

# The Effect of Training Package on Genital Self-Image and Sexual Function: A Randomized Controlled Clinical Trial

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## Abstract

**Background:** More than half of sexual problems, which cause destruction of life and marital relations is due to insufficient knowledge and wrong health beliefs regarding sexuality. Genital self-image plays an important role in sexual health, genital appearance, and sexual function.

**Objectives:** This study aimed to determine the effect of training package on genital self-image and sexual function in health centers of Qazvin, Iran.

**Methods:** In this randomized clinical control trial, 124 Iranian women, between the ages of 18 - 40 years, from Qazvin, were randomized into 2 groups, training and control. The intervention group received 3 training sessions weekly for 1 hour daily. Female Sexual Function Index (FSFI) and the genital self-image scale were completed before and 4 weeks after the end of intervention in both groups.  $P < 0.05$  was considered as significant.

**Results:** Between 2 groups, in terms of socio-demographic characteristics, there was no significant difference ( $P > 0.05$ ). The mean (SD) score of genital self-image in the intervention group before and after intervention was 72.0 (11.4) and 75.7 (11.7), respectively. The mean (SD) score of genital self-image in the control group before and after intervention was 72.9 (12.3) and 75.7 (10.9), respectively. According to the ANCOVA test, there was no significant difference between groups at 4 weeks after intervention in terms of sexual function (mean differences: 0.8; confidence interval 95%: -0.6 to 2.3;  $P = 0.257$ ) and genital self-image (mean differences: 0.5; confidence interval 95%: -3.3 to 4.4;  $P = 0.808$ ).

**Conclusions:** The results showed that training has no effect on the genital self-image and sexual function in women. The systematic planned training could be designed for those suffering from body image disorders and sexual dysfunction in order to promote their sexual function and body image.

**Keywords:** Education, Genital Appearance, Self-Image, Sexual Function

## 1. Background

Sexuality is a well-known phenomenon with a realistic importance and its ignorance seems to be wrong (1). Sex education is required in order to raise public awareness and knowledge about family health and reduce sexual problems among different social levels. Sex education is a process to develop sexual health, interpersonal relationships, affection, closeness, and help positive genital self-image and gender roles (1, 2).

Genital self-image also plays an important role in sexual health (3-5). Genital self-image could express individual's attitudes towards her feelings-thoughts that change her behavior in a variety of conditions in a positive or negative ways. This could be influenced by factors such as

physical growth, environment, and more, which bring out body image concern of genitals (6). Individual's awareness of body image during sexual intercourse depend on the women and their sexual partners attitudes from their reproductive system (7).

Proposed mechanisms through which genital self-image is used to determine sexual health include: self-awareness of the genital image and sexual confidence during sexual intercourse where these 2 items are correlated with individual's negative body image (8-12) as well as various health and sexual outcomes (10-13). Deep concern of negative evaluation by others leads into dissatisfaction of genital self-image (14, 15); the women's attitudes towards their reproductive system to a certain extent may be due

to misunderstanding of physical appearance during sexual activity that cause genital obsession and attention to physical defects.

Body image concerns disrupt sexual function (10). Those who feel ashamed of their organs may experience sexual dysfunction and may only be able to have sex in darkness and might not allow their partner touch or see the visible parts of her body, and therefore looking to have surgery as a results of their incompetence (7).

Sexual function points to 6 distinct dimensions including desire, arousal, lubrication, orgasm, satisfaction, and pain (16). The prevalence of sexual dysfunction reported about 89% among married women in Qazvin, where sexual desire disorder with 41.1% is allocated to the most frequent (17). Results of a study conducted by Berman et al. showed that the top grade of genital self-image is associated with sexual function and also the fact that the grade of genital self-image is associated with the 6 dimensions of sexual function. Women who had high scores of genital self-image, their sexual function score was also high (18).

Goodman (2011), in his study with the purpose of overviewing the consequences of vulvoplasty, showed that women were requested to have surgery to reduce the size of their clitoris to improve its performance due to creating discomfort and interference with intercourse, sports activity, and other cases. Even though the main reasons for women to have surgery on vagina, perineal, and hymen was improvement for sexual functions, and the majority of studies showed improved sexual function after surgery and positive body image, however, all the studies had been conducted retrospectively (19).

