

Evaluation of the Relationship Between Sexual Dysfunction and Quality of Life in Infertile Couples

İnfertil Çiftlerin Cinsel Disfonksiyon Yaşama Durumları ve Yaşam Kalitelerinin Değerlendirilmesi

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Geliş Tarihi/Received: 14.06.2008
Kabul Tarihi/Accepted: 11.09.2008

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ABSTRACT Objective: To determine the effect of sexual dysfunction, infertility and quality of life in infertile couples. **Material and Methods:** This study, designed as a descriptive and analytical study, was conducted at the in vitro fertilization unit of a University Hospital. Study groups consisted of 38 couples who were diagnosed as infertile and received assisted reproduction treatment. Necessary permissions were granted by the university ethics committee. An individual-specific questionnaire, Index of Female Sexual Function (IFSFS) and International Index of Erectile Function (IIEF) questionnaires and for the purpose of determining quality of life, WHOQOL-BREF-Tr scale, which was adapted to Turkey by the WHO were used. **Results:** Decreases in both sexual activity and quality of life were more evident in women than in men. In this study, the average IFSF score for women was 29.47 ± 8.89 , while the men had an IIEF score of 61.32 ± 14.80 . When infertile couples were evaluated based on WHOQOL-BREF-Tr sub-scales and sub-dimensions, there were no statistically meaningful differences between the partners in terms of physical health points. Psychological and social comfort in woman may positively affect their sexual functioning. It is obvious that female sexuality is affected by environmental factors. Psychological health points in men was found statistically significantly higher and meaningful than in women ($p < 0.01$). **Conclusion:** Our findings show that psychological and social problems affect women's sexual functions. In summary, women's sexuality is more affected by the environmental factors. In the light of these findings, in comparison to men, there is more decrease in sexual function and life quality infertile women.

Key Words: Infertility, female, quality of life, sexual dysfunctions, psychological, female, male

ÖZET Amaç: İnfertilite sorunu yaşayan çiftlerde infertilite, cinsel disfonksiyon ve yaşam kalitesi ilişkisini belirlemek amacıyla planlanmıştır. **Gereç ve Yöntemler:** Çalışma İstanbul'da bir üniversite hastanesinin IVF ünitesinde yapılmıştır. İnfertilite tanısı konulan ve yardımcı üreme tekniğinden yararlanan 38 çift çalışma grubuna alınmıştır. Gerekli izinler üniversite etik kurulu tarafından verilmiştir. Çalışmada bireylere özgü anket formu, Kısa Seksüel Fonksiyon İndeksi Envanteri (IFSFS), Ereksiyon İşlevi Uluslararası Değerlendirme Formu (IIEF) ve yaşam kalitesini değerlendirmek amacıyla Dünya Sağlık Örgütü formunun Türkiye uyarlaması WHOQOL-Bref-Tr ölçeği kullanılmıştır. **Bulgular:** Kadınların cinsel aktivite ve yaşam kaliteleri erkeklere oranla daha düşüktür. Çalışmamızda infertil kadınların ortalama IFSF puanı 29.47 ± 8.89 iken, erkeklerin ortalama IIEF puanı 61.32 ± 14.80 olarak bulunmuştur. İnfertil çiftler WHOQOL-BREF-TR ölçeği alt boyutlarına göre değerlendirildiğinde ise; eşler arasında bedensel alan puanları arasında istatistiksel olarak anlamlı farklılık görülmemektedir ($p > 0.05$). Erkeklerin ruhsal alan puanları kadınlara göre anlamlı düzeyde yüksek bulunmuştur ($p < 0.01$). Bizim bulgularımıza göre, ruhsal ve sosyal problemler kadınların cinsel fonksiyonlarını oldukça etkilemektedir. **Sonuç:** Özetle, kadın cinselliği çevresel faktörlerden daha fazla etkilenmektedir. Bu sonuçlar doğrultusunda, infertilite sorunu yaşayan çiftlerde cinsel fonksiyon ve yaşam kalitesinde erkeklere oranla infertil kadınlarda daha belirgin azalmalar olduğu söylenebilir.

