

## Sexual function in fertile and infertile women referring to the Jahrom Infertility in 2011

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### Abstract

**Introduction:** Infertility as the bitterest life experience can affect sexual function. Infertility is a reproductive health problem and many studies have showed agitation, stress, depression, marital and sexual dissatisfaction as the psychological outcomes of infertility. This study aimed to compare sexual satisfaction in fertile and infertile women referring to Peymanieh Hospital in Jahrom, 2012.

**Materials & Methods:** In this descriptive-comparative study, 100 fertile and 100 infertile women were selected through simple random sampling and compared regarding sexual function. The data were collected using a questionnaire including three parts: demographic characteristics, fertility, and Female Sexual Function Index (FSFI). The data were analyzed using the SPSS statistical software (v. 11.5) to estimate mean and frequency. Besides, T-test was used to compare the two groups.

**Results:** The results showed that the mean score of fertile and infertile women's sexual function was  $23.85 \pm 4.34$  and  $24.83 \pm 4.72$ , respectively. However, no significant difference was found between the two groups regarding the domains of sexual function ( $p > 0.05$ ). Overall, 71.4% of the infertile women had the experience of unsuccessful treatment. Furthermore 46.4% had primary infertility, while 53.53% had secondary infertility. A negative correlation was observed between sexual desire and women's age ( $p = 0.02$ ,  $r = 0.224$ ), partner's age ( $p = 0.005$ ,  $r = 0.28$ ), and infertility duration ( $p = 0.03$ ,  $r = 0.304$ ) in infertile women.

**Conclusion:** No significant difference was found between fertile and infertile women regarding their sexual function. Thus, infertility has no effects on women's sexual function.

**Keywords:** Infertility, Sexual function, Fertility.

### Introduction

Infertility is defined as the inability to conceive after one year of regular, unprotected intercourse (1). Infertility is a common problem and a chronic disease which has been estimated as 10-15% prevalence around the world (2). In The international conference in Bangkok in 2009, described the infertility was as a global health problem with physical, psychological, and social dimensions (3). Moreover, sexual function and its subsequent satisfaction among the most important indexes of satisfaction with life are effective factors in women's health (4, 5).

Sexual desires are humans' most innate emotions and deepest wishes for giving meaning to a relationship (6). Sexual satisfaction is defined as each individual's judgment of one's own sexual behavior as enjoyable (7). In general, the most important aim of sexual desire is reproduction and having children (8). Thus, reproductive status is highly effective in marital as well as sexual satisfaction. Various studies have shown that infertility leads to psychological disorders, such as marital dissatisfaction and sexual dysfunction (9). In fact, sexual satisfaction is mainly affected by the infertility outcomes,

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including reduction of self-esteem, feeling of depression and worry, and sexual relationship with failure in conceiving (10).

During the infertility treatment period, 50-60% of the couples reported a considerable reduction in their sexual satisfaction (11). Losing sexual desire, change in reaching orgasm, reduction of the number of intercours, and sexual dissatisfaction are among the common problems experienced by infertile couples (12).

In general, sexual problems and disorders are the basic points in evaluation of infertile couples. A desirable sexual relationship can increase the probability to conceive. Besides, psychological disorders are assumed to be higher in infertile couples (13, 14). In a study which was conducted on infertile couples in South Africa, 2001, 43% of the women believed that the inability to conceive had significant negative effects on their lives and particularly sexual relationships (15).

World Health Organization (WHO) defines sexual health as the integrity among mind, emotion, and body which leads the humans' mental and social dimensions toward improving their personality and eventually results in creation of relationship and love. Therefore, any disorder which disturbs and causes dissatisfaction with the sexual relationship can lead to sexual dysfunction (7).

Reduction of sexual satisfaction for any reason is followed by lots of negative consequences. The problems related to infertility lead the women toward depression as well as psychological disorders at the end of the second and third decades of their lives. In addition, doubt and helplessness accompanied with infertility can damage the base of a couple's relationship (7). Furthermore, anxiety, loss of self-confidence, shame, and depression resulting from infertility disturb the infertile couples'

sexual function. Diagnosis, investigation, and treatment of infertility also interfere with their sexual satisfaction (16).

Dyer et al. conducted a study in South Africa and showed that not being satisfied with sexual relationships, feeling of being under pressure in planning for sexual relationships, and lack of self-esteem in infertile women were highly effective in their sexual satisfaction (17).

