Original Article

Sexual Quality of Life in Women during the Climacteric Period

Kamile Altuntuğ, PhD
Assist. Professor Necmettin Erbakan University, Faculty of Health Sciences, Konya, Turkey

Emel Ege, PhD
Assoc. Professor Necmettin Erbakan University, Faculty of Health Sciences, Konya, Turkey

Rabia Akın,
Research Assit. Hacettepe University, Faculty of Health Sciences, Ankara, Turkey

Vesile Koçak,
Research Assit. Selçuk University, Faculty of Health Sciences, Konya, Turkey

Saniye Benli
Lecturer, Selçuk University, Faculty of Health Sciences, Konya, Turkey

Correspondence: Kamile Altuntuğ, Assist. Professor Necmettin Erbakan University, Faculty of Health Sciences, Büyükihsaniye Mah. Kazım Karabekir Cad. No:82/2 Selçuklu Konya, Turkey

Abstract

Background: Climacteric period including premenopausal, menopausal, post-menopausal periods is a phase that marks transition from woman's reproductive age into the era of post-reproductive age. The climacteric complaints and the severity of menopause are associated with how these symptoms affect a woman's quality of life not only physically but also psychologically and socially. Studies have shown sexuality to have been affected significantly especially during menopause
Aims: This study was designed to evaluate the quality of the women's sexual life in climacteric period. To determine sexual quality of life the women during the climacteric period.
Methodology: A questionnaire, and sexual quality of life scale- female form (SQLQ-F) were used to collect data. The research was carried out on the women admitted to the gynecology and obstetrics clinic between 5 November and 31 December 2012. The sample size of the study was determined as 268. Parametric tests were used in the analysis of the data.
Results, and Conclusions: It was found that there was statistically significant difference ($p < 0.05$) between the mean score of SQLQ-F of women and having trouble in menopausal period, experiencing hot flashes, and experiencing bone and joint pain in the women who lived in restlessness, who had insomnia and who had night sweats, and who experienced tiredness / weakness, and women suffering from urinary incontinence. It has been determined in the women participating the study that the quality of women's sexual life in the climacteric period is negatively affected. It can be suggested that health professionals should establish the problems of the women in climacteric period and propose solutions to the problem while they follow up the women during this period.

Keywords Sexuality, quality of life, women's health, climacterium.

Background

Climacteric period including premenopausal, menopausal, post-menopausal periods is a phase that marks transition from woman's reproductive age into the era of post-reproductive age (Vanwesenbeeck et al. 2001, Varma et al. 2005). Menopause is the permanent termination of menstruation as a result of the loss of ovarian activity (Gonçalves et al. 2009). Despite the different characteristics of each period in a woman's life, puberty and menopause are the most important periods as they change the quality of life of women (Yurdakul et al. 2007).

Although menopause is a normal physiological process, it is a period during which significant changes in a woman's biological (Hakimi et al. 2010, Berterö 2003) and social life take place (Mattar et al. 2008) and include many symptoms; vasomotor symptoms, vaginal symptoms, urinary incontinence, sexual dysfunction, and sleep problems (Schneider 2002). The climacteric complaints and the severity of menopause are associated with how these symptoms affect a woman's quality of life not only physically but also psychologically and socially (Palacious et al. 2002, Guimarães et al. 2011).

Sexual health is assessed as a positive and significant aspect of individuals' personal health in all age groups (Tuğut et al. 2010). Sexuality is defined by WHO as "sexual life, as a whole in physical, spiritual, mental and social aspects is the positive strengthening and enriching of the personality, communication and love" (WHO 2009).

From the perspective of women, studies show that the developmental life events such as menarche, pregnancy, birth, lactation and menopause affect women's sexuality and sexual health" (Tuğut et al. 2010, Yee et al. 2003). Studies have shown sexuality to have been affected significantly especially during menopause (Varma et al. 2005, Palacious et al. 2002). Also, it has been reported that if a woman is experiencing surgical menopausal followed by oophorectomy, more severe psychological and climacteric symptoms may occur (Vanwesenbeeck et al. 2001).