Midwives educate women regarding the function of the reproductive system, its natural appearance and hygiene, as well as encouraging them to get the correct information. In some cases, to reduce the fear and anxiety leading to negative perceptions of the genital tract abnormalities, various interventions regarding appearance and performance of their reproductive system are required. This can be achieved through the elimination of the negative perceptions of women or using a book containing normal or abnormal reproductive system. Despite the link between body concerns and sexual satisfaction, few studies have empirically studied this relationship or the particular mechanisms that might underlie it. There was no study in this field in Iran to determine the effect of training package on genital self-image and sexual function when this study was done.

## 2. Methods

### 2.1. Study Design and Participants

This randomized controlled clinical trial (IRCT code: IRCT201506148170N8), approved by the ethics committee of Tabriz University of Medical Sciences (ethical code: 93.1-14.14), was performed on 124 women at 5 public and governmental health centers during 2015 and 2016.

The eligibility criteria for the study included: age of 40 - 18 years, would like to participate in the study, Iranian nationality, primary school and higher educational levels, nulliparous women or with a parity of 1 - 2, both vaginal delivery and caesarean section, no mental illness and obsession according to the patient expression and avoiding the use of psychotropic drugs, lack of reproductive tract diseases, the couple's first marriage and monogamy, lives with her husband permanently (during the past 4weeks), and not being pregnant or lactating. The exclusion criteria included: no desire to continue to participate, women with multiple sexual partners, history of divorce, pelvic surgery, other genital surgery, and chemotherapy.

### 2.2. Sample Size

Sample size was determined by-power software and based on information extracted from the results of a study done by Mohammad-Alizadeh-Charandabi et al. (20) by considering  $m_1 = 65.9$  and at least a 15% increase in the mean score by the intervention in sexual function ( $m_2 = 75.8$ ),  $sd_1 = sd_2 = 15.8$  with a significance level of 0.05 and power of 95%. The estimated sample size was 56 per group. Considering 10% possible loss to follow-up, 62 women were decided to recruit for each group. There were no missing values.

### 2.3. Sampling and Random Allocation

Primary sampling was purposively, so that at first, women were selected from 5 out of 15 public health centers (those with a large number of clients from different geographical areas with various levels of socio-economic status) of Qazvin. Researcher checked the files in health centers based on the inclusion criteria; the phone numbers of women was extracted, and then the women were invited to attend health centers on certain days/hours. They completed an informed consent form that asked them to complete the socio-demographic characteristics questionnaire, female sexual function index, and genital self-image scale by assuring them to keep their information confidential. The participants with scores less than 50 at the genital self-image scale were evidenced with disrupted body image and these women were randomized into 2 groups (intervention and control) using block randomization, with

block sizes of 4 and 6, and allocation ratio of 1:1 by using the [www.random.org](http://www.random.org) website. A person not involved in the recruitment and data collection determined the allocation sequence using computer-generated random numbers and put group identification papers into sequentially numbered sealed opaque envelopes to conceal the allocation sequence. The envelopes were opened sequentially after getting written informed consent, collecting baseline data, and writing participant names on the envelopes.

#### 2.4. Interventions

In the intervention group, 3 training sessions were held for a period of 3 weeks. There were 10 participants in each training session and the average duration of each session was 1 hour. At the beginning of the first session, the participants received a training booklet. The contents of the training sessions included: first meeting about the anatomy and physiology of the reproductive system along with images of the organs of normal genitalia, the 2nd session regarding familiarity with female sex hormones and sensitive sex organs (clitoris, labia major and minor and entrance of the vagina), and the 3rd session regarding causes of the negative image, performing unnecessary surgery, complications of unnecessary genital tract surgery. After training, they participated in group discussions and a researcher responded to their raised questions. Four weeks after the training session, participants were again visited to complete the questionnaire of the female sexual function index (FSFI) and genital self-image. The control groups were asked to refer again 4 weeks after the end of intervention and complete the questionnaires of genital self-image and sexual function. After completion of the above questionnaires, a training package was also provided to the control group. The phone number of the researcher was given to the intervention and control groups to make contact with him when needed.

