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Original Article

Obstetrics and Gynaecology Section

Effect of Infertility on Sexual Function: A Cross-Sectional Study

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ABSTRACT

Introduction: Sexual dysfunction is an important psychological disorder that may increase in infertile couples.

Aim: To evaluate the effect of infertility on sexual function in women attending in private and public institutions in Ilam during 2013.

Materials and Methods: In a cross - sectional study evaluated the sexual function among 384 women attending in health care centers of Ilam western of Iran during 2013. Participants were divided in two groups, fertilities and infertilities women. Data was collected by trained research midwives using demographic and FSFI questionnaires. SPSS software Package 16 was used to analyse the data of this project. Differences were regarded statistically significant with an alpha error of 0.05.

Results: The mean age was 29.29 ± 6.7 years in fertile and 31.74 ± 8.07 in infertile women. Significant difference was reported in mean age between fertile and infertile women (p=0.014). The Mean± SD of all demissions of female sexual function was difference between fertile and infertile women. Sexual function was lower in infertile women.

Conclusion: All dimensions of sexual function were lower in infertile women in compared with fertile women. Further research should be done on this subject and ways to address such problems should be found.

Keywords: Infertile women, FSFI questionnaires , Sexual dysfunction

INTRODUCTION

Today evaluating the women health and their quality of life is a main issue in medical and social researches [1-6]. Marital satisfaction is considering as an important factor on women health. Adjustment and marital satisfaction is a condition in which the couple often feels happy and satisfied with each other. Marital satisfaction occurs through understanding each other and satisfies all needs, especially the sexual needs [7].

Sexuality is one of the big issues that affect the individual and social life [8]. Fertility is the object of sexual desire [9]. Infertility is a serious problem in today's world. Infertility can lead to mental imbalance, divorced couples and disconnecting the relationship between couples [10,11]. The International Conference in Bangkok (1988) described infertility as a global public health problem with physical, mental and social dimensions. International Conference on Population and Development (1994) also mentioned of the infertility as a serious injury in reproductive health [12].

The prevalence of infertility has no difference among ethnic and racial groups. About 15 % of the worldwide population is infertile [13]. The prevalence of infertility has been increased 50% in compared the last decade [14]. If we added the secondary infertility cases, 80 million of all people around the world are infertile [15]. In an Iranian study, the prevalence of primary infertility was 24.9% among 19-49-year-old women [16].

According to studies infertile couples have some psychological disorder, including; lack of marital satisfaction, impairment of relationships, especially between couples, lack of sexual satisfaction, loss of confidence in relation to sex and sexual intercourse, decreased libido, anger and negative emotional effects [11,17-19]. It also reduces the confidence of their infertility and affects the sexual life. Loss of libido and changes to reach orgasm are common problems in infertile couples.

Mental disorders and sexual disorders are always in doubt in Iran and many others countries. Sometimes these disorders are so vague that not only is clear, but also it adds complexity. Not express sexual dysfunction does not mean they are not. In Iranian population the sexual problems are seen as being sinful, therefore the sexual problems have not been properly investigated in Iran. Therefore, the present study aimed to evaluate the effect of infertility on sexual function in women attending in private and public institutions in Ilam during 2013.

MATERIALS AND METHODS

In a cross - sectional study evaluated the effect of infertility on sexual function in 384 women attending both public and private health centers in Ilam, Western of Iran, in 2013. The participants were selected by the simple random sampling method. Previous studies reported the sexual dysfunction in half of infertile women, therefore, we consider 384 women as the sample size (p= 0.5 and d= 0.05). Data was collected by trained research midwives. Inclusion criteria consisted of married women, 15-55-year-old, lack of intense debate and controversy over the last months and stress events in the past three months. All women with physical and psychosocial problems, medical illness, addictions to alcohol or drugs and consumers of drugs affecting sexual function were excluded.