Female sexual function is an important component for the quality of life (Abdo et al. 2004, Tortumluoğlu et al 2004). Studies show that changes in the climacteric period have negative impact on the quality of life (Kharbouch et al. 2007, Nappi et al. 2008).

Nurses have an important role in training and consulting services they do in having the women lead a healthy climacteric period, be able to deal with the problems encountered during this period and to increase the quality of life.

The aim of this study was to evaluate the sexual quality of life during the climacteric period in women.

Materials and methods

Data sources

This study was planned in a descriptive design. The research was carried out on the applicant admitted to the Obstetrics and Gynecology polyclinic of Medical School Hospital of Selcuk University in Turkey between 5 November and 31 December 2012. Determining the sample size of the study, a table prepared to estimate with 90% confidence for absolute score P in as much as d was utilized. Regarding the incidence of sexual problems in Turkey in climacteric period to be as 55.4% in the studies carried out in Turkey (Yurdakul et al. 2007), the sample size reported at the level of d = 0.05 in the table was found as 268 (Carda et al. 1998, Tortumluoğlu et al. 2004).

The women who agreed to participate in the study, at least literate, between 40-65 years of age, married and with sexual partners, were not surgically menopause did not use Hormone Replacement Therapy (HRT) were included in the sample group.

Methodology

The data were collected with a questionnaire prepared in accordance with literature, (Kharbouch et al. 2007, Tokuç et al. 2006) and a sexual quality of life scale (Tuğut et al. 2010). The questionnaire consists of 20 questions evaluating the women's socio-demographic, obstetric and gynecologic properties. In order to evaluate the quality of sexual life, sexual life quality scale-the women form (SQLQ-F) was used.

This scale was developed by Symonds et al. (2005) to assess the quality of women's sexual life (Symonds et al. 2005). The validity and reliability of Turkish, by the Cronbach alpha coefficient conducted by Tuğut & Gölbaşı (2010) was found to be 0.83 (Tuğut et al. 2010).

The Scale consists of 18 items that individuals can answer by themselves, is easy to apply and in a six-point Likert-type. Considering the last four-week sexual life, each item has to be answered. It is indicated in the original scale that each item can be graded as 1-6, or 0-5. Tuğut & Gölbaşı (2010) used in their studies point system 1-6

(1 = totally agree, 2 = largely agree, 3 = partially agree, 4 = partially disagree, disagree, 5 = largely disagree, 6 = totally disagree) (Tuğut et al. 2010). The scale score range you can get in this way is between 18-108. On the other hand, it is 0-90 in the 0-5 scoring system. Before calculating the total scores of 1, 5, 9, 13, 18 items must be reversed. Whichever scoring system is used, the total score is converted to 100 points. It is stated that the formula (the scale of the raw score-18) x100/90) should be used in order to convert the total points of the scale to 100.

The high score of the scale shows that the quality of sexual lifeis high. In this study, Cronbach's alpha coefficient was found as 0.82.The data have been obtained by a researcher from the outpatient women after they have finished their procedure in the polyclinic in an setting by creating a suitable environment.

The woman verbally informed of the study by the research. Those who gave verbal consent were included in the study. No participants refused to take part in this study.

Data collection took an average of 15-20 minutes. Written consent was obtained from the ethics committee of Selcuk University, Faculty of Medicine and chief physician of the hospital before starting the study. After the women who were suitable to the criteria to be included in the study were informed about the study in accordance with informed consent, verbal permission was allowed.

Data Analysis

SPSS for Windows software was used for statistical analysis. As a result of the analysis of the dependent variable (Kolmogorov-Smirnov Z: 1.273, p: 0.078) parametric tests were applied as they comply with the normal distribution., points, percentage, mean, standard deviation, Student's t test, analysis of variance, Pearson correlation and multiple regression analysis were used in the evaluation of the data.

Results

The mean age of the women was 52.08 ± 5.45, and their spouses were 55.27 ± 6.26. Of the women, 90.3% were primary school graduates, 91.8% unemployed, 72.8% of spouses were primary school graduates, 64.6% of women perceived their income as moderate and 84.3% owned a nuclear family. The average score of women's sexual quality of life was determined as 61.87 ± 19.69 (Table 1).