In Iran, among the other diseases, psychosexual disorders are always mentioned in obscurity and sometimes too ambiguous that not only do not clarify anything, but also add on the complexity of the issue. However, not proposing the problems related to sexual disorders does not mean that they do not exist; rather, it only reveals the sinful view toward the sexual issues (7).

Although researchers have recently tried to apply scientific methods for providing the necessary compatibilities, removing the clinical problems, and reducing the signs of the infertility period, less attention has been paid to such couples' sexual problems. Thus, these problems can be quite common during this period because infertility is one of the complex crises of life leading to deep emotional and psychological pressures. On the other hand, sexual function is highly affected by infertility and its treatment.

Therefore, the present study aims to compare the sexual function of fertile and infertile women referring to the Jahrom Infertility centers, Iran in 2011.

### Materials and Methods

The present descriptive-comparative study was conducted on 100 infertile and 100 fertile women referring to the teaching peymanieh Hospital, Jahrom, Iran in 2011. The study samples were selected through simple random sampling. After explaining the study

objectives and how to complete the questionnaires to the contributors, obtaining written informed consents, and ascertaining them about the confidentiality of the data, the contributors were required to answer the questions. The inclusion criteria of the study were; being able to read and write, not suffering from psychological as well as underlying physical disorders, and not having experienced any stressful events during the past 3 months. In addition, the fertile women had to have the history of at least one delivery and the infertile ones had to have either primary or secondary infertility.

The study data were collected using the demographic information questionnaire and Female Sexual Function Index (FSFI) which consists of 19 items evaluating the individuals in 6 dimensions of sexual desire, sexual arousal, lubrication, orgasm, sexual satisfaction, and pain. A score between 1 and 5 was assigned to each item and each dimension's score was calculated by adding the scores of that dimension's items multiplied by its factor coefficient. In this questionnaire, sexual desire was covered by items 1 and 2, arousal by items 2, 4, 5, and 6, lubrication by items 7, 8, 9, and 10, orgasm by items 11, 12, and 13, satisfaction by items 14, 15, and 16, and pain by items 17, 18, and 19. Besides, factor coefficients of 0.6, 0.4, and 0.3 are used for the dimensions with 2, 3, and 4 items, respectively. Finally, the score of each dimension was computed by adding the scores of its items multiplied by its factor coefficient. Each dimension had a minimum (0, 1.2, or, 1.8) and a maximum score (6). After all, the

sexual function total score was computed by adding the scores of all the dimensions and ranges from 2 to 36.

This questionnaire was a standard one whose reliability and validity have been confirmed by Rosen et al. as well as the study Mohammadi conducted in Shahed University, Iran in 2004. The reliability of the questionnaire was reported as 78% and 75% using split-half and test-retest methods, respectively. In addition, the reliability of the subscales was between 63% and 75% through the split-half and between 70% and 81% through the test-retest method (18) (Table 1)

Subsequent to collecting and codifying the data, the SPSS statistical software (v. 11.5) was applied in order to compute the central indexes, distribution of the variables, and the frequency distribution of the demographic variables. Descriptive statistics techniques, such as mean and SD, were used for quantitative variables, while frequency percentage was used for the qualitative ones. Besides, Kolmogorov-Smirnov test was developed for assessing the normal distribution of the quantitative variables. Then, T-test was applied for comparing the mean of the quantitative variables between the two groups. The correlation between the quantitative variables was also assessed. Statistically  $p < 0.05$  was considered as significant.

The present study was approved by the Ethics Committee of the university and all the patients' information was kept secret.

Table 1: Method of calculating the sexual function dimensions

Variables	Items	Score ranges	Factor coefficient	Minimum	Maximum
Sexual desire	1, 2	1-5	0.6	1.2	6
Arousal	3, 4, 5, 6	0-5	0.3	0	6
Lubrication	7, 8, 9, 10	0-5	0.3	0	6
Orgasm	11, 12, 13	0-5	0.4	0	6
Sexual satisfaction	14, 15, 16	0.1-5	0.4	0.8	6
Pain during intercourse	17, 18, 19	0-5	0.4	0	6
Total sexual function				2	36

### Results

The present study was conducted on 100 fertile and 100 infertile women. According to the results, 72% of the fertile women and 78% of the infertile ones had middle school to diploma degrees. In addition, 83% of both fertile and infertile women lived in urban areas. Besides, 78.8% of the fertile women and 82.8% of the infertile ones were housewives. Moreover, 97% of the women in fertile group and 99% of infertile group were experiencing their first marriage (Table 2). Among the infertile women, 46.47% and 53.53% had primary and secondary infertility, respectively. Among the infertile women with primary infertility, 68.1% had the history of

unsuccessful treatment with the infertility period of  $5.45 \pm 5.25$  years. In addition, 75% of the women with secondary infertility had the history of unsuccessful treatment with the infertility period of  $5.36 \pm 4.34$  years.