In the present study, participants were divided into two groups of fertile and infertile women. Fertile women were included all women who could become pregnant with regular intercourse without using contraception. Infertile women were included all women who experiencing primary or secondary infertility during study sampling.This study was undertaken with the approval of the Ethical Committee of the Ilam University of Medical Sciences. The aim of the study was described an informed consent was obtained from all participants before the enrollment in the study. We used of the demographic characteristics and Female Sexual Function Index (FSFI) questionnaire for data collection. Both questionnaires were completed by trained research midwives. In the first part of the questionnaire collected the demographic characteristics such as-age, education (four levels; illiterate, elementary, secondary

and collegiate) and occupation (housekeeper, non-governmental, governmental). The content of the FSFI questionnaire included 19 questions and measures the sexual function in six dimensions: desire, arousal, lubrication, orgasm, satisfaction and pain. Each dimension contains 2- 4 questions. Validity and reliability of FSFI questionnaire have been confirmed in several countries [20-24] and Iran [25, 26].

STATISTICAL ANALYSIS

The sample size was determined by p=0.5, d=0.05 and confidence interval 95%. Mean ± SD, median and percentages were used to describe the data. Categorical variables such as education, and occupation were analysed by x^2 analysis of 3×2 contingency tables or by Fisher's exact test as appropriate, followed by a similar analysis by 2×2 tables for differences within the groups. SPSS software Package 16 was used to analyse the data of this project.

RESULTS

A total of 384 women was studied. The mean ± SD age was 29.29 ± 6.7 years in fertile and 31.74 ± 8.07 in infertile women. Significant difference was reported in mean age between fertile and infertile women (p=0.014). Demographic and obstetric characteristics of study participants is presented in [Table/Fig-1].

The mean ± SD of all demission's of female sexual function was difference between fertile and infertile women. Sexual function was lower in infertile women. The mean of all sexual function demission are presented in [Table/Fig-2].

The Pearson correlation coefficient showed the invert correlation between fertility and desire. The mean of desire score was lower in infertile women in compared to fertile women (r = - 0.356). About half of participants have arousal, sexual dysfunction. There was an invert correlation between fertility and arousal, sexual dysfunction (r = - 0.456).

Characteristics	Group		Total	p- value
	Fertile	Infertile		
Age*	29.29 ± 6.7	31.74 ± 8.07		0.014
Menarche age*	13.82±1.4	13.63 ± 2.6		0.395
Married age*	22.47± 7.5	23.06 ± 5.5		0.328
Education**				0.953
Illiterate	14(53.8)	12(46.2)	26(100)	
Elementary	10(47.6)	11(52.4)	21(100)	
Secondary	57(54.3)	48(45.7)	105(100)	
Collegiate	122(52.6)	110(47.4)	232(100)	
Occupation**				0.011
Housekeeper	106(47.3)	118(52.7)	224(100)	
Non-governmental jobs	5(100)	0(0)	5 (100)	
Governmental jobs	82(58.6)	58(41.4)	140(100)	

[Table/Fig-1]: Comparison of Characteristics between groups
*Values are given as mean ± Standard Division
**N (%)

Characteristics*	Group		p-value
	fertile	infertile	
Desire	4.43± 0.81	3.32 ± 0.79	<0.001
Arousal	4. 16 ± 0.95	2.85 ± 1.09	<0.001
Lubrication	3.52 ± 0.93	2.59± 0.95	<0.001
Orgasm	4.05 ± 0.8	2.98 ± 1.08	<0.001
Satisfaction	4.82 ± 0.8	2.98 ± 1.08	<0.001
Pain	2.92 ± 1.46	2.54 ± 1.16	0.05

[Table/Fig-2]: Comparison the Mean ± SD of demission's of female sexual function between groups
*Values are given as mean ± SD

DISCUSSION

Lack of sexual satisfaction is caused by many psychological disturbances and marital discord. Therefore, in the present study we compared the sexual function in fertile and infertile women. Since we evaluated the attended participants in both public and private health care centers of Ilam, therefore, it can be said that the results of the research can be generalized to the entire research community. However, in the present study, we assess and compare the women sexual function and their husbands sexual function of isn't known. Therefore it can be considered as a limitation of the current study.

In the present study, the mean scores of the different demission of sexual function were significantly different in fertile and infertile women. Sexual function scores were lower in infertile women in compare to fertile women. Several studies have confirmed our results and reported decreased the sexual function in infertile women [11,27,28]. Jamali et al., reported a significant decrease of sexual satisfaction in infertile women [27]. In another study the sexual satisfaction and sexual function were examined in infertile women. The results of study showed that infertile women have a significant decrease in all domains of their function and sexual satisfaction [28].