Of the women, 60.4% were in postmenopausal period, 82.1% had problems during menopause, 80%, 6 of them had hot flashes, 71.6% defined the night sweats, % 64,9 were restlessness,% 58.2 was found to have insomnia.

Also, it was found that 57.1% of the women suffered from bone and joint pain, % 72 tiredness / fatigue, 51.9% complained frequent urination, 54.5% the increase in weight and 62.3% of urinary incontinence problem (Table 2).

The distribution of mean scores of SQLQ-F of women according to the introductory characteristics can be seen in Table 3. While the mean score of SQLQ-F of the women, whose husbands were primary school graduates, was 60.27 ± 18.72, the mean score of SQLQ-F of those who graduated from high school and higher education was found as 66.16 ± 21.64.

The difference between mean scores of SQLQ-F and the women whose spouses were high school and higher education graduates was statistically significant ($p<0,05$) (Table 3) .

The average score of SQLQ-F was 63.27 ± 19.51 in the women assessing their income as good and it was 55.94 ± 19.56 in the women regarding their income as poor. The difference between the perceived income and the mean scores of SQLQ-F was statistically significant ($p<0,05$).

There was no statistically significant ($p>0.05$) relation between the women's education, employment status, and family type and the mean scores of SQLQ-F (Table 2). The results of the analyzes revealed that the sexual quality of life scores of the women, who were in the postmenopausal period and had problems during menopausal period, were low and the difference was statistically significant ($p> 0.05$).

Also the mean sexual life quality scores of the women, who suffered from hot flashes, night sweats, irritability, insomnia, bone /

joint aches, tiredness / weakness, weight gain and urinary incontinence during menopausal period, were lower than of those who did not experienced such problems, and the difference was statistically significant ($p < 0.05$) (Table 4)

In the multiple regression analysis it was determined that the variables which had an impact on the sexual life quality in women during the climacteric period were the woman's age, income perception, insomnia and tiredness / weakness. ($p<0.05$).

It was established that spouse's age, monthly income, marriage duration, women's education, spouse's education, employment status, family type, problems experienced during menopausal period, hot flashes, night sweats, irritability, bone and joint pains, frequent urination, weight gain, and urinary incontinence problems did not affect the sexual life quality ($p>0.05$) (Table 5).

Table 1. Socio-demographic Characteristics of Women. N = 268

Socio-demographic characteristics	**Mean**	**SD**
Age	52.08	5.45
TheSpouse's Age	55.27	6.26
SQLS-F Score	61.87	19.69
Women'sEducational Level	**Number**	**Percent**
Elementaryschool	242	90.3
High School and up	26	9.7
Work		
Yes	22	8.2
No	246	91.8
The spouse's Educational Level		
Elementary school	195	72.8
High School and up	73	27.2
Family type		
Nuclear	226	84.3
Extended	42	15.7

Table 2. Distribution of Characteristics of Women in Climacteric Period N = 268

Climacteric period characteristics	Number	Percent
Climacteric period		
Premenopause	55	20.5
Menopause	51	19.0
Postmenopause	162	60.4
Distress of climactericperiod Problem		
Yes	220	82.1
No	48	17.9
Hot flashes		
Yes	216	80.6
No	52	19.4
Night sweating		
Yes	192	71.6
No	76	28.4
Restlessness		
Yes	174	64.9
No	94	35.1
Insomnia		
Yes	156	58.2
No	112	41.8
Bone and joint pain		
Yes	153	57.1
No	115	42.9
Tiredness / fatigue		
Yes	193	72
No	75	28
Frequent urination		
Yes	139	51.9
No	129	48.1
The increase in weight		
Yes	146	54.5
No	122	45.5
Urinary incontinence		
Yes	101	37.7
No	167	62.3

Table 3. Comparision of socio-demographic characteristics of women with SQLS-F Scale means. N=268