The mean score of sexual function was  $23.85 \pm 4.34$  and  $24.83 \pm 4.72$  in fertile and infertile women, respectively, but the difference was not statistically significant. No significant difference was also observed between the two groups regarding the mean scores of sexual function dimensions ( $p > 0.05$ ), except for pain ( $p = 0.3$ ) (Table 3). Nonetheless, a significant difference was found between the two groups regarding sexual desire (Table 4).

Table 2: Mean and SD of the study variables

Variables	Fertile (Mean $\pm$ SD)	Infertile (Mean $\pm$ SD)
Age	31.30 $\pm$ 6.91	28.56 $\pm$ 5.72
Husband's age	45.6 $\pm$ 4.95	43.42 $\pm$ 5.14
Length of marriage	18.86 $\pm$ 4.95	20.92 $\pm$ 4.06
Couples' age difference	6.32 $\pm$ 4.94	6.20 $\pm$ 3.59

**Table 3: Comparison of the means of various sexual function dimensions in fertile and infertile women**

Dimensions	Mean $\pm$ SD		p-value
	Infertile	Fertile	
Sexual desire	3.88 $\pm$ 1.09	3.77 $\pm$ 1.07	0.47
Sexual arousal	4.03 $\pm$ 1.32	4.02 $\pm$ 1.16	0.95
Lubrication	3.27 $\pm$ 0.83	3.11 $\pm$ 0.95	0.21
Orgasm	4.24 $\pm$ 1.35	4.16 $\pm$ 1.32	0.68
Sexual satisfaction	5.06 $\pm$ 1.12	5.03 $\pm$ 1.11	0.85
Painful intercourse	4.49 $\pm$ 1.18	4.11 $\pm$ 1.23	0.03
Sexual function total score	24.83 $\pm$ 4.72	23.85 $\pm$ 4.34	0.13

**Table 4: The relationship between sexual desire and the study variables**

Variable	Fertile group	Infertile group
Age	p=0.001	p=0.03
Husband's age	p=0.001	p=0.005
Infertility duration		p=0.03

## Discussion

Sexual activity is one of the most important parts of women's life (19). In addition, various factors are effective in occurrence and progress of sexual disorders in women. Depression, mental pressures, chronic diseases, medications, infertility, lack of proper relationship with one's husband, lifestyle, and marriage features are among the factors affecting sexual satisfaction (7). Infertility has different effects on various dimensions of women's life, including sexual relationship. The sexual satisfaction is mainly affected by the outcomes of infertility.

The findings of the present study showed that although the infertile women's mean

score of sexual function was higher than that of the fertile ones, the difference was not statistically significant. In the same line, Noorani et al. conducted a study in Mashhad in 2008 and showed that sexual satisfaction was insignificantly higher among the infertile women(5). Sattarzadeh et al. also showed that the infertile women's sexual function mean score was different from that of the fertile women, but the difference was not statistically significant (20). Consistently, Monga. Performed a study in the U.S. on the effect of infertility on the quality of life, sexual compatibility, and sexual function and showed no significant difference between the two groups (1). In the conducted study by Shakeri

in Tehran in 2007, infertility had also no highly undesirable effects on the sexual satisfaction and only 11% of the subjects reported sexual dissatisfaction (21). The results of these studies were all in line with those of the present study. In fact, the couples compromising and understanding of their relationship particularly when they experiencing the stress of infertility could help them manage the incidents more successfully and, consequently, infertility cannot disturb their marital and sexual relationships. Hirsch conducted a study in the U.S. in 1995 and mentioned that although the infertile couples have lower levels of sexual and marital satisfaction and self-confidence, the effects of infertility can be reduced by providing them with social support (22). Up to now, contradictory results have been obtained in the studies conducted on the effect of infertility on sexual satisfaction. For instance, Abbey, showed disruption of sexual relationships resulting from reduction of sexual satisfaction in infertile couples compared to the control group (23). The lower sexual satisfaction in infertile women might be due to their lack of knowledge about marital issues, lack of training in the society, and wrong cultural beliefs (24).

