir. Sosyal işlev skorları, yaş ve menapoz süresi kontrol edildiğinde, uyarılabilmeyi, orgazma ulaşmayı,ilişki memnuniyetini, ağrıyı, kadın cinsel işlev ölçeği toplam puan alanlarını öngörmektedir.

Sonuç: Postmenopozal kadınlarda cinsel işlevlerin değerlendirilmesinde eşlerle ilişki sorunları, yaşam kalitesi, özellikle fiziksel işlevlerle ilgili sorunlar dikkate alınmalıdır.

Anahtar sözcükler: Postmenopoz; Yaşam kalitesi; Cinsel işlev bozukluğu , fizyolojik; Cinsel işlev bozukluğu psikolojik

INTRODUCTION

In addition to its major role in the continuation of the human race, sex between couples serves several purposes, particularly as a crucial part in relationship maintenance, self-esteem, physical and mental health and subjective well-being (1). In a typical situation, couples' engagement in the novel and arousing activities such as sex serves to generate positive feelings towards each other, increases cooperation between partners, reinforces closeness and interdependence and may have an overall positive effect on the assessment of relationship quality between partners (2).

Several studies have indicated a significant association between sexual functioning and satisfaction and marital adjustment and subjective well-being. However, several factors might mediate this association. Age and menopause have been reported to be significant predictors of sexual desire and functioning; as people age, sexual functioning decreases, and vaginal dryness during menopause might negatively impact sexual desire (2,3).

According to the World Health Organization, quality of life (QoL) is defined as individuals' perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns. QoL assessment is important for determining an appropriate treatment as well as treatment outcomes. QoL is a multidimensional concept that includes variables related to physical and psychological health, levels of independence, social relationships and their association with salient features of the patient's environment.

Menopause is a natural part of ageing in women and is defined as occurring at 12 months after the last menstrual period and marks the end of menstrual cycles (4). This process results from the ageing of the ovaries which leads to a decline in the production of the ovarian gonadotrophins estrogen and progesterone. These hormonal deficiencies elicit various somatic, vasomotor, sexual and psychological symptoms that impair the overall quality of life in women (5). Overall, 50%–80% of women complain of menopausal symptoms, such as hot flashes, night sweats, sleep disturbances, tiredness and depression. Menopause-related symptoms are the principal determinants of a reduced health-related QoL, which is detectable soon after the onset of menopause (6-8).

Given the increased interest in understanding women's sexuality and sexual dysfunction in women during different life stages, there is a growing need for valid, multidimensional measures of female sexual function. The female sexual function index (FSFI) is the most widely used questionnaire for studies on sexual dysfunction in women. Current literature includes only few studies on sexual functioning, relationship satisfaction and subjective well-being.

In the present study, we aimed to determine the association between female sexual functioning, relationship satisfaction and QoL among menopausal women in Turkey. We hypothesized that relationship satisfaction and QoL inflicted significant effects on sexual functioning in menopausal women.

MATERIALS AND METHOD

Study participants

Study participants were menopausal women who were registered for a routine postmenopausal control at a major hospital in Turkey. All study procedures were performed in accordance with the Declaration of Helsinki, and the study protocol was approved by the ethical committee of the Zekai Tahir Burak Women's Health Research

and Education Hospital. All participants were provided information regarding the study, and all participants provided written informed consent. Inclusion criteria were female sex, the presence of menopause, minimum reading and writing ability. A total of 67 participants who fulfilled the inclusion criteria were included in the study.

Psychometric measurements

Sociodemographic Data Form. All participants were administered a questionnaire prepared by study investigators that was designed to obtain sociodemographic data. The demographic variables included sex, age, marital status, the number of children, education, location, occupation, employment status, the number of siblings, the family history of chronic diseases, the relatives who provided support during treatment, other known physical illnesses and previous psychiatric treatments.

