

The Relationship between Sexual Satisfaction and Genital Self-image in Infertile Women

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ABSTRACT

Background & aim: In most cases, infertility can have a profound impact on sexual relationship. In such a condition, individuals often have unpleasant feelings towards their bodies, lose their self-confidence, feel depressed and frustrated, and experience decreased sexual desire. Therefore, we sought to investigate the relationship between sexual satisfaction and genital self-image among infertile women.

Methods: This cross-sectional study was conducted on 102 infertile women visiting Milad Infertility Center in Mashhad, Iran, during 2016. To select the participants, the convenience sampling method was used. The inclusion criteria were being Iranian and Muslim, having basic literacy, being aged 18-40 years, living with the spouse, not becoming pregnant after about one-year of regular and unprotected sexual intercourse, having a primary diagnosis of infertility as confirmed by a gynecologist, and being formally married. Moreover, the data collection instruments included a demographic form, the Female Genital Self-image Scale, and Golombok-Rust Inventory of Sexual Satisfaction. To analyze the data, Mann-Whitney U test, Chi-square test, Pearson product-moment correlation, and linear regression analysis were run in SPSS, version 16.

Results: The mean scores of genital self-image and sexual satisfaction in infertile women were 47.40 ± 9.71 and 61.03 ± 9.81 , respectively, indicating a significant correlation between genital self-image and sexual satisfaction in infertile women ($r = -0.500$, $P < 0.001$). According to the results of linear regression analysis, female non-sexuality and anorgasmia were predictive of genital self-image.

Conclusion: Considering the relationship between genital self-image and sexual satisfaction, it can be concluded that promoting sexual satisfaction and genital self-image in infertility centers is of utmost importance.

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Introduction

Lack of sexual satisfaction is considered as one of the most important problems, which impacts individuals' personal and social lives and plays an important role in their personality

development (1). Sexual satisfaction refers to pleasant feelings about one's sexual relationships. In other words, sexual satisfaction denotes a person's judgment and analysis of one's sexual

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behaviors that are assumed pleasurable (2). During infertility treatments, 50-60% of couples reported a drastic decrease in their sexual satisfaction (1). Most couples assume that sexual relationship is solely for pregnancy purposes; therefore, sexual relationship is considered futile if pregnancy is not achieved (3). In most cases, infertility can profoundly affect sexual relationships (4). Another study defined infertility as the inability to conceive after one year of continuous sexual activity without using contraceptive methods (5).

According to the related literature, about 50-80 million individuals suffer from infertility worldwide (6). Based on the statistics released by the World Health Organization (WHO) in January 2013, 10-15% of American couples suffer from infertility (7). In Iran, the overall mean rate of infertility was reported to be 10.2% (8). Moreover, infertility stress can give rise to psychological problems such as low self-esteem and sexual satisfaction, as well as increased anxiety, depression, anger, sense of inferiority, sense of inefficiency, and marital problems (9). Due to infertility, individual and social competencies, that is, motherhood and spousal values are impaired; this sense of self-blame can exacerbate problems such as reduced sexual self-efficacy and self-confidence, as well as sexual functioning disorders (10). Body image can predict some sexual behaviors in individuals (11), that is to say, a positive body image can improve sexual desire and activity, while a negative one may hinder sexual functioning (12).

Researchers introduced genital self-image as an issue affecting women's sexual behaviors (13). The concept of genital self-image was put forth by Waltner (1986) as a component of sexual identity that can be influenced by sociocultural and external norms associated with genitals, as well as sexual and social experiences. These factors can strongly influence women's feelings towards their gender (14).

Genital self-image refers to attitudes, feelings, and beliefs about one's sex organs that can influence sexual relationships (12, 15). Positive genital self-image has been deemed associated with sexual self-esteem (16). On the other hand, dissatisfaction with genital self-image can negatively influence sexual health in

women; consequently, it can cause sexual dysfunction (17).

In a study on male and female university students, Reinholtz et al. (1995) showed that women's attitudes towards their genitals were more negative compared to men's, and they had concerns over their partners' reaction to their sex organs. There was also a significant positive relationship between perception of female genitalia and quality of sexual relationship. Moreover, a significant correlation was found between genital self-image and sexual satisfaction (18).

