

# Body image and its relationship with sexual function and marital adjustment in infertile women

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## ABSTRACT

**Background:** Body image is related to cognitive, emotional, and physical aspects of women's life. Therefore, it is expected to have an important role in women's sexual health and marital adjustment too. This issue seems to be salient in infertile women who suffer from psychological consequences of infertility. This study was conducted to investigate the relationship of body image with sexual function and marital adjustment in infertile women in 2011 in Mashhad, Iran.

**Materials and Methods:** This correlational study was performed on 130 infertile women who referred to Montaserieh Infertility Research Centre in Mashhad, Iran. Subjects were selected using convenient sampling method. To collect data, valid and reliable questionnaires including demographic and infertility-related data tool, modified Younesi Body Image Questionnaire, Rosen Female Sexual Function Index (FSFI), and Spanier Dyadic Adjustment Scale (DAS) were used. Data analysis was performed by SPSS software using Student's *t*-test, correlation, analysis of variance (ANOVA), and Tukey *post-hoc* test.

**Results:** The mean scores of body image, sexual function, and marital adjustment in women were  $308.1 \pm 45.8$ ,  $27.23 \pm 3.80$ , and  $113.8 \pm 19.73$ , respectively. There was a direct correlation between overall body image and subscales of sexual function including sexual arousal ( $P = 0.003$ ), sexual desire ( $P = 0.024$ ), vaginal moisture ( $P = 0.001$ ), orgasm ( $P < 0.001$ ), sexual satisfaction ( $P < 0.001$ ), and dyspareunia ( $P = 0.007$ ). A direct correlation was also observed between overall body image and subscales of marital adjustment including agreement and consent ( $P < 0.001$ ), satisfaction with life ( $P < 0.001$ ), continuity of life ( $P = 0.007$ ), and expressing emotions within the family environment ( $P < 0.001$ ).

**Conclusions:** Improved sexual function and marital adjustment in cases with higher body image provides evidence that one of the solutions to reduce sexual dysfunction and marital dispute in infertile women could be planning educational and counseling programs to improve women's body image.

**Key words:** Body image, infertility, Iran, marital adjustment, sexual function

## INTRODUCTION

Mental health is the most important factor of human growth and development. Empowerment of women and improvement of their conditions and positions in the society are the salient issues to achieve mental health.<sup>[1]</sup> Body image is one of the important psychological concepts, which has always been a concern for men and women.<sup>[2,3]</sup> Body image is a subjective concept and one of the important concepts of self-image.<sup>[4]</sup> This image is a personal relationship that everyone has with his/her own body, in addition to a set of beliefs, perceptions, thoughts, feelings, and actions, which are related to the physical appearance of humans.

Physical conception is rooted in scientific psychology and is a proactive, cognitive, and behavioral approach.<sup>[2]</sup> Based on the cognitive-behavioral theory of Cash (1994), the influencing factors on body image are derived from individual, environmental and behavioral factors. The events that occurred in the past and present for each person are also involved in the formation of body image.<sup>[2,4]</sup> The dissatisfaction of many women of their bodies results from natural changes in the body such as genetic structure of the body, short stature in women compared with men, maturity, rapid growth of the body in adolescence, induced menstrual periods, process of aging, and other things that change (short term or long term) the body image and self-concept of the individual.<sup>[3,5]</sup> One of the major changes in women's lives is pregnancy and childbirth, which is enjoyable for many women. Therefore, childbearing can be an opportunity to reduce their sensitivity to the attraction and beauty of their bodies, which leads to a period of tranquillity and relaxation about their body images.<sup>[3]</sup> However, women who do not experience pregnancy may feel that their bodies do not work properly.<sup>[6]</sup> One of the disturbing difficulties of women is infertility or the inability of the woman or man to have