Socio-demographic characteristics	SQLQ-F X ± SS	Significance
Women's Educational Level		
Elementaryschool	61.15 ± 19.77	t: -2.001
High School and up	68.63 ± 17.91	p: 0.054
Work		
Yes	61.01 ± 24.78	t: -0.174
No	61.95 ± 19.23	p: 0.863
The spouse's Educational Level		
Elementaryschool	60.27 ± 18.72	t: -2.055
High School andup	66.16 ± 21.64	p: 0.042
Perceived Economic Status		
Good	63.27 ± 19.51	F: 2.407
Poor	55.94 ± 19.56	p: 0.019
Family type		
Nuclear	62.17 ± 19.23	t: 0.515
Extended	60.29 ± 22.19	p: 0.609

Table 4. Climacteric Period Characteristics of women with SQLS-F scales means.N= 268

Climacteric Period Characteristics	SQLQ-F X ± SS	Significance
ClimacteriumPeriod		
Premenapoz	68.06±19.41*	F:3.648
Menapoz	61.67±18.73	p:0.027
Postmenapoz	59.87±19.77	
Distress of climacteric period problem		
Yes	60.45 ± 19.98	t: -2.822
No	68.37 ± 17.05	p: 0.006
Hot flushes		
Yes	60.62 ± 20.19	t: -2.394
No	67.07 ± 16.69	p: 0.019
Night sweats		
Yes	60.14 ± 19.29	t: -2.265
No	66.25 ± 20.14	p: 0.025
Restlessness		
Yes	59.11 ± 19.45	t: -3.184
No	66.98 ± 19.22	p: 0.002
Insomnia		
Yes	58.71 ± 20.49	t: -3.235
No	66.28 ± 17.68	p: 0.001
Bone and joint pain		
Yes	59.11 ± 20.59	t: -2.735
No	65.55 ± 17.86	p: 0.007
Tiredness / fatigue		
Yes	58.65 ± 20.16	t: -4.940
No	70.16 ± 15.77	p: 0.000
Frequent urination		
Yes	60.29 ±19.53	t: -1.367
No	63.58 ±19.80	p: 0.173
The increase in weight		
Yes	58.91 ± 20.26	t: -2.745
No	65.41 ± 18.46	p: 0.006
Urinary incontinence		
Yes	58.10 ± 20.19	t: -2.426
No	64.15 ± 19.09	p: 0.016

*In the analysis by Tukey, ıt was determined that the women who were premenapozal period were in the group that caused the difference.

Table 5. SQLQ-F Determinants in Women of Climacteric Period on Multiple Regression Analysis (BackwardMethod).

Determinants of SQLQ-F **	Std. β	tvalue	pValue
Women's Age (years)*	-.522	-2.482	0.014
Economicstatus I (poor)	-7.153	-2.477	0.014
Insomnia I (yes)	-5.264	-2.223	0.027
Tiredness / fatigue I(yes)	-9.315	-3.552	0.000
R=0,359	R^2=0.129		

**Women's Age, spouse's age, monthly income were included in the regression analyses as continuous variables.*
***Determinants: Women's education, spouse's education, employment status, family type, problems experienced during menopausal period, hot flashes, night sweats, irritability, bone and joint pains, tiredness / fatigue, frequent urination, the increase in weight and urinary incontinence problems were used as dummy variables.*

Discussion

Menopause is a condition that brings many physical and psychological changes, and affects the sexual life quality of women. During this period, the woman's age, education, economic status, family structure, health status, good and bad habits, social relationships, sexual experiences development style, living conditions and cultural factors lead to individual differences in sexual life (Varma et al. 2005). In this study it was determined that while the average score of sexual life quality of women with high school and higher education increased, there was no statistically significant difference, and the average score of sexual life quality of women whose spouses were with high school and higher education were higher and the difference was statistically significant (Table 3)(Fahami et al. (2007) established in a study on 174 postmenopausal women that the rate of sexual dysfunction decreased as the women's and their spouses' level of education increased (Fahami et al. 2007). Jokinen et al. (2003) stated in their study that all menopausal symptoms including sexual dysfunction decreased significantly in women with higher level of education, and the women with low level of education suffered from depression more often that is one of the main reasons of sexual dysfunction and occurs during menopausal period (Jokinen et al. 2003).