Anahtar Kelimeler: İnfertilite, kadın, yaşam kalitesi, cinsel disfonksiyon, kadın, erkek

Sexual dysfunction, the diagnosis of which is based on decreased desire for sexual activity and problems in the sexual response pathway, can appear due to psychological and physiological changes, and is a common serious health problem in men and women negatively affecting quality of life and relationships with the opposite sex.¹⁻⁴ For many couples, particularly for the women, infertility is experienced as a crisis and a life failure.⁵ Studies on gender differences in psychological reactions to infertility have shown that women report a higher degree of anxiety, depression, and loss of self-esteem compared with their partners.⁶

Development of sexual dysfunction symptoms may be affected by age, sex, education level, chronic diseases, birth, menopause, and infertility.^{1,3,4} Between infertility and sexual dysfunction a two-way relationship may be considered. As with problems concerning sexual activity, a diagnosis of infertility may cause sexual dysfunction.⁷⁻¹⁰ Sexual dysfunction related to infertility is generally pinpointed during the search for the cause of infertility. Because sexual dysfunction can emotionally affect marriages and decrease individuals' self-confidence, it will also affect quality of life. According to the World Health Organization (WHO), quality of life is determined by physical and psychological health, social relationships, and environment. It also includes how people feel about their own health and how well they can carry out their daily activities. The most significant parameters related to disease specific quality of life are sexuality, quality of the relationship between couples, and psychological wellness.¹¹ It is thus definitely true that sexuality is an important communication tool for couples, and problems concerning sexuality may negatively affect both sexes. Nene et al., in a study with infertile couples, found that because couples are reluctant to admit to be experiencing sexual dysfunction they prefer to be called infertile.¹² According to current WHO guidelines (2002), the international challenge is to aim at improving the quality of life (QoL) of infertile couples through increasing the accessibility of assisted reproduction procedures on the one hand and through ensuring psychological intervention to alleviate the negative influence of infertility on both women and men.⁵

Thus, it is beneficial to consider couples' sexual history, establish a professional relationship with them, and support them with sexual therapy during the course of infertility treatment.⁸ Along with the problems of sexual nature, consideration of the quality of life of infertile couples may help to improve the known therapy techniques and develop new ones.

MATERIAL AND METHODS

RESEARCH TYPE

The present study was planned to describe relationships between infertility and sexual dysfunction and examine the effects of infertility on quality of life.

GROUPS AND SAMPLING

The study was performed between 20 September 2005 and 30 December 2005 at a university hospital in Istanbul with an in vitro fertilization unit (IVFU) under the ethical guidelines determined by the university. Couples who applied to the IVFU were the subjects of this study. Out of 57 couples who applied to the infertility clinic, only 42 of them were found to be suitable for this study and were interviewed. Two couples later decided not to participate in the study and thus were dropped out. The couples have been left out from the study diabetes mellitus.

DATA COLLECTION TOOLS

The questionnaire used was the Index of Female Sexual Function (IFSF), developed by Kaplan et al. and consisting of nine questions to evaluate female sexual function. The reliability of IFSF was tested by Ayseckin and Eryilmaz (Cronbach alpha 0.82). IFSF covered six aspects including lubrication, clitoral sensation, active orgasm ability, satisfaction with sexual function, and general satisfaction.¹³ To evaluate sexual functionality in men, IIEF, developed by Rosen et al. translated into 32 languages, tested for reliability and adapted to Turkish by the Anthology Society, was used. IIEF consisted of 15 questions. It evaluated male sexual function, sexual desire, erectile function, orgasmic function, satisfaction during sexual intercourse, and general satisfaction.¹⁴

To determine the quality of life of the couples included in this study, WHOQOL-BREF-Tr scale, which was developed by WHO and consisted of 27 questions, was used. The scale included five domains, i.e. physical health, psychological, social relationships, environment, and national environmental fields.¹⁵

DATA COLLECTION

The data were collected between 20 September 2005 and 30 December 2005 by the authors using the above mentioned questionnaires. Before the questionnaires were given to the couples, they were informed that participation in the study was voluntary and they would not be held responsible or penalized because of their answers.

The couples were also assured that their participation in the study would not affect their treatment or care. An informed consent form was filled out by all the couples.