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children.<sup>[1]</sup> Brunner's findings indicated that the diseases cause loss of control over the body, lead to the feeling of inadequacy in a person from the body, and create insecurity and negative body image.<sup>[3]</sup> For infertile women, the inability to become pregnant and experience childbirth is considered as a kind of impairment caused by acquired, inherited, or congenital causes.<sup>[7]</sup> However, infertility is not a disease, but it can cause major affective disorders.<sup>[8]</sup> When married women do not have children until the age of 30, they discover that they may have fertility problem and it is possible to find negative body image in them because they understand that they do not have the ability for childbearing. On the other hand, in infertile women with a poor body image, more psychological problems can be observed. These feelings can affect all aspects of their lives. For example, this can be a cause of concern for sexual and physical attractiveness, general feeling of self-esteem, and general health.<sup>[6]</sup> Meanwhile, these negative emotions are uninformed, but women still do combat with this issue mentally.<sup>[9]</sup> Infertile women are deprived of pregnancy relaxation periods, and this issue is important from their psychopathological point of view.<sup>[3]</sup> In the study of Younesi and Salajegheh, it has been reported that infertile women had more problems about body image compared with fertile women.<sup>[3]</sup> In contrast, Khodakarami *et al.* have reported that women may pay less attention to their physical appearances, beauty, and body image due to the fear of an unknown future, the possibility of failure in the treatment of infertility and its consequences. Therefore, their body image may not be changed.<sup>[10]</sup> Body image is a significant predictor about the behavior of women. There is a relationship between healthy behaviors and body image. For example, a direct correlation has been found between feeding behavior and body image. Therefore, body image may impact behaviors such as sexual function too, because it is associated with the physical aspects (physical and sexual attraction) and also with cognitive–emotional aspects of women.<sup>[4]</sup> Women worried about their physical appearance likely experience sexual dysfunction, since their sexual excitement depends on their sense of being charming to a large extent.<sup>[9]</sup> On the other hand, in terms of sexual function and marital adjustment, the most important factor for women is not only their ability for sexual activity but also the feeling and belief about body image and the status of their femininity.<sup>[11]</sup> In a healthy marriage, the existence of a desirable sexual relationship to provide satisfaction to the partners has a fundamental important role in the success and stability of the family.<sup>[12]</sup> Appropriateness and balance in the male and female sexual desires are among the most important causes of happiness and success of married life.<sup>[13]</sup> Disregarding the sexual instinct in humans in most cases causes disturbance in marital relations and it has been observed that the main reason for 80% of marital discords has been sexual dissatisfaction of husbands and wives.<sup>[14]</sup> On the other hand, when a couple realizes about their

infertility, their body images of themselves may be corrupted and their sexual activities may be damaged.<sup>[15]</sup> Infertility evaluation and using assisted reproductive techniques may have negative effects on the body image of the female and her emotions about her sexual value.<sup>[16]</sup> Some researchers believe that body image in fertile women is partly associated with sexual function.<sup>[11]</sup> In the study of Pujols *et al.*, it was demonstrated that by having better body image in women, their sexual functioning and satisfaction had been more desirable.<sup>[17]</sup> In the study of Meltzer (2010) that aimed to determine body image, marital satisfaction, and the sexual satisfaction in couples, it was found that whenever the body image was stronger, marital and sexual satisfaction was better. The study of Kilic *et al.* in patients with permanent ostomy indicated that in these patients, better body image is triggered stronger sexual relationship and greater marital adjustment.<sup>[18]</sup> In contrast, Knafo *et al.* conducted a study on checking the relationship of body image satisfaction and sexual performance in women with disseminated sclerosis disease. The obtained results showed that distress and concern regarding the body image were not associated with reduced sexual functioning.<sup>[19]</sup> Considering the results of various studies about the influence of body image on sexual consequences as well as increased rate of problems caused by sexual and marital relationship issues,<sup>[1,4]</sup> and also the lack of a study to investigate body image and its relationship with sexual function and marital adjustment in infertile women, it seemed that conducting a study in this field is necessary. Therefore, the researchers decided to study the body image in infertile women and its relationship with their sexual function and marital adjustment. We hope that using the results of this study, policy makers could provide suitable treatment guidelines as well as appropriate counseling and educational programs to alleviate the sexual and marital problems of infertile women and also to improve their mental health.

## MATERIALS AND METHODS

This correlational study was carried out on 130 infertile women who referred to Montaserieh Research Treatment Infertility Centre in Mashhad, Iran in 2011. The subjects were selected using convenient sampling method. The sample size calculation was carried out by conducting a pilot study on 20 eligible infertile women using correlation formula based on the correlation coefficient between body image and marital adjustment using 95% confidence interval and a power of 80%, and it was estimated that a sample size of 130 was needed for each group.

