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# Correlation of Infertility and Sexual Dysfunction

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**Abstract:** Infertility may interact with a couple's or individual's sexuality and sexual expression. We performed this study to evaluate the correlation of infertility and sexual dysfunction. A prospective study was conducted on 384 infertile (Case) and 384 fertile women (Control) presenting to Tabriz Al-Zahra Hospital since Jun-Des 2005. Mean age of women in infertile group was 27.84±4.67 year and in fertile group was 27.38±5.45 years (PV = 0.213). Mean age of men in infertile group was 31.85±4.97 year and in fertile group was 30.08±6.36 years-old (PV<0.001). The duration of infertility among infertile women was 6.34±2.67 years. Mean frequency of sexual contact rate in infertile patients was 4.01±1.25 per week and in fertile patients was 3.29±1.12 per week (PV<0.001). Having the sexual drive (PV<0.001), Arrive to sexual arousal (PV<0.001), Ability of reach to orgasm (PV<0.001) and Obtaining the satisfaction from sexual contact and orgasm (PV = 0.018) were significantly better in control group, but Achieving vaginal lubrication during intercourse was better in case group (PV<0.001). Significant reverse correlation was found between rate of sexual contact per week and infertility duration (PV<0.001) and also between partners age (separately) and rate of sexual contact per week (PV<0.001) in infertile couples.

**Key words:** Infertility, sexual dysfunction, correlation

## INTRODUCTION

The burden of infertility is physical, psychological, emotional, and financial (Monga *et al*., 2004; Crimmet *et al*., 2001). Infertile couples report poor marital adjustment and quality of life compared with controls. They may experience less intercourse satisfaction, perhaps because of the psychological pressure to try to conceive (Monga *et al*., 2004). Issues that are related to sexual dysfunction, sexual behavior, inter-spouse relationship and communication are important aspects into the reality of an infertile couple's life (Nene *et al*., 2005). Difficulties conceiving and possibly disturbances in sexual attitudes and behavior can result in psychological distresses which are considered to be an important factor influencing quality of life (Elsenbruch *et al*., 2003).

Infertility may interact with a couple's or individual's sexuality and sexual expression in two main ways. Sexual problems may be caused or exacerbated by the diagnosis, investigation and management of infertility (or subfertility) or they may be a contributory factor in childlessness. In response to being unable to conceive, many people feel emotions such as anger, panic, despair and grief and these may affect sexual activity (Read, 2004). The stress of infertility and its treatment may also cause sexual difficulties for both men and women (Jannini *et al*., 2004).

For some partners, one or two failures during intercourse begin a vicious circle of fear of failure, with anxiety leading to further failures. Partners may also develop arousal difficulties because of anxiety or distress. Some people feel that their partner wants them only when there is a chance of conception and sexual activity can then become a battleground for issues of power and control. Such stresses conspire to alienate couples from the recreational aspects of sexual expression and focus them, often obsessively, on the procreative aspect of sexual intercourse. On the other hand, childlessness may be the result of an existing sexual dysfunction. One study of infertile couples found that 5% had a history of sexual problems (Read *et al*., 2004).

Our aim was to evaluate the hypothesis that infertility may result in sexual dysfunction and correlate with quality of life.

## MATERIALS AND METHODS

A prospective case-control study was conducted for evaluation of sexual dysfunction in infertile women presenting to the Infertility Ward of Tabriz Al-Zahra Hospital since Jun 2005-Dec 2005. There were 384 infertile women in Case Group who were selected randomly among

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infertile women presenting to the Infertility Ward. The criteria for selection were: Being married, having at least 6 years of education and having been diagnosed with infertility for at least 1st year.

These cases were compared with 384 fertile women (Control Group) who were selected randomly among women presenting to other wards of Al-Zahra Hospital and had ages matched with case group. Infertility is defined as the inability to conceive a pregnancy within 1st year.