Kharbouch & Şahin (2007) reported in their study that the life quality of the patients with lower level of education deteriorated in another four areas (p = 0.000 vasomotor, psychosocial, p = 0.000, physical 0.000, sexual, p = 0.000) (Kharbouch et al. 2007). Aslan (2008), Sing (2009) et al similarly reported sexual dysfunction to occur more frequent in the women with low level of education (Aslan et al. 2008, Singh et al. 2009). It can be said in accordance with these findings that women with high levels of education are better prepared for menopausal what it brings about. Furthermore, the sexual life quality of women is observed to decrease as the age increases. The decline in many physical and physiological functions with aging suggests that interest in sex decreases due to hormonal changes associated with menopause.

In the study group it was observed that the average score of SQLQ-F increased when the family's income level increased (Table 3). Also parallel to the findings, the sexual life quality of women, who rated their income as good, was found to be high. As a result of multiple regression analysis carried out in parallel to these findings, the women, who rated their income as bad, were found to be in the risk group in terms of the sexual life quality (Table 5). Similar to findings of study; Özerdoğan et al. (2009) have stated in their study that as the income of the family decreases, the incidence of sexual dysfunction increases (Özerdoğan et al.). Gerber et al. (2005) have reported in their study that life quality decreases in menopausal women with low-income, however, menopausal symptoms are more easily tolerated and consequently, fewer sexual dysfunctions occur in women with good economic condition (Gerber et al. 2005). It can be remarked in accordance with the findings of studies that the sexual life quality of the couples who have economic problems is negatively affected.

With the start of the climacterium period, depending on climacteric genital atrophy; besides the changes that occur such as frequent urination, urinary incontinence, Dyspareunia, vasomotor symptoms (hot flashes, night sweats, etc.), locomotor system problems (joint pain motion reduction in flexibility, bone fractures) occur. While the presence of these symptoms causes to lead more distressing climacteric period, they also affect the life quality of women (Li et al. 2000, Mishra et al. 2005).While the rate of troubles experienced during the climacteric period was high (82.1%) in the study, the average SQLQ-F (60.45 ± 19.98 years) was low (Table 2, Table 4). This shows that the problem increases with the menopause in the menopausal period and decreases towards the postmenopausal period (Table 4). In a study conducted by Aslan et al. (2008) it was found that the scores of sexual life quality of the women, who who thought that they had sexual problems (50%), and that menopause had negative effects on their sex lives (52%), were lower (Aslan et al. 2008).Similarly, in the study of Kömürcü & İşbilen (2011), the rate (71.1%) of the women, who thought sexuality was affected negatively, was lower in line with the sexual life quality scores (Kömürcü et al. 2011). According to these results, the quality of sexual life in postmenopausal women is affected more negatively than in the other periods.

Hot flashes and night sweats are the most common main symptoms of menopause (postmenopausal women 40 - 70%, surgical menopause from 75% to 90 occur). These symptoms that do not have potential risks cannot be based on any psychological basis (Dormire 2003, McVeigh 2005). Hot flashes and sweating affect the work and social life of women and they are examined since they cause difficulties and distress in their lives. In fact, because the health status most women desire is associated with menopause symptoms, it is affected by the additional certain ailments (Dormire 2003). In the study, the scores of sexual life quality of the women with hot flushes (80.6%) and night sweats (71.6%) were lower than of those who had no problems, and the difference was statistically significant (Table 2, Table 4). Tokuç et al. (2006) have stated that women experience menopausal symptoms cosiderably and consequently, the quality of life and physical and mental health states are negatively affected (Tokuç et al. 2006). Nappi & Nijland (2008) have reported that of the women 52% suffer from hot flashes, 44% insomnia, 37% mental fluctuations and 21% vaginal dryness during menopause (Nappi et al. 2006). Krajewska et al. (2007) reported in their study on the women over the age of 45 conducted in Belarus, Poland and Greece that most common symptoms of menopause complaint made by the women of three countries were hot flashes / sweats complaint (60% in Belarus, Poland 54.4% and Greece 70.6%) (Krajewska et al. 2007). Lima et al. (2012) have reported vasomotor symptoms and lack of physical activity to be associated with lower quality of life (Lima et al. 2012). Compared to the literature, the finding of research reveals the most frequently menopausal symptoms expressed by women to be generally similar. Also in this study, it has been determined that hot flashes and night sweats complaints have been experienced most.