STATISTICS

For statistical analysis, SPSS for Windows 10.0 was used. For descriptive statistical methods (average standard deviation), one-way ANOVA and Student's

t tests were used to compare the normal distribution of the parameters among the groups. To compare the parameters that did not show a normal distribution, Kruskal-Wallis and Mann-Whitney U tests were used. Relationships between the scales were evaluated with Pearson and Spearman correlation analysis. Results were obtained within the 95% confidence interval and with a p value of < 0.05.

RESULTS

The ages of the subjects who participated in this study were between 20 and 47, with an average of 32.4 ± 5.6 (for females 30.47 ± 5.8 and for males 33.9 ± 4.9). According to the subjects' sociodemographic characteristics, 60.5% of the women had been educated to elementary school graduates and 39.5% of the men had been graduated from high school. All the men had jobs and 78.9% of the women were housewives. 57.9% of the couples had been married for six years or longer. When smoking was examined as a risk factor for infertility, 47.4% of the men and 21.1% of the women were smoking. Alcohol use was quite low in couples. Eighty-four percent of the couples had benefited from one assisted reproduction technique and 13.1% from two or more (Table 1).

TABLE 1: Distribution of demographic properties of couples who participated in this study

Demographic data		Men		Gender		Total	
		n	%	n	%	n	%
Education	Primary-secondary	12	31.6	23	60.5	35	46.05
	High school	15	39.5	10	26.3	25	32.9
	College	11	28.9	5	13.2	16	21.05
Occupation	Not working	-	-	30	78.9	30	39.5
	Clerk	17	44.7	7	18.4	24	31.6
	Worker	12	31.6	-	-	13	17.1
	Self-employed	9	23.7	1	2.6	9	11.8
Times of marriage	1	37	97.4	38	100.0	75	98.7
	2	1	2.6	-	-	1	1.3
Duration of marriage	3 to 5 years	16	42.1	16	42.1	32	42.1
	6 years or more	22	57.9	22	57.9	44	57.9
Smoking	Yes	18	47.4	8	21.1	26	34.2
	No	19	50.0	29	76.3	48	63.2
	Quit smoking	1	2.6	1	2.6	2	2.6
Alcohol	Yes	2	5.3	9	23.7	11	14.5
	No	33	86.8	29	76.3	62	81.6
	Quit drinking	3	7.9	-	-	3	3.9
Total		38	100.0	38	100.0	76	100.0

The average IFSF score for women was 29.47 ± 8.89 while the men had an average IIEF score of 61.32 ± 14.80 (Table 2).

There was no statistically significant difference ($p > 0.05$) between the IIEF scores of infertile men and IFSF scores of infertile women. Eighth of the couples were experiencing sexual dysfunction, while 20 of the couples had normal sexual lives (Table 3).

During infertility treatment, couples often encounter questions related to their financial status, psychology, sexual desire/satisfaction, family, friends, and work life. These questions negatively affect their quality of life. No statistically significant differences were observed ($p > 0.05$) among infertile couples when they were evaluated based on the physical domain of the WHOQOL-BREF scale. Men had much higher psychological domain scores than women ($p < 0.01$) (Table 4).

Statistically, no significant difference was observed ($p > 0.05$) in terms of the age distribution of women and the IFSF questionnaire (orgasm, lubrication, sexual desire, sexual satisfaction, clitoral sensitivity, and general satisfaction) and WHOQOL-BREF (physical health, psychological, social relationships, environment, and national environmental domains).

TABLE 2: Distribution of sexual dysfunction in infertile women and men

	Mean	SD
Infertile women (ISFS Scores) n= 38		
Lubrication	4.18	1.41
Orgasmic function	3.29	1.48
Sexual desire	5.71	1.57
Sexual satisfaction	6.79	2.82
Clitoral sensitivity	3.00	0.93
General satisfaction	6.50	2.45
Total	29.47	8.89
Infertile men (IIEF Scores) n= 38		
Erectile dysfunction	26.05	5.84
Orgasmic function	8.92	2.75
Sexual desire	7.47	1.52
Sexual satisfaction	10.76	3.64
General satisfaction	8.11	2.62
Total	61.32	14.80

TABLE 3: Evaluation of sexual dysfunction of infertile men and women based on sexual dysfunction scale.