The information including age of couples, occupation of couples, type of infertility (primary or secondary), infertility factor (male, female, or both), marriage duration, infertility duration, contraceptive use (if any) and number of intercourses per week, were collected from women in both case and control groups and entered in prepared questionnaire.

Permission to complete this study was obtained from an institutional research board. All women signed the informed consent before inclusion in the study and the data collected by female interviewer. The subjects volunteered as participants after one of the investigators informed them that this research project was being undertaken at the medical centre. Subjects were assured that anonymity and confidentiality would be maintained and that they could refuse to participate or withdraw from the study at any time. Husbands and wives answered the questionnaires separately in the waiting room, before their medical appointment. The questions about the quality of sexual function were including:

- Having the sexual drive
- Arrive to sexual arousal
- Achieving vaginal lubrication during intercourse;
- Ability of reach to orgasm
- Obtaining the satisfaction from sexual contact and orgasm.

The responses to above-mentioned questions were made on 6-point scale as following: Extremely Easy (1), Very Easy (2), Easy (3), Difficult (4), Very Difficult (5) and Never (6).

The collected data were analyzed by SPSS-11 statistical software. T-test and ANOVA one way test were used for comparison of average values and Chi-Square and Mann-Whitney-U test were used for evaluation of correlation between qualitative variables. The P-values less than 0.05 were considered significant. The results were reported as average ± SE and percentage.

## RESULTS

There were 384 infertile women in Case Group compared with 384 fertile women in Control Group. The mean characteristics of women in both groups have been showed in Table 1.

Table 1: The mean characteristics of women in Case and control groups

| Variable (Unit) | Case | Control | P Value |
|---|---|---|---|
| Age of women (Y) | 27.38±4.67 | 27.38±5.45 | 0.13 |
| Age of men (Y) | 31.85±4.97 | 30.08±6.36 | <0.001 |
| Duration of marriage (Y) | 6.8±3.8 | 5.92±4.82 | 0.005 |
| Number of coitus per week | 4.0±1.25 | 3.29±1.12 | <0.001 |
| History of contraceptive use (N) | 52 | 36 | 0.078 |
| Condom 18 | 1 | | |
| Abstinence 10 | - | | |
| Oral contraceptions | 20 | 30 | |
| Intrauterine devices | 2 | 4 | |
| Injection methods | 2 | 1 | |
| Age in marriage (women) (Y) | 21.07±3.54 | 21.46±4.98 | 0.217 |
| Age in marriage (men) (Y) | 25.13±4.05 | 24.16±5.32 | 0.005 |

The duration of infertility among infertile women was 6.34±2.67 years. The occupations of males (PV = 0.786) and females (PV = 0.811) in two groups were not significantly different. In case group, 322 couples (84%) had primary and 62 couples had secondary infertility. Also, 134 couples (35%) had male infertility factor, 173 couples (45%) had female infertility factor and 77 couples (20%) had both male and female infertility factor infertility. The quality of sexual function in two groups has been compared in Table 2. As showed in Table 2, having the sexual drive (PV<0.001), Arrive to sexual arousal (PV<0.001), Ability of reach to orgasm (PV<0.001) and Obtaining the satisfaction from sexual contact and orgasm (PV = 0.018) were significantly better in control group, but Achieving vaginal lubrication during intercourse was better in case group (PV<0.001).

**Correlations of sexual function parameters among all studied women:** Among all studied women, there was significant relation between Sexual drive and Arrive to sexual arousal (PV<0.001), Achieving vaginal lubrication during intercourse (PV<0.001), Ability of reach to orgasm (PV<0.001) and Obtaining the satisfaction from orgasm (PV<0.001). The relation between Sexual arousal and Ability of reach to orgasm was not significant (PV = 0.069), but the relation of Sexual arousal with Satisfaction from orgasm was significant (PV = 0.036). There was significant relation between Achieving vaginal lubrication during intercourse and Ability of reach to orgasm (PV<0.001) and Obtaining the satisfaction from orgasm (PV<0.001). Also, the relation between the Ability of reach to orgasm and Satisfaction from orgasm was significant (PV = 0.003).