The participants who met the following criteria were included in the study: Being able to talk in Persian, having the ability to read and write, being in the age range of 20–40 years, not being pregnant after a minimum of

1 year of unprotected sex, and having primary infertility confirmed by a gynecologist. The exclusion criteria were: Having undergone training or counseling sessions about sexual issues or marital relationships in the last month, having a history of medical illnesses or any physical, mental, and movement disabilities, being under treatment due to sexual dysfunction (lack or loss of libido, sexual aversion, lack of sexual pleasure, fearing of having sex, sexual motivation disorder, vaginal dryness, orgasmic dysfunction, painful intercourse, vaginismus, or extreme sexual stimulation), taking medications to increase or decrease libido (libido-enhancing drugs including ephedrine, caffeine, synarlyn, levothyroxine, danazol, herbal medicines like aphrodite and rose or damask rose fragrances, and libido-lowering medications such as spironolactone, hydrochlorothiazide, clofibrate, digoxin, propranolol, fluoxetine, haloperidol, clonidine, chlordiazepoxide, and methyl dopa), women with a history of aggression or sexual harassment, having undergone surgery in the past 6 months, having a mental illness, and drug use or alcohol consumption.

To collect data, valid and reliable questionnaires including demographic and infertility-related data questionnaire, modified Younesi Body Image Questionnaire,<sup>[3]</sup> Rosen Female Sexual Function Index (FSFI),<sup>[20]</sup> and Dyadic Adjustment Scale (DAS)<sup>[8,21,22]</sup> were used. The questionnaires were completed by conducting interviews with the participants. Body image assessment questionnaire was developed based on a six-point Likert scale by George Kelly mental structure method. This questionnaire was validated in 2001 by Younesi and colleagues in Iran to measure the dimensions of body image. The mentioned questionnaire had 66 questions with six subscales including the body during activity and when alone, the real body, the ideal body, the body as people see and know, the body as it is recognized by the spouse, and the body as it is known by the spouse's family. In the body image assessment questionnaire, each question was rated with a minimum of one and a maximum of six points. The maximum score that could be obtained in the questionnaire was 396 and the minimum score was 66. Higher score indicated more positive or better body image and lower score demonstrated more negative body image.<sup>[3]</sup> Sexual functioning was evaluated based on the female sexual function index questionnaire. This questionnaire was developed in 2000 by Rosen and colleagues with 19 questions and six subscales including libido, sexual excitement, vaginal moisture, orgasm, painful intercourse, and sexual satisfaction. The scores given were: 1–5 points for questions regarding the scope of libido, 0–5 points for sexual excitement, vaginal moisture, painful intercourse, and orgasm, and zero or 1–5 points for questions regarding sexual satisfaction. Zero score indicated a lack of sexual

activity during the past 4 weeks. The cut-off score of sexual function scale was 28, and the minimum score for the total scale was considered 2 and the maximum was 36. Generally, higher scores indicated better sexual function.<sup>[20,23]</sup> Marital adjustment scale questionnaire was used for the assessment of marital adjustment. This questionnaire was designed by Spanier in 1976. It was used to assess four elements of adjustment including marital satisfaction, marriage coherence, agreement in marriage, and manifestation and expression of couples' feelings and emotions. This questionnaire had 32 questions with a maximum score of 151 and a minimum score of zero. Scores of less than 100 in this scale meant lower marital adjustment and scores above 100 indicated greater marital adjustment.<sup>[8,21,22]</sup>

The validity of the modified questionnaire of body image assessment, women's sexual function, and marital adjustment was determined by content validity method. These tools were created by reviewing the most recent books and articles in the field of the study subject. Then, they were given to 10 experts for the needed evaluation and finally, the corrected comments were applied in the developed tools.

Reliability of body image assessment questionnaire was approved by the internal consistency reliability method by calculating the Cronbach's alpha coefficient, which was  $\alpha = 0.92$ , for women's sexual function questionnaire  $\alpha = 0.79$ , and for marital adjustment questionnaire  $\alpha = 0.92$ .