#### 2.5. Data Collection Tools

Tools for data collection in this study included:

1) Socio-demographic questionnaire (including age, age of the spouses, marriage age, education and employment of women, husband's education and occupation, sufficiency of monthly income for living costs etc.).

2) The FSFI to assess the sexual function, which is a validated and a reliable questionnaire for evaluating the sexual function of women during the past 4 weeks. It consists of 19 questions covering the 6 domains of sexual function; desire, arousal, lubrication, orgasm, satisfaction, and pain. Score ranges are from 2 to 36, so that the high scores represent better sexual function (21). The validity of its Iranian version has been confirmed in a study in Iran and Cronbach's alpha reliability coefficient was reported 0.9 (22).

3) Researcher made the genital self-image questionnaire with 20 questions based on a review of the literature regarding color and size of external genital organs, size of labia major, labia minor, colors of groin and genital area, model of the growth of pubic hair and its ratio, vaginal tight and loose, as well as vaginal prolapses and function of the reproductive system. All items of the questionnaires were based on the Likert scale from 1 to 5: 1 (very bad) to 5 = (Very good) to scoring from 20 - 100, which was converted to 0 - 100. Grade lower than 50 was considered to be disturbed and poor, and up to 50 was considered to be moderate to appropriate genital self-image. Validity of this questionnaire has been measured by content and face validity, so that 10 academic members of the faculties of midwifery and psychiatry participated in determining content validity of this questionnaire. After gathering their viewpoints, necessary corrections were made based on obtained feedback. The content validity index (CVI) and content validity ratio (CVR) of the questionnaire were calculated  $\geq 0.7$ . Reliability of this questionnaire was confirmed by using internal consistency, and Cronbach's alpha coefficient was determined equal with 0.9.

#### 2.6. Data Analysis

Data analysis was performed by using SPSS version 20. Normal distribution of the quantitative data was confirmed using Kolmogorov-Smirnov test. Descriptive statistics including frequency, percentage, mean, and standard deviation were used to describe the mean scores of genital self-image and sexual function of participants. For comparing the mean scores of genital self-image and sexual function, the t-test was used before intervention as well as ANCOVA after intervention with adjusting of baseline values.  $P < 0.05$  was considered significant.

### 3. Results

The findings indicated that more than three-quarters of women (72.1%) were in the age group of higher than 30 years with mean (SD) age of 33.15 (5.2). More than half of the women's spouses' age (60.7%) were higher than 35 years with a mean (SD) of 38.2 (6.6). The mean (SD) of marriage age of participants was 19.8 (4.5). The mean (SD) of marriage duration for participants was 12.4 (6.2). The body mass index of half of the women (47.5%) was less than 19.5 ( $\text{kg/m}^2$ ) with mean (SD) of 26.0 (3.9). The education levels of 16.4% of women were secondary with 16.4% university. Most of them (86.9%) were housewives. About one-third of the husbands (31.1%) had a high school education and one-third of them (37.7%) were unemployed workers. The monthly income for life costs of more than half of women (57.4%) were reported "fairly adequate" (Table 1).