Pazmany et al. (2013) reported that women with dyspareunia had less positive beliefs regarding their bodies compared to women without this disorder (12). Additionally, Morrison et al. (2005) demonstrated that positive perceptions of genital appearance were correlated with high sexual self-esteem, while it was inversely correlated with sexual anxiety (19). Pakpour et al. (2014) also suggested a significant relationship between genital self-image score and all the dimensions of sexual functioning, especially sexual satisfaction (20). According to the results of a study by Schick et al. (2010), dissatisfaction with genitals and high bodily self-consciousness could lead to lower sexual self-esteem and sexual satisfaction (21). As reported by the American College of Obstetrics and Gynecologists (ACOG) (2013), cosmetic surgery on genitals could act as an effective strategy to boost pleasure and satisfaction with appearance and sexuality; however, its effectiveness has not been established yet (22).

The factors raising women's concern over their genitals include low self-confidence, dissatisfaction with physical appearance, physical and emotional factors, and sexual abuse (23). Women may undergo aesthetic genital surgery due to age or childbirth (22). Genital self-image and the way women perceive their reproductive organs vary in different cultures and societies (24). Based on former studies, almost 89% of women show their dissatisfaction with their genitals and consider them abnormal (21, 25).

Since infertility affects women's self-confidence and sexuality, women with this problem find sexual relationship frustrating and

mentally distressing. Therefore, they develop negative feelings about their bodies, lose their self-confidence and sexual desire, and become depressed and disappointed (26). Considering the scarcity of studies on the relationship between genital self-image and sexual satisfaction among Iranian infertile women, we attempted to investigate the relationship between genital self-image and sexual satisfaction among infertile women visiting Milad Infertility Center, Mashhad, Iran, to take the necessary steps in improving sexual health among women and their families.

Materials and Methods

This descriptive cross-sectional study was conducted on 102 women visiting Milad Infertility Center in Mashhad, Iran, during 2016. The inclusion criteria consisted of being Iranian and Muslim, formally married, literate, and aged 18-40 years, living with the spouse, not becoming pregnant after one year of regular unprotected sexual intercourse, and having a diagnosis of primary infertility as confirmed by a gynecologist. The exclusion criteria entailed addiction to illicit drugs or alcohol, post-traumatic stress over the past six months, any specific diseases, psychological disorders, use of medications influencing sexual functioning, disabilities affecting sexual functioning, history of pelvic surgery, radiation therapy for vaginal or cervical cancer, pregnancy during the study, and having an adopted child.

Prior to the study, we obtained the approval of the Ethics Committee of Mashhad University of Medical Sciences. The participants were selected using the convenience sampling method to ensure its comprehensiveness (sampling was performed across all income levels from different cultural backgrounds). After selecting the eligible individuals and obtaining written informed consent from the participants, we provided the necessary information to the participants on how to respond to the questionnaire items.

Genital Self-image Scale: This questionnaire, which was first designed by Berman et al., is comprised of 30 items and 2 subscales. The first subscale contains 18 items on women's awareness of their genital system and is rated

using a 4-point Likert-type scale (i.e., 0: always to 3: never). The second subscale includes 12 items pertaining to genital traits and is rated using a 2-point scale (i.e., 0: it is true for me and 1: it is not true for me). The minimum and maximum possible scores of this scale are respectively 0 and 66, with higher scores indicating a more favorable genital self-image (14). The validity and reliability ($\alpha=0.86$) of this questionnaire were confirmed by Berman et al. (2003) (14). Jafarnejad et al. (2015) also confirmed the validity and reliability of this questionnaire in Iran. In this study, we re-established its content validity and reliability ($\alpha=0.77$).

Golombok-Rust Inventory of Sexual Satisfaction (GRISS): This 28-item questionnaire rated on a 5-point Likert-type scale (range: 0 to 4) examines the types and severity of sexual problems in seven domains. The minimum and maximum possible scores of this scale are 0 and 112, respectively, with lower scores reflecting higher sexual satisfaction. This inventory includes seven subscales, namely *Infrequency* subscale (items 3 and 15; evaluating the frequency of sexual relationship), *Non-communication* subscale (items 2 and 16; examining to the extent to which the individual talks about sexual issues), *Female Dissatisfaction* (items 5, 10, 18, and 22; evaluating the duration of courtship, time of intercourse, as well as love and interest), *Female Avoidance* (items 20, 13, 7, and 23; investigating avoiding and refusing sex), *Female Non-sexuality* (items 19, 12, 9, and 25; surveying rejection to be touched and cuddled), *Vaginismus* (items 6, 17, 11, and 24; examining the dimensions of vaginismus), and *Anorgasmia* (items 8, 14, 21, and 28; checking lack of orgasm). This questionnaire was designed by Golombok-Rust, and its validity and reliability for women were confirmed by the known-groups method and Cronbach's alpha of 0.94 (27). The validity and reliability of this inventory were also established by Besharat and Hosseinzadeh (2004), who reported a Cronbach's alpha coefficient of 0.89 (9). In the present study, its reliability was also confirmed through Cronbach's alpha coefficient in infertile women ($\alpha=0.88$).