The quality of sleep is severely affected due to night sweats felt and hot flashes resulting

from changes in the structure of steroids in menopausal women. In addition to the complaint of insomnia at this stages of women's lives, when the impact of internal and external stressors are added , symptoms such as fatigue, exhaustion, loss of libido, feeling sad, crying for no reason, emotional swings are experienced as a result of insomnia (Xu et al. 2005). Sleep is the fundamental and inalienable requirement of human life. Sleep is composed of two main sections; Delta sleep (deep sleep, the section in which your body rests) and REM (rapid eye movements section, spiritual relaxation). The first half of the night is rich in delta sleep and in REM sleep in the second half. it is observed that total sleep time decreases gradually with increasing age, becomes superficial and seems to be intermittent. It has been revealed that while 7-hour sleep is considered normal after the age of 45, delta sleep extremely decreases after the age of 60. Especially with the addition of menopause due to hormonal withdrawal during these years, the complaints of restlessness, insomnia and tension increase are observed in women (Şahin 1998).The average SQLQ-F of the women experiencing unrest (64.9%) and insomnia (58.2%) was lower than those who do not experience them, and the difference between them was significant (Table 2, Table 4). In the study, the rate of tiredness / weakness, and fatigue experience is 72%, and the average SQLQ-F of the women, who complain of fatigue/weakness, was lower and the difference was significant (Table 2, Table 4). Moreover, it was found that insomnia, fatigue / malaise condition are risk factors in reducing the quality of sex life in women (Table 5). Poor sleep quality will lead to fatigue and weakness in woman, and this will affect the quality of sex life considerably.

Especially in advanced societies, urinary incontinence is the most common problem with the increasing elderly population (Aslan et al. 2001). However, the problem of urinary problem should not be confused with incontinence in postmenopausal women. Urethra and vagina develop from urogenital sinus, they deprive of constructive hormonal effects as a result of rapid withdrawal of estrogen during the menopausal transition period. In this study, the problems of frequent urination and urinary incontinence seemed to have increased with menopause. Furthermore, the average SQLQ-F was lower in the women with the problems of frequent urination and urinary incontinence (Table 2, Table 5). This state can be attributed to both the loss of sphincter control as a result of aging and hormonal changes during the climacteric period. Because it was observed that also bone / joint pain increased in addition to frequent urination and urinary incontinence in menopausal period, and the mean SQLQ-F was lower in the women with these complaints (Table 4).

As a result, the sexual life quality of women is adversely affected in the climacteric period, and this problem also increases with postmenopausal period. It can be suggested that when the health care professionals engaged in this field evaluate women in the climacteric period. The health care professionals should be aware of the problems that could affect the quality of sexual life and providing appropriate counseling service. A checklist of climacteric problems could be developed for woman's sexuality and those was steered a specialist by the nurse or doctor. Additionally, future research could investigate to relationship between climacteric problem and sexual problems, psychiatric disorders, and perceived quality of marriage.

Acknowledgments

The authors would like to thank the Selcuk University Scientific research project division for their financial help for the representation of this study in the 18th World Congress on Controversies in Obstetrics, Gynecology & Infertility (COGI), Vienna, Austria, 24-27th October 2013 (http://www.congressmed.com/cogi)

References

Abdo C.H., Oliveira J.W. (2004) Prevalence of sexual dysfunctions and correlated conditions in a sample of Brazilian women-results of the Brazilian study on sexual behaviour. Int J Impot Res. doi:10.1038/sj.ijir.3901198

Aslan H., Kömürcü N., Gençalp N.S., Eryılmaz H.Y., Engin F., Ekşi Z., Can Ö. (2001) Investigating urinary incontinence patients coping with their illness. Hemşirelik Formu Dergisi 4(6): 15-19 (in Turkish).