**Table 1.** Socio-Demographic Characteristics of Women Referred To Health Centers in Qazvin N = 124<sup>a</sup>

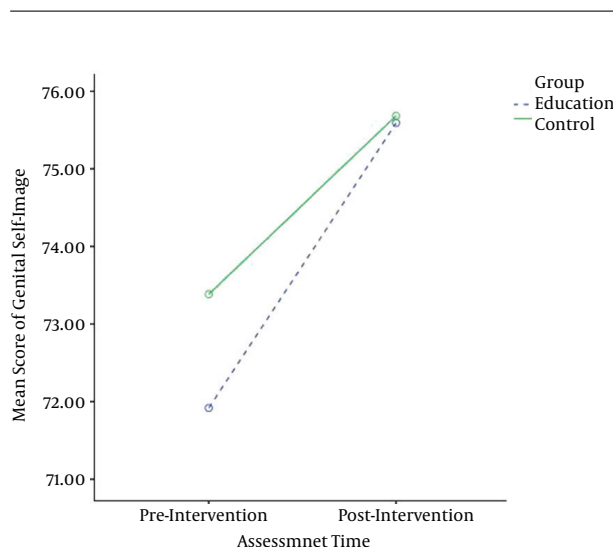
Characteristics	Control Group (N = 62)	Intervention Group (N = 62)	P Value
<b>Age of women, y</b>			0.101 <sup>b</sup>
25 and less	4 (6.5)	7 (11.5)	
26 to 30	20 (32.3)	10 (16.4)	
Higher than 30	38 (61.3)	44 (72.1)	
The mean (SD)	32.7 (5.1)	33.1 (5.2)	0.716 <sup>c</sup>
<b>Men age, y</b>			0.671 <sup>b</sup>
30 and Less than 30	8 (12.9)	7 (11.5)	
31 to 35	13 (21.0)	17 (27.9)	
Higher than 35	41 (66.1)	37 (60.7)	
The mean (SD)	737 (5.5)	38.2 (6.6)	0.605 <sup>c</sup>
<b>Age of marriage, y</b>	19.9 (2.9)	19.8 (4.5)	0.922 <sup>c</sup>
<b>Duration of marriage, y</b>	12.9 (5.9)	12.4 (6.2)	0.660 <sup>c</sup>
<b>Women's education</b>			0.238 <sup>d</sup>
Primary school	6 (9.7)	8 (13.1)	
Secondary school	7 (11.3)	10 (16.4)	
High school	6 (9.7)	8 (13.1)	
Diploma	31 (50.0)	25 (41.0)	
University	12 (19.4)	10 (16.4)	
<b>Men's education</b>			0.903 <sup>d</sup>
Primary	6 (9.7)	6 (9.8)	
Secondary school	18 (29.0)	19 (31.1)	
High school	7 (11.3)	6 (9.8)	
Diploma	19 (30.6)	18 (29.5)	
University	12 (19.4)	12 (19.7)	
<b>Woman's job</b>			0.395 <sup>e</sup>
Housewife	57 (91.9)	53 (86.9)	
Employee	5 (8.1)	8 (13.1)	
<b>Spouse's job</b>			0.945 <sup>b</sup>
Practitioner	15 (24.2)	12 (19.7)	
Business man	16 (25.8)	23 (37.7)	
Employee	13 (21.0)	9 (14.8)	
Shopkeeper	18 (29)	17 (27.9)	
<b>Sufficiency of monthly income</b>			0.098 <sup>d</sup>
Adequate	22 (35.5)	15 (24.6)	
Fairly Adequate	34 (54.8)	35 (57.4)	
Inadequate	6 (9.7)	11 (18.0)	
<b>Body mass index (kg/m<sup>2</sup>)</b>			0.555 <sup>d</sup>
Less than 18.5	32 (51.6)	29 (47.5)	
18.5 to 25.0	23 (37.1)	23 (37.7)	
The mean (SD)	25.9 (3.8)	26.0 (3.9)	0.893 <sup>c</sup>

<sup>a</sup> Values are expressed as No. (%).<sup>b</sup> Chi-square.<sup>c</sup> Independent t-test.<sup>d</sup> Chi-square for trend.<sup>e</sup> Exact fisher test.

The mean (SD) score of genital self-image in the intervention group before and after intervention was 72.0 (11.4) and 75.7 (11.7), respectively. The mean (SD) score of genital self-image in the control group before and after intervention was 72.9 (12.3) and 75.7 (10.9), respectively. There

was no statistically significant difference between group before intervention according to independent t-test ( $P = 0.684$ ). Also, according to the ANCOVA test and with adjusting the baseline values, there was no significant difference between groups at 4 weeks after intervention in terms of

genital self-image (mean differences: 0.5; Confidence Interval 95%: -3.3 to 4.4;  $P = 0.808$ ) (Table 2, Figure 1).