		Infertile woman		p
		Sexual dysfunction	Normal	
Infertile men	Sexual dysfunction	8 (21.1%)	4 (10.5%)	0.704*
	Normal	6 (15.8%)	20 (52.6%)	NS

* McNemar test.

TABLE 4: Evaluation of WHOQOL-BREF scale based on gender.

	Gender				p*
	Male		Female		
	Mean	SD	Mean	SD	
Physical health	15.71	1.94	15.90	2.00	0.399 NS
Psychological health	13.96	1.95	14.60	2.04	0.005** Significant
Social relationships	14.52	2.60	14.28	2.70	0.432 NS
Environment	13.67	1.72	13.59	2.04	0.739 NS
National environment domain	13.95	1.64	13.83	1.90	0.596 NS

Moreover, no significant difference was observed between the IFSF questionnaire (orgasm, lubrication, sexual desire, sexual satisfaction, clitoral sensitivity, and general satisfaction) and WHOQOL-BREF (physical health, psychological, social relationships, environment, and national environmental domains) ($p > 0.05$) based on the education level, years of marriage, or number of times assisted reproduction treatment was received.

There was no significant relationship between physical domains and WHOQOL-BREF scale domains scores, lubrication, orgasmic function, sexual desire, sexual satisfaction, clitoral sensitivity, or general satisfaction ($p > 0.05$). Between psychological domain scores and lubrication ($p < 0.05$), orgasmic function ($p < 0.05$), sexual desire ($p < 0.01$), sexual satisfaction, ($p < 0.01$) and clitoral sensitivity ($p < 0.01$), there was a significant positive relationship an increase in one of them was reflected as an increase in the other.

Between psychological domain scores and lubrication, sexual desire, sexual satisfaction and general satisfaction score was a statistically significant relationship at an level ($p < 0.01$). There was also a significant relationship between clitoral sensitivity score advanced level ($p < 0.01$).

In women, when WHOQOL-BREF-Tr test scores were considered, there was a positive significant relationship between environmental domain/national environmental domain score and lubrication ($p < 0.05$). Similarly, a positive significant relationship between environmental domain/national environmental domain score and sexual desire was also observed ($p < 0.01$). There was a positive relationship between clitoral sensitivity and general satisfaction scores, as well as between clitoral sensation/general satisfaction score and environmental domain score ($p < 0.001$).

A significant relationship was found between clitoral sensitivity score and national environmental domain score ($p < 0.001$)/ general satisfaction score ($p < 0.01$) as well.

No relationship was found when orgasmic function plus satisfaction during sexual intercourse were compared with environmental plus national environmental domain scores ($p > 0.05$) (Table 5).

In men, there was no significant relationship between WHOQOL-BREF-Tr domains physical he-

alth and erectile dysfunction/sexual satisfaction/orgasm/sexual desire scores ($p > 0.05$). There was, however, a significant relationship between general satisfaction score and physical health/psychological domain scores of the quality of life scale. Although there was a significant relationship between total scale score and psychological score ($p < 0.05$), the relationship failed to hold between total scale score and physical health domain score ($p > 0.05$).

Between social relationships points and erectile function/sexual desire scores there was a positive relationship at the level of $p < 0.05$. With sexual satisfaction, general satisfaction total scale scores/social relationships score, a positive and significant relationship was found at an advanced level ($p < 0.01$). Between orgasmic function and social relationships score there was no significant relationship ($p > 0.05$).

Between sexual desire and environment domain significant relationship ($p < 0.001$). Sexual satisfaction and national environmental scores significant relationship (Table 6).

DISCUSSION

In this study, the average IFSF score for women was 29.47 ± 8.8 , while the men had an IIEF score of 61.32 ± 14.80 . Manoj et al. reported an IIEF score of 25.00 ± 6.23 for infertile men. Nelson et al. reported the average FSFI score was 28 ± 7 (maximum

TABLE 5: Comparison of WHOQOL-BREF scale with IFSF domains scales.