Female Sexual Function Index (FSFI). The FSFI has been developed as a brief, multidimensional self-report for assessing the key dimensions of sexual function in women (9). FSFI consists of 19 items that assess sexual function during the previous 4 weeks that yield domain scores in six areas as follows: sexual desire, arousal, lubrication, orgasm, satisfaction and pain. Each item is rated on a scale ranging from 0 or 1 to 5. A score of zero indicates that the respondent has had no sexual activity in the previous month. Individual domain scores are obtained by adding the scores of individual items that comprise the domain and multiplying the sum by the domain factor (i.e. 0.6 for desire, 0.3 for arousal and lubrication and 0.4 for the other three domains). A full-scale score can be obtained by adding the scores for all six domains. The internal consistency reliability of FSFI score has been reported as 0.97 (9). The Turkish version of the FSFI has been validated by Aygin and Eti Aslan (10), who reported that the range of internal consistency coefficient was 0.70–0.96, with an average Cronbach alpha value of 0.98, among women with breast cancer; they have also reported that the test-retest reliability measured over a 1-month interval was 0.75 (10). The Turkish FSFI measure was validated in an initial cohort of women with female sexual arousal disorder and women without sexual difficulties who served as the control group (11). In a second validation study, The Turkish FSFI was shown to discriminate between women without sexual dysfunction and those who met the DSM-IV-TR (Diagnostic and statistical manual of mental disorders, text revision) criteria for female sexual orgasmic disorder or hypoactive sexual desire disorder (12). Significant discriminant validity was shown in all domains of sexual function as well as in total FSFI score between sexually dysfunctional and non-dysfunctional samples in both studies. In the field of female sexual dysfunction, FSFI has emerged as the primary PRO for the assessment of female sexual function, in both clinical practice and research (13).

Relationship Assessment Scale (RAS). RAS is a 7-item scale designed to measure global relationship satisfaction, which is one of the key areas of relationship assessment, used with individuals who are in an intimate relationship, such as married, cohabiting, engaged or dating couples. The brevity of RAS increases its utility in clinical settings and for online administration. Respondents answer each item using a 5-point scale ranging from 1 (low satisfaction) to 5 (high satisfaction). Studies have shown that RAS score is correlated with other measures of love, sexual attitudes, self-disclosure, commitment and investment in a relationship. Internal consistency reliability of RAS has been reported to be 0.85 (14).

Medical Outcomes Study (MOS) 36-Item Short-Form Health Survey (SF-36). SF-36 was constructed for use in clinical practice and

research, health policy evaluations and general population surveys to examine health status in the MOS (15). SF-36 can be used to evaluate QoL in patients with physical illness. It includes one multi-item scale that assesses eight health concepts as follows: (1) limitations in physical activities because of health problems; (2) limitations in social activities because of physical or emotional problems; (3) limitations in usual role activities because of physical health problems; (4) bodily pain; (5) general mental health (psychological distress and well-being); (6) limitations in usual role activities because of emotional problems; (7) vitality (energy and fatigue); and (8) general health perceptions reflecting QoL (15). Lower scales are evaluated from 0 to 100, and higher scores are interpreted as higher QoL. The Turkish version of the SF-36 was validated by Kocyigit et al., who found that internal consistency reliability of SF-36 was 0.89 (16).

Statistical analysis

Data were analyzed using the SPSS for Windows version 15 (SPSS, Chicago, IL, United States). Data were presented as means±standard deviation for metric discrete variables, and the number of cases and percentages were used for categorical variables. Degrees of association among discrete metric variables were calculated using Pearson's product–moment correlation coefficient. The association between independent and dependent variables was assessed by multiple hierarchical regression analyses to determine best predictors of independent variables. A p value of <0.05 was considered statistically significant. Cronbach's alpha was used to determine the internal consistency reliability of measurement tools.

A priori power analysis for a total R2 value was conducted with a power level of 0.80 and an alpha level of 0.05 for 13 predictor variables, and the software for general power analysis indicated 68 as the sample size required for a medium effect size (f2=0.15). These 13 predictor variables were divided into two groups as follows: demographic variables (age, menopause age, menopause type and education level) and relationship satisfaction (total RAS score) and SF-36 subscale scores (pain, general health, social function, energy/fatigue, emotional well-being, role limitations due to emotional problems, physical functioning and role limitations due to physical health).

RESULTS

The average age of a total of 67 women who participated in the study was 52.67±6.15 years. On average, the subjects entered menopause at 46.59±5.55 years of age. Demographic characteristics of all participants are presented in Table 1.