For data collection, after obtaining the necessary permission from the Montaserieh Centre officials and after expressing the objectives and methods to the participants, the researcher obtained the consent of subjects and reassured them about confidentiality of the information; they were explained that their participation in the study was completely voluntary and they could withdraw from the study whenever they wanted. They were also assured that the research results would be published as a whole and in the format of study groups' information, and individual results would be supplied if necessary, anonymous demographic characteristics. Participants were given an explanation about how to respond to the questions. Demographic and infertility information questionnaire and marital adjustment scale were completed through subjects' self-report. Body image and sexual function questionnaires were completed through interviews.

Data analysis was carried out using SPSS software version 15.5. Data description was performed using frequency tables, graphs and mean indicators, median and standard deviation. The followings tests were used for statistical analysis: Pearson and Spearman correlation

coefficients to determine the relationship among the normal and abnormal quantity variables, independent t-test (Student's t-test) for the comparison of means of two-state quality variables, and analysis of variance (ANOVA) and Tukey *post hoc* test for the comparison of means of multi-complex variables (normal quantitative and multimode qualitative variables) to examine the pure relationship between the variables for direct and indirect effects of confounding variables on the main variables. The significance level was set at 0.05 for all tests.

This study has been approved (with the registration number of 89050) by the Regional Ethics Committee of Mashhad University of Medical Sciences, Mashhad, Iran.

## RESULTS

The mean age of infertile women was  $27 \pm 4.58$  years. Ninety-eight women (75.4%) were housewives. In terms of job categories of infertile women, 19 subjects (59.4%) were involved in cultural–educational fields and other occupational categories such as medical sciences, technical, and engineering. Thirty-eight women (29.2%) had university degree, 43 subjects (33.1%) had high school education, and the others had primary and middle school education. Forty-seven (36.2%) infertile women's spouses were self-employed, 40 (30.8%) spouses were employees, and others were either workers or unemployed. One hundred and six (81.5%) infertile women lived only with their respective partner in one place and 106 (79.2%) subjects lived in the town. In terms of housing status, 53 (40.8%) women had a private home and 49 (37.7%) had a rental property. Results of the study showed that 99 (76.2%) infertile women had social and artistic outdoor activities (other than their permanent jobs). One hundred and five (80.8%) subjects did regular exercises. Sixty (46.2%) women attempted to lose weight. Thirty-five (54.7%) subjects attempted to increase or decrease their weight to remain fit. The mean of body mass index (BMI) of the women was  $20.87 \pm 3.71$  kg/m<sup>2</sup>. Other results of the study showed that the mean length of marriage was  $7 \pm 4.23$  years. The mean period of knowing about their infertility was  $5.24 \pm 4.12$  years and the mean duration of the infertility treatment was  $4.1 \pm 3.95$  years. The cause of infertility in 61 cases (46.9%) was female factor, in 49 cases (37.7%) was male factor, and in the remaining was a combination of male and female factors or unknown. Forty-nine cases (38.0%) were affected by sperm disorders and 43 cases (33.3%) with ovulation disorders. In addition, 74 (56.9%) infertile women were quite promising about the success of their treatment and 100 (76.9%) women were accompanied by their spouses in the process of infertility treatment. One hundred and sixteen (89.2%) of the women themselves and 115 (88.5%) of their spouses had a great

desire to have children.

The mean score of body image in infertile women was  $308.1 \pm 45.8$ . The mean sexual function score was  $27.23 \pm 3.8$  and the mean score of marital adjustment was  $113.8 \pm 19.73$ . In terms of body image, 121 (93.1%) infertile women had higher scores than the mean score (231). Fifty-nine (45.4%) infertile women had sexual function scores more than the cut-off point of 28 on the scale of women's sexual functioning. One hundred (76.9%) women had high marital adjustment score (above the cut-off score of 100).

The results of Pearson correlation test showed that there was a direct correlation between overall body image of infertile women with sexual function ( $P < 0.001$ ,  $r = 0.4$ ). Therefore, by improving the body image, sexual function could be improved. Spearman correlation test showed that there was a direct correlation between the subscales of ideal body image (or desired) with overall sexual function ( $P = 0.04$ ,  $r = 0.2$ ). Pearson test showed a direct correlation between the subscales of body image, including the body when alone ( $P < 0.001$ ,  $r = 0.305$ ), the real body ( $P = 0.008$ ,  $r = 0.231$ ), the body that people think ( $P < 0.001$ ,  $r = 0.330$ ), the body as it is recognized by the spouse ( $P < 0.001$ ,  $r = 0.4$ ), and the body as it is known by the spouse's family ( $P < 0.001$ ,  $r = 0.360$ ), with sexual function [Table 1].