**Correlations of sexual function parameters among infertile women (Case group):** Among infertile women, there was significant relation between Sexual drive and Achieving vaginal lubrication during intercourse

Table 2: The quality of sexual function in case and control groups

| Variable | Group | Extremely Easy | Very Easy | Easy | Difficult | Very Difficult | Never | P Value |
|---|---|---|---|---|---|---|---|---|
| Having the sexual drive | Case | 14 (3.64%) | 81(21.09%) | 194(50.52%) | 33(8.59%) | 56(14.58%) | 6(1.56%) | <0.001 |
| | Control | - - | 120(31.25%) | 212(55.20%) | 39(10.15%) | 11(2.86%) | 2(0.52%) | |
| Arrive to sexual arousal | Case | 10(2.60%) | 121(31.51%) | 148(38.54%) | 17(4.43%) | 82(21.35%) | 6(1.56%) | <0.001 |
| | Control | 2(0.52%) | 147(38.28%) | 197(51.30%) | 32(8.33%) | 6(1.56%) | - | - |
| Achieving vaginal lubrication during intercourse | Case | 18(4.69%) | 212(55.20%) | 86(22.39%) | 23(5.99%) | 43(11.20%) | 2(0.52%) | <0.001 |
| | Control | 7(1.82%) | 144(37.50%) | 195(50.78%) | 31(8.07%) | 7(1.82%) | - | - |
| Ability of reach to orgasm | Case | 10(2.60%) | 113(29.42%) | 158(41.14%) | 14(3.64%) | 83(%) | 6(1.56%) | <0.001 |
| | Control | 3(0.78%) | 143(37.23%) | 199(51.82%) | 32(8.33%) | 7(1.82%) | - | - |
| Obtaining the satisfaction from orgasm | Case | 15(3.90%) | 118(30.72%) | 170(44.27%) | 14(3.64%) | 60(15.62%) | 7(1.82%) | 0.018 |
| | Control | 2(0.52%) | 142(36.98%) | 205(53.38%) | 29(7.55%) | 5(1.30%) | 1(0.26%) | |

(PV<0.001) and Obtaining the satisfaction from orgasm (PV = 0.001), but the relation of sexual drive with Arrive to sexual arousal (PV = 0.349) and the Ability of reach to orgasm (PV = 0.925) was not significant. The relation between Sexual arousal and Ability of reach to orgasm (PV = 0.009) and Satisfaction from orgasm (PV = 0.027) was significant. There was significant relation between Achieving vaginal lubrication during intercourse and Ability of reach to orgasm (PV<0.001) and Obtaining the satisfaction from orgasm (PV<0.001). Also, the relation between the ability of reach to orgasm and satisfaction from orgasm was significant (PV = 0.001).

**Correlations of sexual function parameters among fertile women (Control group):** Among fertile women, there was significant relation between sexual drive and Arrive to sexual arousal (PV<0.001), Achieving vaginal lubrication during intercourse (PV<0.001), Ability of reach to orgasm (PV<0.001) and Obtaining the satisfaction from orgasm (PV<0.001). The relation between sexual arousal and Ability of reach to orgasm (PV = 0.069) and satisfaction from orgasm (PV = 0.036) was not significant. There was not significant relation between Achieving vaginal lubrication during intercourse and Ability of reach to orgasm (PV = 0.512) and Obtaining the satisfaction from orgasm (PV = 0.353). Also, the relation between the Ability of reach to orgasm and Obtaining the satisfaction from orgasm was not significant (PV = 0.841).

**Correlations of women's age and sexual function parameters among infertile women (Case group):** There was reverse linear relation between infertile women's age and sexual drive (PV<0.001 and R = -0.395), Arrive to sexual arousal (PV<0.001 and R = -0.423), Achieving vaginal lubrication during intercourse (PV<0.001 and R = -0.372), ability of reach to orgasm (PV<0.001 and R = -0.408), Obtaining the satisfaction from orgasm (PV<0.001 and R = -0.409) and Number of coitus within a week (PV<0.001 and R = -0.475).