Pearson's correlation coefficients for associations between variables are shown in Table 2. All testing assumptions of regression analyses were met; multicollinearity test indicated there was no multicollinearity between the variables.

Wiegel et al. have identified a cut-off FSFI score of 26.55 to indicate high and lower FSFI scores, where a low adjusted FSFI score below this cut-off value could be a sign of sexual dysfunction (11). To determine if patients with high and low FSFI scores differed in relationship satisfaction and QoL variables, several Student's t-tests with Bonferroni correction were performed, which revealed significant differences in relationship satisfaction ($t65=-6.30$, $p<0.001$), physical role difficulties ($t65=-5.84$, $p<0.001$), social functioning ($t65=-4.76$, $p<0.001$) and pain ($t65=3.89$, $p<0.01$) between patients with high and low FSFI scores (Table 3).

Hypothesized relationships between female sexual function variables and relationship satisfaction were examined; QoL variables were

tested using hierarchical multiple regression analyses. The demographic variables (age, menopause age, menopause type and education level) were induced in the first step of the hierarchical multiple regression, and the relationship satisfaction as measured with the RAS and QoL variables (physical function, physical role difficulties, emotional difficulties, vitality, mental health, social function, pain and general health) were included in the second step of the hierarchical regression analyses. The full model of FSFI accounted for 47% of the variance [R2=0. 468, F (13, 53)=3.586, p <0.001. Additionally, the demographic variables included in the first step of the regression analysis were not significant predictors of the total FSFI score [R2=0.109, F (4, 62)=1.890, p=0.123]. Conversely, the relationship satisfaction and QoL variables included in the second step of the regression analyses explained a significant level of variance above and beyond the demographic variables [R2=0.468, ΔR2=0.359, ΔF (9,53)=3.977, p=0.001]. The examination of standardized partial regressions indicated that when other variables were controlled for, relationship satisfaction (b=0.527, t47=4.293, p=0.000) and SF-36 social function score (b=−0.375, t35=2.265, p=0.028) were significant predictors of total FSFI. In addition, physical function (r=0.356), physical role difficulties (r=0.291), social function (r=0.451) and pain (r=−0.257) had significant one-on-one correlations with total FSFI score.

Table 1. Socio-demographical characteristics of the participants.

Variable	Mean±sd	n (%)
Age	52.7±6.15	
Menstruation age	46.59±5.55	
Education		
Elementary School		18 (26.9)
Middle School		4 (6.0)
High School		22 (32.8)
College		21 (31.3)
Graduate School		2 (3.0)
Menopause type		
Natural		52 (77.6)
Surgical		15 (22.4)
Employment status		
Unemployed		26 (38.8)
Full-time		15 (22.4)
Retired		26 (38.8)

sd= Standard deviation.

Table 2. Correlations between the FSFI subscale scores and RAS Total and SF-36 subscale scores.

FSFI Subscales / RAS Total		SF-36 Subscales								
		Physical function	Physical role difficulties	Emotional difficulties	Vitality (Energy)	Mental health	Social function		Pain	General health
Desire	**r**	0.382**	0.207	0.064	0.113	-0.036	0.025	0.292*	-0.215	-0.054
Arousal	**r**	0.479**	0.350**	0.242*	0.179	0.113	0.177	0.388**	-0.202	0.090
Lubrication	**r**	0.461**	0.257*	0.182	0.158	0.127	0.133	0.310*	-0.129	-0.071
Orgasm	**r**	0.521**	0.315**	0.343**	0.305*	0.103	0.108	0.526**	-0.312*	-0.019
Satisfaction	**r**	0.477**	0.302*	0.269*	0.206	0.049	0.110	0.453**	-0.229	-0.017
Pain	**r**	0.438**	0.419**	0.361**	0.184	0.023	0.089	0.386**	-0.262*	-0.136
FSFI Total	**r**	0.521**	0.356**	0.291*	0.222	0.075	0.124	0.451**	-0.257*	-0.041

RAS: Relationship Assesment Scale
FSFI: Female Sexual Function Index
SF-36: 36-Item Short-Form Health Survey
*p<0.05; **p <0.01

Table 3. RAS Total and SF-36 scores comparison of the participants using FSFI cut-off scores.