In addition, Spearman correlation test showed that there was a direct correlation between overall body image with marital adjustment in infertile women ( $P < 0.001$ ,  $r = 0.4$ ). Therefore, with a positive body image, marital adjustment was better. In addition, Spearman test results showed that there was a direct correlation between body image subscales, including the body when alone ( $P = 0.001$ ,  $r = 0.312$ ), the real body ( $P = 0.004$ ,  $r = 0.353$ ), the

**Table 1: Relationship between body image subscales with sexual function in infertile women**

Variables	Overall sexual function	
	Correlation coefficient ( <i>r</i> )	<i>P</i>
Body image subscales		
The body when alone	0.305	0.000*
Real body	0.231	0.008*
Ideal body	0.200	0.040*
The body that people think	0.330	0.000*
Spouse's imagination of the body	0.400	0.000*
Spouse's family's imagination of the body	0.360	0.000*
Overall result	0.400	0.000*

body that people think ( $P = 0.016$ ,  $r = 0.211$ ), spouse's imagination of the body ( $P < 0.001$ ,  $r = 0.453$ ), and spouse's family's imagination of the body ( $P < 0.001$ ,  $r = 0.402$ ), with marital adjustment in infertile women. Therefore, by improving the body image subscales in infertile women, marital adjustment could be made better and more desirable. However, there was no relationship between the subscales of ideal body image with marital adjustment [Table 2].

Pearson's test results on the correlation between body image with sexual function subscales in infertile women showed that there was a direct correlation between body image with sexual arousal subscale ( $P = 0.003$ ,  $r = 0.3$ ). According to the Spearman test results, there was a direct correlation between the body image and subscales of sexual desire or attraction ( $P = 0.024$ ,  $r = 0.2$ ), vaginal moisture ( $P = 0.001$ ,  $r = 0.215$ ), orgasm ( $P < 0.001$ ,  $r = 0.37$ ), sexual satisfaction ( $P < 0.001$ ,  $r = 0.34$ ), and dyspareunia ( $P = 0.007$ ,  $r = 0.235$ ) [Table 3].

In this research, the correlation between body image with marital subscales in infertile women was also evaluated. The results of Pearson test showed that there was a direct correlation between the body image with the subscales of marital adjustment in terms of agreement and consent ( $P < 0.001$ ,  $r = 0.335$ ). Spearman's test results showed that there was a direct correlation between body image of infertile women with the subscales of satisfaction with life ( $P < 0.001$ ,  $r = 0.315$ ), continuity of life ( $P = 0.007$ ,  $r = 0.237$ ), and expressing emotions within the family environment ( $P < 0.001$ ,  $r = 0.37$ ). Thus, with more positive body image in infertile women, the subscales of marital adjustment were found to be better [Table 4].

## DISCUSSION

The results of the present study showed that there was a direct correlation between body image with sexual function. More positive body image was associated with better and desirable sexual performance. There was a direct correlation between the subscales of body image, ideal body (or desired), the body when alone, the real body, the body that the people think, spouse's imagination of the body, and spouse's family's imagination of the body, and sexual function. Several studies have confirmed the relationship between the body image with sexual function in different fields. It could be compared to similar studies such as the study of Pujols *et al.* that reviewed the relationship between sexual function, sexual satisfaction, and body image in healthy women,<sup>[17]</sup> the study of Seal *et al.* on the relationship between body esteem and sexual function among healthy female students,<sup>[24]</sup> and the study

**Table 2: Relationship between body image subscales with marital adjustment in infertile women**

Variables	Overall marital adjustment	
	Correlation coefficient (r)	P
Body image subscales		
The body when alone	0.312	0.001*
Real body	0.353	0.004*
Ideal body	0.414	0.072
The body that people think	0.211	0.016*
Spouse's imagination of the body	0.453	0.000*
Spouse's family's imagination of the body	0.402	0.000*
Overall result	0.400	0.000*