Aslan E., Poçan G.A., Dolapçıoğlu K., Savaş N., Bağış T. (2008) The influence of hormonal status and socio-cultural determinants on postmenopausal sexual dysfunction. J Turk Soc Obstet Gynecol 5(4): 263-268 (in Turkish).

Berterö C. (2003) What do women think about menapouse? A qualitative study of women's expectations, apprehensions and knowledge about the climacteric period. International Nursing Review doi: 10.1046/j.1466-7657.2003.00185.x

Carda N.S., Bilge A.S., Öztürk T.N., Oya G., Ece O., Hamiyet B. (1998) The menapousal age, related factors and climacteric symtomps in Turkish women. Maturita. doi:10.1016/S03785122(98)00041-3

Deeks A.A. (2003) Psycological aspects of menapouse management. Best Pract Res Clin Endocrino lMetab. doi:10.1053/ybeem.2003.232

Dormire S.L. (2003) What we know about managing menopausal hot flashes: navigating without a compass. JOGNN doi: 10.1177/0884217503255069

Fahami F., Beygi M., Zahraei R.H., Arman S. (2007) Sexual dysfunction in menopausal women and the socioeconomic state. Iran J Nurs Midwifery Res 12(2): 61-64

Gerber J.R., Johnson J.V., Bunn J.Y., O' Brien S.L. (2005) A longitudinal study of the effects of free test osterone and other psychosocial variables on sexual function during the natural traverse of menopause Fertil Steril. doi:10.1016/j.fertnstert.2004.08.028

Gonçalves R., Merighi M.A.B. (2009) Reflections on sexuality during the climacteric. Rev Lat Am Enfermagem. http://dx.doi.org/10.1590/S0104-11692009000200004

Guimarães A., Baptista F. (2011) Influence of habitual physical activity on the symptoms of climacterium/ menapouse and the quality of life of middle-aged women. Int J Womens Health. http://dx.doi.org/10.2147/IJWH.S24822

Hakimi S., Mirghafurvand M., Seiiedin S.A. (2010) Comparative study of climacteric symptomps in perimenopausal and postmenopausal women in Tabriz, Islamic Republic of Iran. East Mediterr Health J. **16** (11), 1165-1169

Jokinen K., Rautava P., Mäkinen J., Ojanlatva A., Sundell J., Helenius H. (2003) Experience of climacteric symptoms among 42-46 and 52-56-year-old women. Maturitas doi:10.1016/S0378-5122(03)00216-0

Kharbouch S.B., Şahin N.H. (2007) Determining the quality of life in menopausal period. İ.Ü.F.N. Hem. Derg. **15** (59), 82-90 (in Turkish).

Kömürcü N., İşbilen A. (2011) Adaptation of women to sexual life during the postmenopausal period. Turkish Journal of Urology doi:10.5152/tud.2011.063

Krajewska K., Krajewska-Kulak E., Heineman L., Adraniotis J., Chadzopulu A., Theodosopoyloy E. (2007) Comparative analysis of quality of life women in menopause period in Poland, Greece and Belorussia using MRS scale, preliminary report. Adv Med Sci 52(1): 140-143

Li S., Holm K., Gulanick M., Lanuza D. (2000) Perimenopause and the quality of life. Clin Nurs Res doi: 10.1177/105477380000900102

Lima J.E.M., Palacios S., Wender M.C.O. (2012) Quality of Life in menopausal women: a Brazilian Portuguese version of the Cervantes scale. Scientific World Journal. doi: 10.1100/2012/620519

Mattar C.F., Chong Y.S., Su L.L., Agarwal A.A., Wong P.C., Choolani M. (2008) Care of women ın menapouse: sexual function, dysfunction and therapeutic modalities. Ann Acad Med Singapore. **37**, 215-223

Mc Veigh C. (2005) Perimenopause: more than hot flushes and night sweats for some Australian women. J Obstet Gynecol Neonatal Nurs doi: 10.1177/0884217504272801

Mishra G., Kuh D. (2006) Perceived change in quality of life during the menopause. Soc Sci Med doi:10.1016/j.socscimed.2005.05.015