Variable	FSFI<26.55 N=58		FSFI>26.55 N=9		t	p
	Mean	sd	Mean	sd		
Age	52.83	6.29	51.67	5.32	0.594	0.564
Menopause age	46.59	5.69	46.59	4.79	0.001	0.999
	n	%	n	%	t/x2	p
Menopause type	45/13	86.6	7/2	13.4	0.017	0.987
RAS Total	31.89	27.25	41.60	3.12	-6.301	0.000
Physical function	70.85	23.98	81.15	16.14	-1.652	0.120
Physical role difficulties	54.33	44.24	94.44	11.02	-5.836	0.000
Emotional difficulties	47.65	41.51	85.19	33.79	-3.000	0.011
Vitality (Energy)	51.04	13.54	47.78	10.64	0.821	0.427
Mental health	50.08	11.43	48.44	20.44	0.235	0.820
Social function	60.52	28.45	86.11	11.59	-4.760	0.000
Pain	41.24	22.71	16.94	16.43	3.896	0.002
General health	51.86	17.54	47.92	14.25	0.747	0.469

RAS: Relationship Assesment Scale
FSFI: Female Sexual Function Index
SF-36: 36-Item Short-Form Health Survey

Table 4. A multiple linear regression analysis between FSFI domain and total score and SF-36 scores.

Sexual function dimension			B	p	F	df	R^2	Model p
Sexual desire	RAS Total		0.456	0.002	2.045	13	0.334	<0.01
	Quality of Life	—			2.045	13	0.334	NS
Arousal	RAS Total		0.507	0.000	3.004	13	0.424	<0.001
	Quality of Life	—			3.004	13	0.424	NS
Degree of lubrication	RAS Total		0.504	0.001	2.003	13	329	<0.01
	Quality of Life	—			2.003	13	329	NS
Ability to achieve orgasm	RAS Total		0.456	0.000	3.737	13	0.478	<0.001
	Quality of Life	SF	0.478	0.005	3.737	13	0.478	<0.01
Intercourse satisfaction	RAS Total		0.486	0.000	3.234	13	0.442	<0.001
	Quality of Life	SF	0.460	0.009	3.234	13	0.442	<0.01
Pain	RAS Total		0.417	0.002	2.866	13	0.413	<0.01
	Quality of Life	—			2.866	13	0.413	NS
Total score	RAS Total		0.527	0.000	3.586	13	0.468	<0.001
	Quality of Life	SF	0.375	0.028	3.586	13	0.468	<0.05

Adjusted by patients' age, menstruation onset age, education status, and menapose reason.
SF SF-36 – Social Functioning Subscale
NS: Not significant

DISCUSSION

In this present study, we performed the general assessment of relationship quality and sexual functions and QoL parameters in a cohort of postmenopausal women. The study population comprised relatively young postmenopausal women (mean age, 52.67±6.15 years), and their average perception of relationship quality was fair (mean, 4.82). In this cohort; perceived general relationship quality strongly correlated with arousal, lubrication, orgasm, satisfaction, and painlessness parameters, but not correlated with desire. However, RAS query that measures general satisfaction in relationships was correlated with desire. As expected, general relationship satisfaction was strongly associated with sexual functioning in postmenopausal women, and this association appeared to be independent of age and menopause duration. These results are consistent with the results of several previous studies demonstrating that relationship factors showed a greater impact than did age or menopause on low sexual function (1,3).

In the study cohort, a high FSFI score, which indicates better sexual function, correlated with SF-36 social function, physical function and physical role difficulties subscale scores. SF-36 social function subscale score predicted arousal, ability to achieve orgasm, intercourse satisfaction, pain and total FSFI score after controlling for age and menopause duration, suggesting that women with better social function, physical function and less physical role difficulties had also better sexual function and that women with good social function, when stimulated, achieved orgasm easily and had higher sexual satisfaction. These results are consistent with those of a study by Hawton et al. who have reported that

partners with a low physical function did not have a good sexual function (1).

The demographic variables were not significant predictors of FSFI, implicating that sexual function in women included in the present study did not significantly change with changes in age, menopause onset age, menopause type or education level; this finding was not consistent with those of previously reported studies, which suggest that age and menopause are significant predictors of sexual desire and function, given that decreased sexual functioning and vaginal dryness during menopause might negatively affect sexual desire during ageing (2,3).