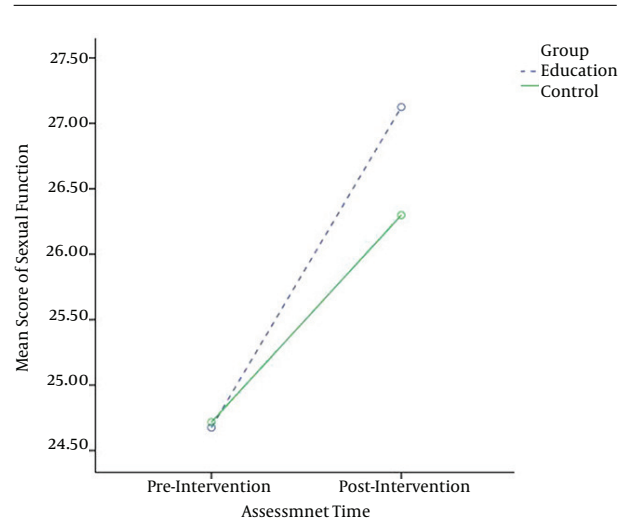


**Figure 1.** Trend in the mean score of genital self-image at the pre-intervention and four weeks after the end of intervention

Moreover, the mean score of sexual function in the intervention group before and after intervention was 24.7 (5.8) and 27.1 (4.7), respectively. The mean (SD) score of sexual function in the control group before and after intervention was 24.2 (7.2) and 26.2 (5.8), respectively. There was no statistically significant difference between groups before intervention according to independent t-test ( $P = 0.692$ ). Also, According to ANCOVA test and with adjusting the baseline values, there was no significant difference between groups at 4 weeks after intervention in terms of genital self-image (mean differences: 0.8; Confidence Interval 95%: -0.6 to 2.3;  $P = 0.257$ ) (Table 2, Figure 2).

#### 4. Discussion

The results showed that education have no effect on genital self-image and sexual function. In this regard, results of a study entitled perception of body image and effectiveness of body image among pregnant housewife women by Ardahan in 2014, which showed that education through reflection of behaviors improve body image (23), the results of this study aren't consistent with results of the present study. As well as the results of a study done by Ajh et al. (2011), it was shown that an educational program has expressed a key role in the positive body image (24). The study results of Katibaei et al. (2010) also showed a positive body image via cognitive restructuring by education, otherwise by virtue of their dignity and increase the physical



**Figure 2.** Trend in the Mean Score of Sexual Function at the Pre-Intervention and Four Weeks After the End of Intervention

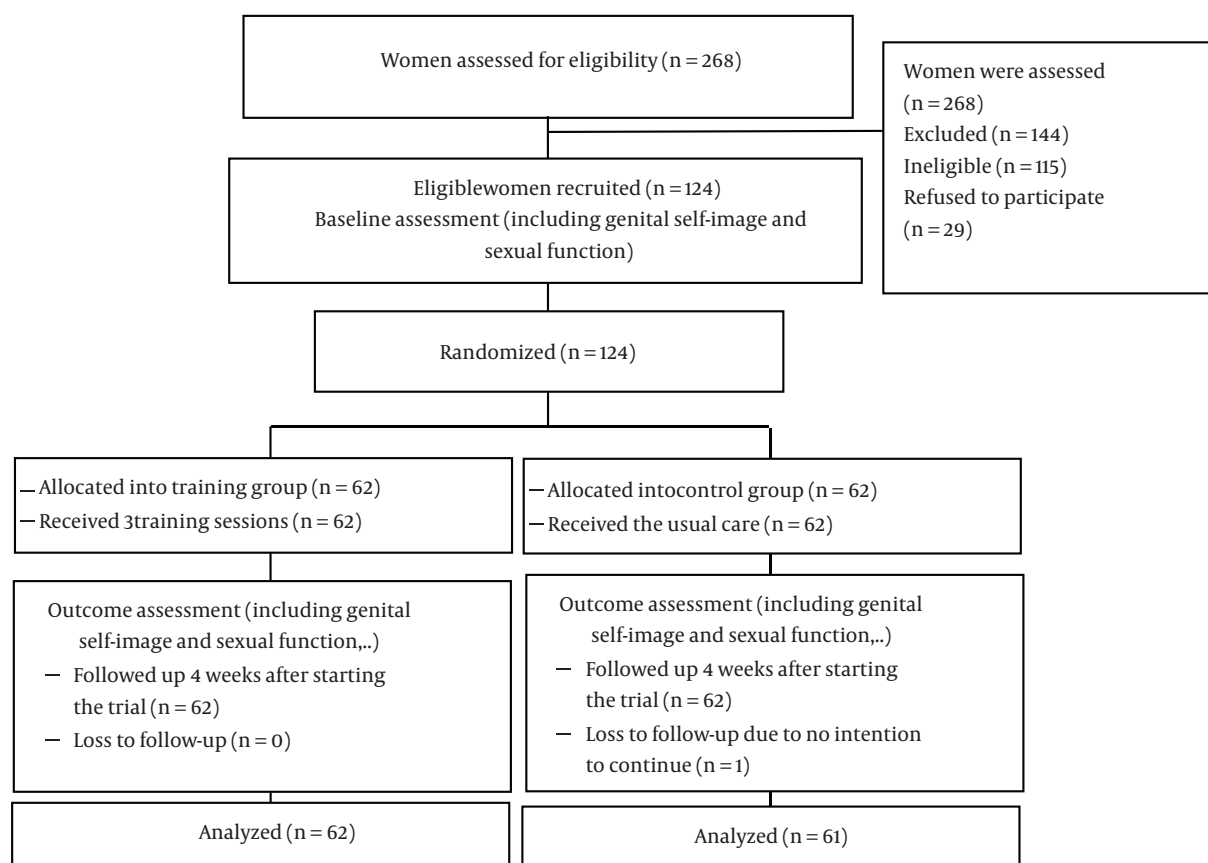
visualization of female teenagers, in other words body image of female teenagers could be improved by using cognitive restructuring through education (25).