In the present study, Pearson correlation coefficient showed an inverse relationship between fertility and libido, so that infertility caused the decreased of desire in infertile participants. We found arousal dysfunction in half of the participants in the study. In confirmed our results, another Iranian study evaluated the risk factors of female sexual dysfunction among 604 infertile women. The results of this study showed that infertile women experience changes in their sexual function [29]. A Turkey study, evaluated the impact of type of infertility on female sexual function. In this study participated 122 primary infertile women and 51 secondary infertile women. The results showed that the women with secondary infertility have higher prevalence of sexual dysfunction including sexual desire, orgasm, and satisfaction compared with primary infertile women [30].

Although in our study participated infertile women, a Chinese study examined the psychosocial response of infertile couples. This study reported that physical and psychological effects of infertility are more in infertile women in compared with infertile men. The men have experienced less stress and more confidence than women. Also, infertile men have higher sexual satisfaction than their partners [31].

Researchers have different theories about the effects of infertility on couples' relationships. Many studies have expressed considerable evidence indicating that infertility don't have negative impact on couples' relationships [32]. Good planning and careful studies have shown that the psychological impact of infertility is not so common. A study reported the frequency of sexual intercourse is significantly higher in the infertile couples than fertile couples due to their desire to have children [33].

CONCLUSION

All dimensions of sexual function were lower in infertile women as compared to fertile women. Further research should be done on this subject and ways to address such problems should be found.

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REFERENCES

[1] Direkvand-Moghadam A, Delpisheh A Direkvand-Moghadam A. Effect of Infertility on the Quality of Life, A Cross – Sectional Study. *J Clin Diagn Res*. 2014;8(10):13-15.
[2] Direkvand-Moghadam A, Delpisheh A, Khosravi A. Epidemiology of Female Infertility; A Review of Literature. *Biosci Biotech Res Asia*. 2013;10(2):559-67.