**Correlations of men's age and sexual function parameters among infertile women (Case group):** There was reverse linear relation between infertile men's age and sexual drive (PV<0.001 and R = -0.313), Arrive to sexual arousal (PV<0.001 and R = -0.325), Achieving vaginal lubrication during intercourse (PV<0.001 and R = -0.274), Ability of reach to orgasm (PV<0.001 and R = -0.320), Obtaining the satisfaction from orgasm (PV<0.001 and R = -0.302) and Number of coitus within a week (PV<0.001 and R = -0.425).

**Correlations of women's age and sexual function parameters among fertile women (Control group):** There was reverse linear relation between fertile women's age and sexual drive (PV<0.001 and R = -0.196), Arrive to sexual arousal (PV<0.001 and R = -0.199), Achieving vaginal lubrication during intercourse (PV<0.001 and R = -0.194), Ability of reach to orgasm (PV<0.001 and R = -0.183) and Obtaining the satisfaction from orgasm (PV<0.001 and R = -0.182).

**Correlations of men's age and sexual function parameters among fertile women (Control group):** There was reverse linear relation between fertile men's age and sexual drive (PV<0.001 and R = -0.249), Arrive to sexual arousal (PV<0.001 and R = -0.239), Achieving vaginal lubrication during intercourse (PV<0.001 and R = -0.222), Ability of reach to orgasm (PV<0.001 and R = -0.237) and Obtaining the satisfaction from orgasm (PV<0.001 and R = -0.225).

**Correlations of infertility duration and sexual function parameters among infertile women (Case group):** There was reverse linear relation between infertility duration and sexual drive (PV<0.001 and R = -0.344), Arrive to sexual arousal (PV<0.001 and R = -0.351), Achieving vaginal lubrication during intercourse (PV<0.001 and R = -0.303), Ability of reach to orgasm (PV<0.001 and R = -0.349), Obtaining the satisfaction from orgasm (PV<0.001 and R = -0.360) and Number of coitus within a week (PV<0.001 and R = -0.335).

## DISCUSSION

Infertility is a private, social and economic problem. Twenty-five percent of couples will seek help for infertility at some point during their relationship, accounting for over 2 million office visits to health care providers annually (Crimmel *et al*., 2001). Relatively recent investigations have found the prevalence of female sexual dysfunction (approximately 40%) to surpass that of males (approximately 30%) (Wurn *et al*., 2004). Some studies have examined the impact of infertility on marriage and sex between couples (Adashi *et al*., 2000; Read, 1999). Sterility may influence the life of man and woman in different ways including social life, family and even profession (Sigg, 1994). The majority of infertile couples report conflict, communication problems, disagreements over medical treatment, lack of empathy and differential investment in the infertility treatments process. However, several couples reported that the crisis of infertility enhanced intimacy and improved couple communication (Lee *et al*., 2001). A South African study reported that 43% of women felt that their inability to conceive had serious negative effects on their lives, particularly their sexual relations. Infertility stress was found to have a strong negative impact on a woman's and man's sense of sexual identity and self-efficacy. Another study found that although couples were generally satisfied with their sexual relationship, advanced-stage (assessed by the duration of infertility) patients experienced lower levels of sexual satisfaction than either early- or intermediate-stage patients (Leee *et al*., 2001). The impact of experiencing difficulty conceiving should not be underestimated for couples presenting with the problem. Many find it stressful to seek professional help for such an intimate problem and feel a sense of failure at having to do so. It is not uncommon for the problem to put a strain on the relationship and many couples experience deterioration in their sexual relationship which exacerbates the problem (Taylor, 2003). Special attention must be given to identifying psychiatric problems in infertile women. Relationship and sexual difficulties also appear central to infertility-related stress; targeting problems in these domains will have maximal therapeutic benefit (Ozkan and Baysal, 2006). O'Brien *et al*. (2005) showed that Andropause symptoms and erectile dysfunction are common among infertile men, affecting approximately 38% of this population.