**Table 3: Relationship between body image with sexual function subscales in infertile women**

Variables	Overall body image	
	Correlation coefficient (r)	P
Sexual function subscales		
Sexual desire	0.2	0.024*
Sexual arousal	0.3	0.003*
Vaginal moisture	0.215	0.001*
Orgasm	0.37	0.000*
Sexual satisfaction	0.34	0.000*
Dyspareunia	0.235	0.007*
Overall result	0.4	0.000*

**Table 4: Relationship between body image with the subscales of marital adjustment in infertile women**

Variables	Overall body image	
	Correlation coefficient (r)	P
Marital adjustment subscales		
Agreement and consent	0.335	0.000*
Life satisfaction	0.315	0.000*
Continuity to life	0.237	0.007*
Expressing the emotions in family environment	0.370	0.000*
Overall result	0.353	0.000*

of Hopkins investigating self-esteem, body image, and sexual awareness in 30–50 year old unmarried women.<sup>[25]</sup> These studies investigated the role of body image in sexual function of healthy women. In some other studies, this relationship has been investigated in female patients. For instance, Da Silva *et al.* studied the effect of colorectal

surgery on sexual function, body image, self-efficacy, and public health in women.<sup>[26]</sup> Fobair *et al.* investigated body image and sexual problems in young women with breast cancer.<sup>[9]</sup> Also, Kilic *et al.* evaluated the effect of permanent ostomy on body image, self-esteem, marital adjustment, and sexual function<sup>[18]</sup> and Jun *et al.* compared the impact of structured programs on the marital relationship, body image, and sexual function in women with breast cancer and healthy women.<sup>[27]</sup> The results of our study were congruent with the findings of the above-mentioned studies. We argue that in the studies of Da Silva *et al.*,<sup>[26]</sup> Fobair *et al.*,<sup>[9]</sup> Kilic *et al.*,<sup>[18]</sup> and Jun *et al.*,<sup>[27]</sup> women suffered from various diseases which affected their body image; but in our study, although the infertile women were apparently considered as healthy people, they might have the same mental-emotional problems which could impact on their body image like other patients. In addition, from the perspective of infertile women, due to impaired fertility, they may assume themselves as sick and think that there is a disorder in their body and, therefore, their body image is affected.<sup>[3,10]</sup> Knafo *et al.* aimed at investigating the relationship of body image satisfaction with sexual function in 117 women with systemic sclerosis in their study and indicated that concerns about body image was not associated with reduced sexual function.<sup>[19]</sup> Lack of consistency between our results and the findings of Knafo *et al.* was probably because the women who suffered from systemic sclerosis due to their physical deformities were not satisfied with their bodies and, therefore, had no positive body image. Researchers believe that people with disabilities and physical deformities feel ashamed of their bodies and are affected by disorders in body image. It is noteworthy that the beliefs of individuals about the deficits and physical deformities have two modes, i.e. either the persons are affected by the defect and it somehow results in adverse consequences in their life or they do not pay attention to body defects and problems and assume that there is no defect in their body, and therefore, the defect does not have a negative impact on their personal and social life.<sup>[28]</sup> The results obtained from the present study showed that with more positive body image, there was more favorable sexual function, while in the study of Knafo *et al.*, despite the presence of physical defects and negative body image in women due to emotional-psychological problems from the disease, they had more emotional feelings to their husbands and despite low body image, no change occurred in their sexual relationships.

In addition, the results of the present study showed that there was a direct correlation between body image and marital adjustment, i.e. more positive body image was associated with higher score of marital adjustment. Also, there was direct relationship between the subscales of body image, including the body when alone, the real body, the body that people think, spouse's imagination of the body,

and spouse's family's imagination of the body, and marital adjustment. However, there was no relationship between marital adjustment and the subscale of ideal body. These findings are congruent with the study of Roudsari *et al.*<sup>[29]</sup> Meltzer and McNulty, in a study to determine body image, marital satisfaction, and sexual satisfaction in women,<sup>[30]</sup> and also Kilic *et al.*<sup>[18]</sup> and Jun *et al.* in their studies concluded that more positive body image leads to better marital adjustment and intimacy.<sup>[27]</sup> The results of all three studies were consistent with the results of the present study. Luo *et al.*, in a study on the adult urban Chinese women, concluded that women who had no good body image did not have a good relationship with their spouses. In addition, Luo *et al.* showed in that study that the women who felt that their husbands had a pretty good idea about their bodies had a positive impression of their own bodies in addition to having better marital relationships.<sup>[31]</sup> In the study of Markey *et al.* on the role of spouses in the perception of body image satisfaction, it was reported that more satisfaction of women about their bodies had been caused when they felt that their spouses were also satisfied with their bodies and, therefore, this issue resulted in better marital relationships.<sup>[32]</sup> This finding was consistent with the results of the present study about direct relationship between the thought of the spouse about the body with marital adjustment in women.