[3] Direkvand-Moghadam A, Ghazanfari Z, Sayehmiri K. Predictive Factors for Pelvic Organ Prolapse in Iranian Women's: An Ordinal Logistic Approch. J *Clin Diagn Res*. 2014;8(1):96-99.
[4] Direkvand-Moghadam A, Khosravi A. Evaluating Shirazi (Thymus vulgaris) on menstrual pain using verbal multidimensional scoring system (VMS). *AJPP*. 2012;6(39):2761-66.
[5] Direkvand-Moghadam A, Khosravi A. Effect of acupressure on post-operative nausea and vomiting in cesarean section: a randomised controlled trial. *J Clin Diagn Res*. 2013;7(10):2247-49.
[6] Direkvand–Moghadam A, Sayehmiri K, Delpisheh A, et al. Epidemiology of Premenstrual Syndrome, A Systematic Review and Meta-Analysis Study . *J Clin Diagn Res*. 2014;8(2):106-09.
[7] Maneta EK, Cohen S, Schulz MS, et al. Linkages between childhood emotional abuse and marital satisfaction: The mediating role of empathic accuracy for hostile emotions. *Child Abuse Negl*. 2014 .doi: 10.1016/j.chiabu.2014.07.017.
[8] Gana K, Jakubowska S. Relationship between infertility-related stress and emotional distress and marital satisfaction. *J Health Psychol*. 2014. pii: 1359105314544990.
[9] Monga M, Alexandrescu B, Katz S, et al. impact of infertility on quality of life,marital adjustment, and sexual function. *Urology.* 2004;63(1):126-30.
[10] Taçı E, Bolsoy N, Kavlak O, et al. Marital adjustment in infertile women. *J Turk Soc Obstet Gynecol*. 2008;5(2):105-10.
[11] Cwikel J, Gidron Y, Sheiner E. Psychological interactions with infertility among women. *Eur J Obstet Gynecol Reprod Biol*. 2004;117(2):126-31.
[12] Vakilian K, Mirzaii K. Reproductive health in iran: international conference on population and development goals. *Oman Med J*. 2011;26(2):143-47.
[13] Thoma ME, McLain AC, Louis JF, et al. Prevalence of infertility in the United States as estimated by the current duration approach and a traditional constructed approach. *Fertil Steril.* 2013;99(5):1324-31 e1.
[14] Danforth D, Scott J. Danforth's Obstetrics and Gynecology. 9th ed ed. London: Lippincott Williams & Wilkins; 2003.
[15] Mazaheri M, Kayghobadi F, Faghihi Imani Z, et al. Problem solving strategies and marital adjustment in infertile and fertile couples. *J Reprod Infertil*. 2001;2(4):22-32.
[16] Vahidi S, Ardalan A, Mohammad K. Prevalence of primary infertility in the Islamic Republic of Iran in 2004-2005. *Asia Pac J Public Health*. 2009;21(3):287-93.
[17] Damti OB, Sarid O, Sheiner E, et al. Stress and distress in infertility among women. Harefuah. 2008;147(3):256-60, 76.
[18] Drosdzol A, Skrzypulec V. Depression and anxiety among Polish infertile couples--an evaluative prevalence study. *J Psychosom Obstet Gynaecol*. 2009;30(1):11-20.
[19] Cousineau T, Domar A. Psychological impact of infertility. B*est Pract Res Clin Obstet Gynaeco*. 2007;21(2):293-308.
[20] Sidi H, Abdullah N, Puteh SE, et al. The Female Sexual Function Index (FSFI): validation of the Malay version. *J Sex Med*. 2007;4(6):1642-54.
[21] Anis TH, Gheit SA, Saied HS, et al. Arabic translation of Female Sexual Function Index and validation in an Egyptian population. *J Sex Med*. 2011;8(12):3370-78.
[22] Nowosielski K, Wrobel B, Sioma-Markowska U, et al. Development and validation of the Polish version of the Female Sexual Function Index in the Polish population of females. *J Sex Med*. 2013;10(2):386-95.
[23] DeRogatis LR, Allgood A, Auerbach P, et al. Validation of a Women's Sexual Interest Diagnostic Interview--Short Form (WSID-SF) and a Daily Log of Sexual Activities (DLSA) in postmenopausal women with hypoactive sexual desire disorder. *J Sex Med*. 2010;7(2 Pt 2):917-27.
[24] Lee Y, Lim MC, Joo J, et al. Development and validation of the Korean version of the Female Sexual Function Index-6 (FSFI-6K). *Yonsei Med J*. 2014;55(5):1442-46.
[25] Ghassamia M, Asghari A, Shaeiri MR, et al. Validation of psychometric properties of the Persian version of the Female Sexual Function Index. *Urol J*. 2013;10(2):878-85.
[26] Fakhri A, Pakpour AH, Burri A, et al. The Female Sexual Function Index: translation and validation of an Iranian version. *J Sex Med*. 2012;9(2):514-23.
[27] Jamali S, Zarei H, Rasekh Jahromi A. The relationship between body mass index and sexual function in infertile women: A cross-sectional survey. *Iran J Reprod Med*. 2014;12(3):189-98.
[28] Mendes de Leon CF, Dilillo V, Czajkowski S, et al. Psychosocial characteristics after acute myocardial infarction: the ENRICHD pilot study. Enhancing Recovery in Coronary Heart Disease. *J Cardiopulm Rehabil*. 2001;21(6):353-62.
[29] Pakpour AH, Yekaninejad MS, Zeidi IM, Burri A. Prevalence and risk factors of the female sexual dysfunction in a sample of infertile Iranian women. *Arch Gynecol Obstet*. 2012;286(6):1589-96.
[30] Keskin U, Coksuer H, Gungor S, Ercan CM, Karasahin KE, Baser I. Differences in prevalence of sexual dysfunction between primary and secondary infertile women. *Fertil Steril*. 2011;96(5):1213-17.
[31] Lee TY, Sun GH. Psychosocial response of Chinese infertile husbands and wives. *Arch Androl*. 2000;45(3):143-48.
[32] Burns L, Covington S. Infertility counseling: a comprehensive handbook for clinicians. 1st ed. ed. London: *Informa Health Care*. 2000.
[33] Lokos M, Toth M, Czeizel E. Sexual activity of infertile couples. *Orv Hetil*. 1996;137(35):1929-34.

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