Sargolzaei carried out a research in Mashhad in 2001 and reported sexual dysfunction to be more prevalent among the infertile women (25). However, some studies have shown no significant reduction in the couples' sexual satisfaction due to infertility (26). Also, researchers have various viewpoints toward the effect of infertility on the couples' relationships. A large number of studies have stated that the negative effects of infertility have not been proved. Well-

designed studies have also shown that the psychological effects of infertility are not highly prevalent (27). In the same line, Dunkel and Lobel believed that more than half of infertile individuals did not experience severe anxiety and changes in their marital as well as sexual relationships (28). Moreover, Repokari, showed that not only the stages of infertility treatment cannot be dangerous for marital compatibility, but sharing its stress between the couple can also strengthen their marital relationship (29). The results of the studies by Daniluk, Wright, Mazure, Leiblum, and Fagan also showed that sexual function and satisfaction is usually improved or does not show any considerable reduction compared to the normal population (30).

The findings of the present study revealed no significant difference between the two groups regarding the mean scores of orgasm, arousal, and lubrication. Experiencing orgasm is highly important for women. Orgasm is affected by physical as well as anatomic, cultural, social, personal, psychological, and emotional factors (31). Sexual arousal and orgasm are in fact natural reactions of sexual function; appropriate and sufficient sexual arousal is essential for reaching orgasm. Thus, arousal should be completed before reaching orgasm (7). The present study also showed a correlation between orgasm and arousal. Furthermore, various negative stimulants can inhibit sexual arousal, excitement, and orgasm (7, 32). In this study, a significant positive correlation was observed between orgasm and pain and arousal and pain during intercourse. However, no significant difference was found between the two groups on the lubrication mean scores. Disorders in this dimension were



accompanied by pain and orgasm disorders (33).

The current study also showed no significant difference between the fertile and infertile women concerning sexual function components. It seems that infertility improves the couple's relationship and enhances their intimacy (34); therefore, the infertile women's sexual function dimensions are not disturbed.

In this study, a significant correlation was found between sexual desire and husband's and wife's age. As the couple's age increases, their sexual desire decreases. Considering the fact that increase in age is followed by psychological and social changes in the individuals (35) and the society has a negative attitude toward sexual behaviors in higher ages (36), increase in age can be mentioned as one of the reasons for reduction of sexual desire and function.

Moreover, a significant correlation was observed between increase in husband's age and reduction of women's sexual desire. Increase in men's age leads to decrease in their sexual desire and increase in erectile dysfunction (37). Therefore, since men's sexual disorders are effective in women's sexual function (38), the relationship between the increase in husband's age and sexual desire can be justified.

In general, women's sexual desire is not affected by organic factors; rather, it is mainly influenced by strong self-confidence, previous sexual experiences, strong emotional relationships, hormones, and psychological disorders (39). In this study, the two groups' mean scores of pain had significantly increased implying the increase in pain during intercourse.

Infertility reduces the individuals' self-confidence and affects their sexual life. Losing sexual desire, change in reaching orgasm, and painful intercourse are all among the common problems of these couples (7,38). Furthermore, most infertile women state that they only think of having a child during intercourse; therefore, worrying about another failure to conceive increases their stress. Also, treatment of infertility which mostly takes the couple's sexual relationships into account can create a feeling of compulsion whose negative effects remain on the couple's sexual life even after the end of the treatment (40).

The study findings showed a significant correlation between sexual desire and infertility period. Most women state that the obtrusive thoughts and memories created due to diagnostic and treatment methods of infertility over time often come to them during the sexual intercourse and disturb their sexual function (7). Lack of free sexual activity, purposefulness of the sexual relationships, and the need for planned intercourse lead to sexual dysfunction, as well.

Since sexual relationships are among the most private marital issues and due to the cultural and religious limitations of the Iranian society, the individuals cannot easily talk about their sexual issues. Thus, probable dishonesty of some subjects in expressing their problems was one of the limitations of the present study which was out of the researcher's control. Another limitation of the study was that only the women referring to government centers were evaluated and, consequently, the findings cannot be generalized to the whole population. On the other hand, this study can be more reliable

since it made use of self-report rather than interview method.

### Conclusion

In the present study, similar results were obtained in fertile and infertile groups; thus, infertility had no significant effects on the women's sexual function. Nevertheless, as infertility is a unique experience, identifying such individuals' thoughts and attitudes can play an important role in understanding the psycho-social considerations resulting from infertility. Yet, infertile individuals are not usually interested in presenting their personal information about infertility and its outcomes particularly in their sexual life. Therefore,

conducting qualitative studies can be helpful in deep understanding of the socio-cultural aspects of infertility. The researchers hope that the findings of this study will be beneficial in developing various supportive, consultation programs for these couples.

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