	WHOQOL-BREF				
	Physical health	Psychological health	Social relationships	Environment	National environment domain
Lubrication	$r = 0.021$ $p = 0.391$	$r = 0.006$ $p = 0.014^*$	$r = 0.270$ $p = 0.003^{**}$	$r = 0.454$ $p = 0.016^*$	$r = 0.615$ $p = 0.007^*$
Orgasmic function	$r = 0.024$ $p = 0.151$	$r = 0.224$ $p = 0.016$	$r = 0.452$ $p = 0.001^{**}$	$r = 0.04$ $p = 0.226$	$r = 0.036$ $p = 0.253$
Sexual desire	$r = 0.133$ $p = 0.232$	$r = 0.452$ $p = 0.003^{**}$	$r = 0.564$ $p = 0.007^{**}$	$r = 0.455$ $p = 0.007^{**}$	$r = 0.025$ $p = 0.003^{**}$
Sexual satisfaction	$r = 0.076$ $p = 0.047$	$r = 0.316$ $p = 0.005^{**}$	$r = 0.436$ $p = 0.001^{**}$	$r = 0.094$ $p = 0.235$	$r = 0.038$ $p = 0.120$
Clitoral sensitivity	$r = 0.094$ $p = 0.030^*$	$r = 0.035$ $p = 0.001^{**}$	$r = 0.064$ $p = 0.001^{**}$	$r = 0.341$ $p = 0.024^*$	$r = 0.421$ $p = 0.007^{**}$
General satisfaction	$r = 0.076$ $p = 0.276$	$r = 0.367$ $p = 0.024^*$	$r = 0.341$ $p = 0.012^*$	$r = 0.243$ $p = 0.030^*$	$r = 0.332$ $p = 0.010^*$

** $p < 0.01$, * $p < 0.05$, $r =$ Pearson correlation coefficient

TABLE 6: Comparison of scores of subdomains of IIEFF with WHOQOL-BREF-TR scale in men

	WHOQOL-BREF				
	Physical health	Psychological health	Social relationships	Environment	National environment domain
Erectile dysfunction	r= 0.247 p= 0.091	r= 0.202 p= 0.005*	r= 0.336 p= 0.032*	r= 0.232 p= 0.053	r= 0.083 p= 0.079
Orgasmic function	r= 0.213 p= 0.190	r= 0.089 p= 0.069	r= 0.131 p= 0.225	r= 0.043 p= 0.211	r= 0.039 p= 0.234
Sexual desire	r= 0.018 p= 0.409	r= 0.228 p= 0.002*	r= 0.254 p= 0.001	r= 0.244 p= 0.035	r= 0.027 p= 0.310
Sexual satisfaction	r= 0.039 p= 0.233	r= 0.153 p= 0.001*	r= 0.338 p= 0.001**	r= 0.217 p= 0.135	r= 0.197 p= 0.056
General satisfaction	r= 0.055 p= 0.047*	r= 0.166 p= 0.011*	r= 0.279 p= 0.001**	r= 0.057 p= 0.148	r= 0.065 p= 0.121

**p<0.01, *p<0.05, r: Pearson correlation coefficient.

score of 36), with 26% of the women scoring below 26.55, an established cut-off for high risk of female sexual dysfunction. In this study, FSFI scores had a modest positive correlation with male IIEF scores ($r= 0.37$, $p< 0.01$).¹⁴ In our study, according to the IFSF scale, infertile women had problems with clitoral sensitivity and orgasmic function. Manoj et al. similarly reported orgasm problems based on the sexual functioning for woman (BISF-W) scale. Based on their respective IIEF or IFSF scores, 31.6% of men and 36.8% of women had sexual dysfunction.¹⁵

The study by Lee et al. examined the effect of diagnosis of infertility on marriages and sexual satisfaction in China and reported that women had less sexual satisfaction than men. Our findings support the findings reported by Lee et al. by restating that women experience sexual dysfunction more often than men.¹⁰

Jain et al. studied infertile couples to describe the relationships between psychosexual diseases and infertility in India and found that the most common problems men experience were premature ejaculation (60%), followed by decreased libido (11%), erectile dysfunction (10%), and orgasmic dysfunction (8%). Most women, however, experience dyspareunia (58%), followed by decrease in libido (18%), and problems with orgasm (14%).¹⁷ In the present study, 31.6% of men experienced erectile dysfunction and 34.2% of women experienced dyspareunia.