To analyze the data, descriptive statistics,

Mann-Whitney U test, Chi-square test, Kruskal-Wallis test, Pearson product-moment correlation, and multiple regression were used in SPSS, version 16. P-values less than 0.01 were considered statistically significant.

Results

The mean age of the infertile women was 30.63±5.485 years and the mean age of their husbands was 34.48±5.791 years. The mean age of marriage was 8.65±4.688 years. Furthermore, 35.3% of the infertile women had academic education, 49% of them had high school diploma, and 15.7% had basic literacy. Moreover, 39.2% of the husbands had academic education, 54.9% of them had high school education, and 5.9% had basic literacy. Other demographic characteristics are presented in Table 1. The mean scores of duration of

Table 1. Frequency distribution of demographic characteristics of the participants

Variable	Frequency (%)
Occupation	
Employee	17 (16.7)
Housewife	79 (77.5)
Student	6 (5.9)
Husband's occupation	
Employee	21 (20.6)
Worker	30 (29.4)
Self-employed	46 (45.1)
Other	5 (4.9)
Place of residence	
Personal	56 (54.9)
With a mortgage or rental	44 (43.1)
Other	2 (2)
Income	
Less than adequate	23 (22.5)
Adequate	68 (66.7)
More than adequacy	11 (10.8)
Separate bedroom	
Yes	83 (81.4)
No	19 (18.6)

infertility and treatment were 6.56±4.248 and mass index (BMI) of the participants was 25.76±5 kg/m² (Table 2).

Table 4. Correlation coefficient between sexual satisfaction, its dimensions, and genital self-image

Genital self-image	Infrequency	Non-communication	Dissatisfaction	Female avoidance	Female non-sexuality	Vaginismus	Anorgasmia	Sexual satisfaction
r-value	-0.284	-0.328	-0.333	-0.359	-0.450	-0.067	-0.377	-0.500
P ^a -value	P=0.004	P=0.001	P=0.001	P<0.001	P<0.001	P=0.504	P<0.001	P<0.001

a: It was significant at 5% error level

Table 2. Distribution frequency of patient characteristics

Variable	Mean±Standard deviation
Duration of marriage	8.65±4.688
Duration of infertility	6.56±4.248
Duration of infertility treatment	5.07±3.241
Body mass index (BMI)	25.76±5

5.07±3.241 years, respectively. The mean body

The mean scores of sexual satisfaction and genital self-image are presented in Table 3.

Table 3. Mean and standard deviation scores for sexual satisfaction and genital self-image

Variable	Mean±Standard deviation
Sexual satisfaction	61.03±9.81
Genital self-image	47.40±9.71

Spearman correlation coefficient was also used to determine the correlation of genital self-image with sexual satisfaction and its dimensions (Table 4). We found a significant positive correlation between genital self-image and sexual satisfaction (P<0.001). Moreover, there was a significant correlation between genital self-image score and sexual satisfaction dimensions including infrequency, non-communication, female avoidance, female non-sexuality, and anorgasmia. However, no significant correlation was observed between genital self-image and vaginismus

Multiple regression analysis was run to determine the dimension of sexual satisfaction that better predicts genital self-image. Multiple correlation coefficient, coefficient of determination, and adjusted coefficient of determination were found to be 0.655, 0.442, and 0.401, respectively. The statistics of the predictor variables in the regression model are illustrated in Table 5. According to Table 5, female non-sexuality and anorgasmia were better predictors of genital self-image.

Table 5. Statistics of the predictor variables within the multiple regression model

Predictor variables	Regression coefficient	Standard deviation	Standardized regression coefficient	Test statistics	P ^a -value
Non-communication	-0.181	0.379	-0.058	-0.478	0.634
Dissatisfaction	-0.177	0.246	-0.068	-0.721	0.473
Infrequency	-0.017	0.452	-0.005	-0.038	0.970
Female avoidance	-0.676	0.305	-0.190	-2.220	0.029
Female non-sexuality	-0.684	0.210	-0.296	-3.254	0.002
Anorgasmia	-0.820	0.295	-0.320	-2.782	0.007

a: It was significant at 5% error level.

Discussion

In the current study, we attempted to investigate the relationship between genital self-image and sexual satisfaction in infertile women visiting Milad Infertility Center in Mashhad, Iran. To this end, 102 infertile women were examined. The results of this study revealed a significant relationship between genital self-image and sexual satisfaction, that is, those with a more positive genital self-image were endowed with higher sexual satisfaction. Moreover, genital self-image had a significant relationship with all the sexual satisfaction dimensions, except for vaginismus. Female non-sexuality and anorgasmia were found to be better predictors of genital self-image.