Nappi R.E., Nijland E.A. (2008) Women's perception of sexuality around the menopause: outcomes of a European telephone survey. Eur J Obstet Gynecol Reprod Biol. doi:10.1016/j.ejogrb.2006.10.036

Nobre P.J., Pinto-Gouveia J. (2006) Emotions during sexual activity: differences between sexually functional and dsyfunctional men and women. Arch Sex Behav. doi:10.1007/s10508-006-9047-1

Özerdoğan N., Sayıner F.D., Köşgeroğlu N., Ünsal A. (2009) The Prevalence of Sexual Dysfunction and Depression and Other Factors Associated in Women 40 to 65 Years Old. Maltepe Üniversitesi Hemşirelik Bilim ve Sanat Dergisi 2(2): 46-59 (in Turkish).

Pachman R.D., Jones J.M., Loprinzi C.L. (2010) Management of menapouse- associated vasomotor symptoms: current treatment options, challenges and future directions. Int J Womens Health. http://dx.doi.org/10.2147/IJWH.S7721

Palacious S., Tobar A.C., Menendez C. (2002) Sexuality in the climacteric years. Maturitas. http://dx.doi.org/10.1016/S0378-5122(02)00150-0

Pedro A.O., Pinto-Neto A.M., Costa-Paiva L.H., Osis M.J., Hardy E.E. (2003) Climacteric syndrome: a population based study in Campinas. Rev Saude Publica. http://dx.doi.org/10.1590/S0034-89102003000600008

Schneider H.P.G. (2002) The quality of life in the post menopausal woman. Best Prac Re Clin Obstet Gynaecol. doi:10.1053/beog.2002.0289

Singh J.C., Tharyan P., Kekre N.S., Singh G., Gopalakrishnan G. (2009) Prevalence and risk factors for female sexual dysfunction in women attending a medical clinic in South India. J Postgrad Med. doi: 10.4103/0022-3859.52842

Symonds T., Boolell M., Quirk F. (2005) Development of questionnare on sexual quality of life in women. J Sex Marital Ther http://dx.doi.org/10.1080/00926230591006502

Tokuç B., Kaplan P.B., Balık G.Ö., Gül H. (2006) Trakya University Hospital quality of life in women attending menopause clinic. Uzmanlık Sonrası Eğitim ve Güncel Gelişmeler Dergisi. **3**(4), 281-287 (in Turkish).

Tortumluoğlu G., Erci B. (2004) The Effectiveness Of Planned Health Education Given To Climacteric Women On Menopausal Sypmtoms, Menopausal Attitude and Health Behaviours Atatürk Üniv. HYO Dergi. **7**(2), 48-58 (in Turkish).

Tuğut N., Gölbaşı Z. (2010) The woman's sexual quality of life scale-reliability and validity of the Turkish version. Cumhuriyet Med J. **32**(2), 172-18. (in Turkish).

Vanwesenbeeck T., Vemix P., Wiel H. (2001) Menapousal symptomps associantions with menapousal status and pysychosocial factors. J psychosom Obstet Gynaecol, **22**:149-158 .

Varma S.G., Oğuzhanoğlu N.K., Karadağ F., Özdel O., Amuk T. (2005) The relationship between anxiety and depression levels and sexual satisfaction in natural and surgical menopause. Clinical Psychiatry **8**(3):109-111 (in Turkish).

Women and Health. Today's Evidence Tomorrow's Agenda. WHO library Cataloguing-in-Publication. (2009).

Xu J., Bartoces M., Neale A.V., Dailey R.K., Northrup J., Schwartz K.L. (2005) Natural History of menopause symptoms in primary care patients: a metronet study. J Am Board Fam Pract doi: 10.3122/jabfm.18.5.374

Yurdakul M., Eker A., Kaya D. (2007) Evaluation of quality of life in women with menopausal period. F.Ü. Sağ Bil Tıp Derg. **21**(5), 187-193. (in Turkish).

Yee L.A., Sundquist K.J. (2003) Older women's sexuality. Med J Aust. **178** (16), 640-642