In some societies, individuals have difficulty in accepting their sexual function disorders due to cultural pressure. In such cases, it is much easier for them to accept the diagnosis of sexual infertility over that of any other sexual disorder. Nene et al. studied 40 couples who were infertile and had sexual disorders in India and found that the couples preferred the word infertile over any other word used to describe sexual disorders.¹²

No significant difference was observed on the scale based upon gender, whether the scale was social, national, or national environmental. This result may indicate that the quality of life of couples was similarly affected by social relationships, environment, and national environment factors. However, within infertile couples, the quality of life of women was more affected by the consequences of infertility.^{16,18-20}

Manoj et al. examined the effect of voluntary surgical sterilization and infertility on quality of life and showed that infertile women had lower scores than sterilized women although there was no difference between infertile men and sterilized men.¹⁶ In a study to investigate the effect of infertility on marriages in Nigeria,¹⁶ it was shown that 38.9% of the marriages ended in divorce due to the belief that the infertility was the women's fault. Family members of infertile couples are among the most important factors (78.3%) encouraging the divorce of infertile couples.¹⁹

Kyata et al. determined that age, the type of marriage (monogamy or polygamy), and woman-based infertility affects the quality of life of infertile women more than any other factor in the United Arab Emirates. However, the woman's sex life is not affected by infertility.²¹

Ragni et al. found higher scores for quality of life in men than in women. No significant difference was observed in men's case when age distribution with IIEF domain scores (such as scores for erectile dysfunction, sexual desire, orgasmic function, sexual satisfaction, and general satisfaction) and WHOQOL-BREF scale domain scores (such as scores physical health, psychological, social relationships, environment, and national environmental domains) were compared ($p > 0.05$). When WHOQOL-BREF and IIEF scale domain scores were compared, no significant differences were found between physical health and general satisfaction ($p < 0.05$), and psychological health (erectile dysfunction, sexual desire, sexual satisfaction and general satisfaction), social relationship, relationship (erectile dysfunction sexual desire, sexual satisfaction, general satisfaction), environment and sexual desire, national environment and sexual satisfaction.

There was no significant difference between sexual index sub-scores and WHOQOL-BREF scale domains ($p > 0.05$) when education level, year of marriage, and smoking were considered. Ragni et al. studied 1000 infertile couples and found that the duration of infertility and the use of fertility-assisted reproduction treatment negatively affected quality of life.²⁰

In some studies, it was found that men had low self esteem, anxiety, isolation, shyness, and inadequacy in sexual function as much as women if the men were the reason for the infertility.¹⁰

El-Messiedi et al. studied infertile couples to determine the effects of failed infertility treatments on quality of life and compared infertile couples who had never received fertility treatment with infertile couples who had received help to treat infer-

tility and with couples who had had at least one child after infertility treatment. According to their findings, life quality points were statistically significant and higher in couples who had had at least one child after infertility treatment ($p < 0.01$). The authors failed to show a significant difference between couples who had received help to treat infertility and couples who had never received treatment for infertility ($p > 0.05$).²²

Droszol et al. determined in their study, quality of life (QoL) parameters in all categories were generally lower for infertile women than for those of the control group (*Short Form-36 Health Survey*). Clinical sexual dysfunctions were not significantly more common among infertile than fertile women (17.5% versus 12.1%, $p = 0.13$). The risk groups for decreased QoL are infertile women and older subjects with lower education and occupationally inactive. Clinically relevant sexual disorders in the infertile population most frequently affect older men, with a lower educational level and with previously diagnosed male infertility.⁵

According to our findings, psychological and social comfort in woman may positively affect their sexual functioning. Based on our findings it is obvious that female sexuality is affected by environmental factors. Therefore, it may be concluded that feeling psychological alive may positively affect sexual functioning in men.

CONCLUSIONS

Our study show that psychological and social problems affect womens sexual functions. In summary, women's sexuality is more affected by the environmental factors. In the light of these findings, in comparison to men, there is more decrease in sexual function and life quality infertile women.