During the study, some variables could not be controlled by the researcher; so, they are considered as limitations. For example, stresses and concerns related to counseling, diagnosis, and treatment of infertility in the specialized infertility clinic of Montaserieh might have an impact upon the subjects regarding how they respond to the questions. In this context, it has been tried to complete the questionnaires at a proper time with necessary mental preparation of the subjects. For proportional control of these restrictions, despite assuring subjects about the confidentiality of their information, in some cases they could not respond to the questions correctly. Also, personality differences of the subjects could affect the way they answer to the questions, which could not be controlled by the researcher. Therefore, it is suggested that the relationship between body image with sexual function and marital adjustment in different cultures of urban and rural communities should be explored in future research. Also, it is suggested to compare the relationship between body image with sexual function and marital adjustment in the general population and the infertile couples' population who are undergoing IVF (*In Vitro* Fertilization), IUI (Intrauterine Insemination), and other ARTs (Assisted Reproductive Technology). Also, comparing the body image of infertile couples with male and female factors and its impact on their sexual function and marital adjustment is also recommended for further research.

## CONCLUSION

In the present study, a direct correlation was found between the body image with sexual function and marital adjustment. By improving the body image in infertile women, a better sexual function and higher marital adjustment was seen as well. The results of this study can draw the attention of policy makers to develop and suggest training programs for the health professionals working in infertility clinics, specialized clinics for women, and psychology and family counseling clinics. Also, it is recommended to assess body image, sexual function, and marital adjustment of infertile couples when they are admitted to any treatment or counseling center, in order to offer them appropriate training program to develop their positive body image, which in turn results in better sexual function and marital adjustment. The results of this research could also contribute to the level of awareness and knowledge of teachers, students, and health care providers, who either work in general health centers or special infertility research centers, regarding the mental health of infertile women.