Relationship satisfaction and social functioning were two significant predictors of sexual function in the present study. Moreover, physical functioning, physical role difficulties, social function and pain significantly correlated with sexual function; in essence, women who were satisfied with their relationship and those who had high social functioning ability showed better sexual functioning scores. In addition, there was an association between sexual function and physical function, physical role difficulties, social function and pain. Nevertheless, not enough studies have examined such associations between sexual function, relationship satisfaction and subjective well-being, and further investigations are imperative to generalize the findings of the present study.

Esposito et al. have found that women with sexual dysfunction showed lower scores in all domains of the FSFI compared with those without dysfunction (17). FSFI score was enhanced by the establishment of a cut-off value for total FSFI score that could differentiate between women with or without sexual dysfunction (11). Any individual woman who obtained a total FSFI score of ≤26.55 should be considered at a risk for sexual dysfunction and should be evaluated further. Additionally, increased pain scores can be an evidence of sexual pain disorder, and decreased lubrication scores might be associated with sexual arousal disorders.

In our patient goup,the mean age was 52 and the avarage duration of menapouse was 6 years.As the age advances and the duration of menapouse progresses, the decrease in QoL had been observed in many studies.

Aghamolaei T et al,and Shobeiri F.et.al, showed that age is a predictor of reduction in QoL.(18 19) Also Rabah et al. showed that aging is associated with reduced QoL,(20).

Caylan et al. reported that duration of menopause was associated with higher scores in psychosocial, physical and sexual domains in QoL (21). It seems that low QoL more than four years after menopausal duration may be due to various factors such as race, age and culture (22).Charandabi etal showed the reduction of QoL with the elapsing time from menstruation cessation (23). Therefore the worsening of QoL will be inevitable for the women who has been in menapouse for a long time.

Another issue is the existence of the chronic diseases parallel to the advancing age. Due to aging, in many cases menopause causes the start or aggravation of underlying diseases such as diabetes, osteoporosis, cardiovascular diseases, atherosclerosis, respiratory diseases, musculoskeletal disorders, and reduced physical activity (24). Unfortunetly chronic diseases affect sexual function adversely and are associated with reduced QoL (25).

Therefore, it is necessary to plan for the education of these postmenapousal women to broaden their understanding of the changes of menopause and ways to improve their QoL.

In the present study, with the exception of social function, other subscales of SF36 lost their significance when they were included into the regression analysis with other predictor variables, indicating that relationship satisfaction and social function might have mediated the association

between physical function, physical role difficulties, pain and total FSFI score. Given that Turkish society is a sexually restrictive society, physical function, physical role difficulties and pain might be lower-order constructs than social function and relationship satisfaction in expressing difficulties in Turkish women.

Some limitations of the present study should be highlighted. First, there were no physiological parameters that were directly measured, but the study participants were queried regarding menopause, hormone therapy, contraceptive use, age and overall health. Second, this qualitative study was conducted using the convenience sampling of women attending the climacteric clinic and may not thus be a representative of all women with hypoactive sexual desire disorder, particularly those among minorities. Third, spouses of the study participates were not interviewed because this would have reduced the number of women who would consent for participation in the study. Fourth, small sample size is another limitation that might have been effective on inability of finding some of the significant predictive parameters reported in the literature. Finally, the cross-sectional study design did not allow for the separation of the potential causes from effects in relation to time.

In conclusion, our findings indicated that relationship satisfaction and social functioning might have mediated the relationship between physical functioning, physical role limitations, pain and FSFI. Given that Turkey is a sexually restricted society, physical functioning, physical role limitations, and pain might be lower order constructs than social functioning and relationship satisfaction in expressing difficulties in Turkish women. Hence, gynecologists might attempt to work with physical functioning and physical role limitations of patients to increase social functioning and relationship satisfaction and eventually improve female sexual functioning. Our findings also supported the utility of FSFI as a screening tool and potential instrument in diagnostic assessment. Future investigation is necessary to examine the association between female sexual function in postmenopausal women and various socioeconomic and psychological factors in order to provide a better QoL in these women.

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