Nene *et al*. (2005) showed that sexual activity decreased as the number of childless years increased. Also, they concluded that couples age has reverse relation with sexual function rate; so that, increased age is associated with lower frequency of sexual contact. These results are in compatible with our findings which showed that sexual intercourse per week is decreased with marriage and infertility duration. Also, in our study there was reverse linear relation between infertile men's and women's age and sexual function parameters; so that, sexual function in all fields (sexual drive, Arrive to sexual arousal, Achieving vaginal lubrication during intercourse, ability of reach to orgasm and Obtaining the satisfaction from orgasm) was decreased with age.

Audu (2002) collected the sexual histories of 97 infertile women using questionnaires. Sexual dysfunction was found to be common among them, particularly frigidity (78.4%), dyspareunia (57.7%), difficulty with sexual arousal (20.6%) and difficulty in achieving orgasm (20.6%). These could affect sexual acceptance and subsequently coital frequency, thus complicating their infertility problem further. In our study, 88 infertile women (22.92%) Arrived to sexual arousal very difficulty or never arrived sexual arousal and 89 infertile women (23.17%) reached to orgasm very difficulty or never reached to orgasm. Also, satisfaction from orgasm was significantly lower in infertile couples than fertile couples ($PV<0.001$).

Jain *et al*. (2000) interviewed 175 consecutive infertile couples in accordance with a 25 point questionnaire. Amongst the males, premature ejaculations 66% was most common problem followed by erectile dysfunction 15%, decreased libido 11% and orgasmic failure 8%. Amongst females dyspareunia 58%, decreased libido 28% and orgasmic failure 14% were most common problems (Jain *et al*., 2000). In our study, the sexual drive difficulty was found in 95 infertile couples (24.7%) and orgasmic failure was found in 89 infertile couples (23.17%) which are similar to Jain *et al*. study results.

Various types of misconceptions were also observed in the infertile couples. Psychosexual dysfunction and infertility was found to occur, in a large number of couples, together in association (Jain *et al*., 2000). Tarlatzis *et al*. investigated the psychosocial impacts of infertility in couples undergoing different treatments procedures in their clinic. They identified stress in both sexes and depression mostly in women. Women seem to have more difficulties in social adjustment. Sexual dysfunction was reported by almost half of the subjects, although this was associated with a degree of deterioration in their marriage. Finally, they concluded that both partners seem to have psychological problems irrespective of the one in whom the etiological problem was found. Their results strongly support the belief that infertile couples undergoing different treatments need psychological counselling and supportive psychotherapy (Tarlatzis *et al*., 1993). Jindal and Dhall interviewed Female partners of 200 infertile couples for psychosexual

problems. There were 105 women who complained of one sexual problem or more. Decreased frequency of intercourse and anorgasmia in wife were the most common problems identified (Jindal and Dhall, 1990). In our study, decreased libido and orgasmic failure was seen significantly more in infertile couples than fertile couples (PV<0.001), although number of coitus within a week was more in infertile couples (PV<0.001).

The study of Hurwitz over 40 couples with primary infertility showed that in 50% of women there was a statistically increased incidence of sexual dysfunction during this phase; loss of libido was the commonest dysfunction. Other problems were decreased libido and orgasmic failure (Hurwitz, 1989). In our study also, decreased libido (27.3%) and orgasmic failure (26.8%) were the commonest dysfunctions in infertile couples.

Kutteh *et al* suggest that vaginal lubrication during intercourse can maximize sperm motility and viability (Kutteh *et al*., 1996). Surprisingly, in our study, vaginal lubrication during intercourse achieved significantly easier in infertile couples than fertile couples.

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