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## REFERENCES

- Hatami HR, Eftekhari AH, Majlesi F, Sayed Nozadi M, Parizadeh SM, editor. Text Book of Public Health. 2<sup>nd</sup> ed. Tehran: Arjmand, School of Health, Shahid Beheshti University of Medical Sciences; 2007.
- Cash TF, editor. The body image work book: An 8-step program for learning to like your books. 1<sup>st</sup> ed. Tehran: Danje: Tehran University of Medical Sciences; 2010. p. 198-199.
- Younesi S, Salajegheh A. Body image in Fertile and Infertile Woman. *J Reprod Infertil* 2001;2:14-21.
- Cash TF, Pruzinsky T. Body image, Handbook of theory, research and clinical practice. 3<sup>rd</sup> ed. New York: The Guilford Press; 2004. p. 30-380.
- Huang HC, Wang SY, Chen CH. Body image, maternal fetal attachment, and choice of infant feeding method: A study in Taiwan. *Birth* 2004;31:183-8.
- Karen J, Stephanie E, Ziporyn T, editors. The women's concise guide of emotional well-being. 1<sup>st</sup> ed. Tehran, Savalan: Tehran University; 2001. p. 187.
- Younesi S, Akbari Zardkhaneh S, Behjati Z. Evaluating Stigma among infertile men and women in Iran. *J Reprod Infertil* 2006; 6-10.
- Mollaiy Nezhad M, Jahanfar S, Jamshidi R. Infertility related stress and marital life in Iranian infertile women who referred to Isfahan infertility treatment clinic. *J Reprod Infertil* 2001;2:26-39.
- Fobair P, Stewart SL, Chang S, D'Onofrio C, Banks PJ, Bloom JR. Body image and sexual problems in young women with breast cancer. *Psychooncology* 2006;15:579-94.
- Khodakarami N, Hashemi S, Seddigh S, Hamdiyeh M, Taheripanah R. Life experience with Infertility; a phenomenological study. *J Reprod Infertil* 2009;10:287-97.
- Dalton EJ, Rasmussen VN, Classen CC, Grumann M, Palesh OG, Zarcone J, *et al.* Sexual Adjustment and Body Image Scale (SABIS): A new measure for breast cancer patients. *Breast J* 2009;15:287-90.
- Dehkordi AM. Relationship between women sexual function and marital adjustment *J Behav Sci* 2010;4:199-206.
- Milani FB, editor. Psychology of Health. 2<sup>nd</sup> ed. Tehran: Ghomes, Tehran University; 2001. p. 56.
- Hoseini M., Khadiv Zadeh T. Effect of sex education on the couple's sexual marital satisfaction. Iran: Mashhad University of Medical Sciences; 2003. p. 4-45.
- Ahmadi K, Aghazadeh NA, editors. AOM Series abstract of medicine. Zananva Mamai. Tehran: TEBE NOVIN, Farhang Farda, moaseseh farhangi Ahmadi; 2002.
- Berek JS, Novak E. Berek and Novak's gynecology. 14<sup>th</sup> ed, 14, editor. London: Lippincott Williams and Wilkins; 2007.
- Pujols Y, Meston CM, Seal BN. The association between sexual satisfaction and body image in women. *J Sex Med* 2010;7:905-16.
- Kilic E, Taycan O, Bell AK, Özmen M. The effect of Permanent Ostomy on Body Image, Self-Esteem, Marital Adjustment, and Sexual Functioning. *Turk Psikiyatri Derg* 2007;18:302-10.
- Knafo R, Haythornthwaite JA, Heinberg L, Wigley FM, Thombs BD. The association of body image dissatisfaction and pain with reduced sexual function in women with systemic sclerosis. *Rheumatology (Oxford)* 2011;50:1125-30.
- Rosen R, Brown C, Heiman J, Leiblum S, Meston C, Shabsigh R, *et al.* The Female Sexual Function Index (FSFI): A multidimensional self-report instrument for the assessment of female sexual function. *J Sex Marital Ther* 2001;26:191-208.
- Fischer J, Corcoran K. Measures for clinical practice and research: A source book couples, families, and children. Mexican Americans: Oxfordusa Trade; 2007. p. 178-389.
- Legha Barazandeh H. The relationship of Schema and communication standards inconsistent with marital Adjustment. Mashhad: Ferdowsi; 2005. p. 67,92,5.
- Mohammadi K, Haydari M, Faghihzadeh S. Validated Persian version of women's sexual functioning scale instruction. *Payesh J* 2008;7:269-78.
- Seal BN, Bradford A, Meston CM. The association between body esteem and sexual desire among college women. *Arch sex Behav* 2009;38:866-72.
- Hopkins AK. The analysis of self-esteem, body image and sexual knowledge in single women 30-50 years of age: The study of their sexual satisfaction. Minnesota, United States: Capella University; 2011. p. 96-120.
- Da Silva GM, Hull T, Roberts PL, Ruiz DE, Wexner SD, Weiss EG, *et al.* The effect of colorectal surgery in female sexual function, body image, self-esteem and general health: A prospective study. *Ann Surg* 2008;248:266-72.
- Jun EY, Kim S, Chang SB, Oh K, Kang HS, Kang SS. The Effect of a Sexual Life Reframing Program on Marital Intimacy, Body Image and Sexual Function among Breast Cancer Survivors.

- Cancer Nurs 2011;34:142-9.
28. Dadsetan P. Abnormal psychology transformation: From childhood to adolescence 4<sup>st</sup> ed. Tehran: Samt Publications; 2004. p. 68, 102,139-200.
29. Latifnejad Roudsari R, Karami Dehkordi A, Esmaili H, Mousavifar N, Agha Mohamadian SherbafH. The relationship between body image and marital adjustment in infertile women. Iran J Obstet Gynecol Infertil 2012;14:9-19.
30. Meltzer AL, McNulty JK. Body image and marital satisfaction: Evidence for the mediating role of sexual frequency and sexual satisfaction. J Fam Psychol 2010;24:156-64.
31. Luo Y, Parish WL, Laumann EO. A population-based study of body image concerns among urban Chinese adults. Body Image 2005;2:333-45.
32. Markey CN, Markey PM, Birch LL. Understanding women's body satisfaction: The role of husbands. Sex Roles 2004;51:209-16.

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