The results of other similar studies presented that more positive genital self-image can bring about higher sexual satisfaction and experiences, as well as better sexual functioning. Besides, genital self-image was considered as a tool to predict a woman's behavior as her genital system was examined (20).

Reinholtz et al. (1995) noted that self-image was correlated with sexual satisfaction, and women had more negative attitudes towards their genitals and greater sense of concern over their partners' reaction to their genitals compared to men (18). These results were consistent with our findings regarding the relationship between genital self-image and sexual satisfaction. On the other hand, Sovlati et al. (2005) concluded that lack of self-confidence in infertile women could lead to lower sexual satisfaction, and thus, reduce the scores in Genital Self-image scale. They also reported that self-esteem scores of infertile couples were lower compared to those of fertile ones (28).

The study by Schick et al. (2010) on 217 female university students indicated dissatisfaction with reproductive organs due to

high self-awareness, which resulted in reduced sexual self-esteem and sexual satisfaction (21). Moreover, Morrison et al. (2005) in a study on female university students in Canada showed that positive perception of genital appearance was significantly correlated with sexual self-esteem. However, this perception had an inverse relationship with body image awareness and sexual anxiety (19).

According to a study by Tavakol et al. (2011), all the variables related to sexual functioning (i.e., sexual desire, arousal, lubrication, orgasm, pain, and satisfaction) were associated with sexual satisfaction (29). Furthermore, sexual functioning and all its dimensions, as revealed in studies by Herbenick (2011) and Berman (2008), were significantly correlated with genital self-image (15, 30). Sexual function and all its dimensions have a significant relationship with genital self-image (14, 28). Since sexual satisfaction is one of the dimensions of sexual function, and based on the relationship of sexual function and its dimensions with genital self-image in the studies by Berman and Herbenick and the association of sexual function with sexual satisfaction in the study by Tavakol, it can be concluded that genital self-image is related to sexual satisfaction. These studies were consistent with the present study regarding the association of genital self-image with sexual satisfaction.

Findings of the mentioned investigations were in line with the present results regarding the relationship between genital self-image and sexual satisfaction.

Mohammad et al. (2014), in a study on the psychometric properties of Genital Self-image scale (Arabic version), revealed that genital self-image was significantly correlated with the scores of sexual functioning and its dimensions

(13). Furthermore, the results of Herbenick (2010) showed that genital self-image was significantly correlated with all the sexual functioning dimensions, except for sexual desire (31). This finding was not in line with the current results. This discrepancy in results could be attributed to the use of different questionnaires and study groups, as well as racial and cultural differences.

Pakpour et al. (2014) also revealed that genital self-image scores were significantly correlated with self-esteem and body image satisfaction. Moreover, genital self-image was correlated with all the sexual functioning dimensions, particularly sexual satisfaction (20). Additionally, Berman (2003) found that sexual functioning was significantly correlated with genital self-image only in the domain of sexual desire (14).

Similarly, Swart et al. (2004) demonstrated that women with sexual problems had a more negative genital self-image and lower sexual satisfaction compared to women without such problems. In that study, genital self-image scores were significantly correlated with sexual functioning in controls (32), while no relationship was found between genital self-image and sexual functioning in intervention group.

Madewell et al. (2010) did not find any significant relationships between genital self-image and sexual satisfaction (25). The reason behind such contradiction could be racial, cultural, and religious differences. Moreover, research methods and sexual satisfaction measurement instruments were different, and most importantly, the individuals in the present study were infertile women, which could describe the differences in the results of the two investigations.

Considering the relationship between sexual satisfaction and genital self-image in infertile women, healthcare practitioners and authorities should focus more attention on sexual dimensions of infertility and implement sexual training programs through support groups in infertility centers. One of the main characteristics of the present study was its implementation in Milad Infertility Center in Mashhad, Iran, and covering individuals from diverse socioeconomic groups.

The limitations of this study included small

sample size and the stress associated with infertility consultation, treatment, and diagnosis, which could have their own impact on infertile women's responses. Therefore, to control for these drawbacks, we tried to complete the questionnaires when the participants had relative mental and psychological preparation.

Conclusion

Given the correlation between sexual satisfaction and genital self-image in infertile women, emphasis should be placed on identifying and treating sexual problems of infertile women in healthcare and infertility centers to promote their sexual satisfaction, and consequently, enhance family survival.

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Conflicts of interest

The authors declare no conflicts of interest.

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