Acknowledgements

We wish to thank Dr. Koray Elter for allowing us to use hospital facilities. We also wish to acknowledge our statistics expert Emire Bor and Assis. Prof. Dr. Murat Kasap for editing our article.

REFERENCES

1. Akın S. Sexual Dysfunction Epidemiology. *Andrology Bulletin* 2004;18:264-5.
2. Moynihan R. Creating a disease: The making of a disease: female sexual dysfunction. *BMJ* 2003;326: 45-7.
3. Ramage M. Female sexual dysfunction. *Psychiatry* 2007;6:105-10.
4. Güvel S: 6. ESSM (European Society of Sexual Medicine) Sexual dysfunction in women. *Andrology Bulletin* 2004;17:88-9.
5. Saleh RA, Ranga GM, Raina R, Nelson DR, Agarwal A. Sexual dysfunction in men undergoing infertility evaluation: a cohort observational study. *Fertil Steril* 2003;79:909-12.
6. Braverman AM. Psychosocial aspects of infertility: sexual dysfunction. *International Congress Series* 2004;1266:270-6.
7. Tunç L, Biri H, Tokgöz H, İrkilata L, Polat F, Bozkırlı İ. The evaluation of sexual dysfunction in infertile man. *Journal of Fertility* 2004;12: 28-32.
8. Lee TY, Sun GH, Chao SC. The effect of an infertility diagnosis on the distress, marital and sexual satisfaction between husbands and wives in Taiwan. *Hum Reprod* 2001;16:1762-7.
9. Althof SE. Quality of life and erectile dysfunction. *Urology* 2002;59:803-10.
10. Nene UA, Coyaji K, Apte H. Infertility: a label of choice in the case of sexually dysfunctional couples. *Patient Educ Couns* 2005;59:234-8.
11. Ayşeğin C, Eryılmaz YH. Index of Female Sexual Function (IFSF) validation and reliability study. *Andrology Bulletin* 2004;18:275-6.
12. Başaran S, Güzel R, Sarpel T. Quality of life and health outcome assessment questionnaires. *Rheumatism* 2005;20:55-62.
13. Kulaksızoğlu H, Serin Y, Toktaş G, Unlüer E. Yaşın Cinsel İşlev Bozukluğu Tanı Yöntemleri Üzerine Etkisi ve Yeni Bir Yaklaşım Önerisi. *Türk Üroloji Dergisi* 2001;27:437-41.
14. Monga M, Alexandrescu B, Katz SE, Stein M, Ganiats T. Impact of infertility on quality of life, marital adjustment, and sexual function. *Urology* 2004;63:126-30.
15. Jain K, Radhakrishnan G, Agrawal P. Infertility and psychosexual disorders: relationship in infertile couples. *Indian J Med Sci* 2000;54:1-7.
16. Orji EO, Kuti O, Fasubaa OB. Impact of infertility on marital life in Nigeria. *Int J Gynaecol Obstet* 2002;79:61-2.
17. Ragni G, Mosconi P, Baldini MP, Somigliana E, Vegetti W, Caliari I, et al. Health-related quality of life and need for IVF in 1000 Italian infertile couples. *Hum Reprod* 2005;20: 1286-91.
18. Khayata GM, Rizk DE, Hasan MY, Ghazal-Aswad S, Asaad MA. Factors influencing the quality of life of infertile women in United Arab Emirates. *Int J Gynaecol Obstet* 2003;80:183-8.
19. El-Messidi A, Al-Fozan H, Lin Tan S, Farag R, Tulandi T. Effects of repeated treatment failure on the quality of life of couples with infertility. *J Obstet Gynaecol Can* 2004;26:333-6.
20. Drosdzol A, Skrzypulec V. Quality of life and sexual functioning of Polish infertile couples. *Eur J Contracept Reprod Health Care* 2008;13:271-81.
21. Nelson CJ, Shindel AW, Naughton CK, Ohebsalom M, Mulhall JP. Prevalence and predictors of sexual problems, relationship stress, and depression in female partners of infertile couples. *J Sex Med* 2008;5:1907-14.
22. Çorapçioğlu Özdemir A. [Psychological Projection of Infertility]. *Türkiye Klinikleri J Int Med Sci* 2006;2:34-40.