The results of a study by Rozen et al. (1989) showed that intervention of cognitive-behavioral therapy and reflection on the female student with normal body weight without an eating disorder but with negative body image appeared to decrease felineity in body size over weight, avoidance behavior, and body dissatisfaction. In fact, cognitive-behavioral therapy was affected on all 3 aspects of the body image perception, cognition, and behavior (26). A study has reported that the treatment of cognitive-behavioral on female students with normal body weight and negative body image improved body image and promoted self-esteem social interests positive assessment of physical fitness, error-free evaluation of body size, and attractiveness (25). Laumann et al. (1999) in their study declared that self-image of women is associated with their lack of awareness of their genitalia; so that 43% of women experience sexual dysfunction (27). The results of the present study showed that education has no effect on sexual function, which is inconsistent with the study findings of Mirmohammad Aliei et al. (2017). The results of mentioned study showed that the 4 sessions of the weekly training program, on sexual issues, increased meaningfully sexual function score and all dimensions except orgasm (28).

Rowland and Haynes (1978) also showed that the 4 weeks training program could improve sexual satisfaction, the numbers of sexual activity, and marital satisfaction (29). In a study of Behboodi Moghadam et al. (2015), the

**Table 2.** Comparison of Genital Self-Image and Sexual Function in Study Groups<sup>a</sup>

Variable	Intervention Group (N = 62)		Control Group (N = 62)		Before Intervention		After Intervention	
	Before intervention	After intervention	Before intervention	After intervention	P value <sup>b</sup>	AMD (95%CI) <sup>c</sup>	P value <sup>d</sup>	AMD (95%CI) <sup>c</sup>
<b>Genital self-image</b>	72.0 (11.4)	75.7 (11.7)	72.9 (12.3)	75.7 (10.9)	0.684	0.9 (-5.1 to 3.3)	0.808	0.5 (-3.3 to 4.4)
<b>Sexual function</b>	24.7 (5.8)	27.1 (4.7)	24.2 (7.2)	26.2 (5.8)	0.692	0.5 (-1.9 to 2.8)	0.257	0.8 (-0.6 to 2.3)

<sup>a</sup>Values are expressed as mean (SD).<sup>b</sup>Independent t-test.<sup>c</sup>Adjusted Mean Difference (Confidence Interval 95%).<sup>d</sup>ANCOVA by controlling baseline values.**Figure 3.** Flow Diagram

overall score of the sexual function was significantly improved by an education program (30). As well as in a study done by Smith et al. (2008), training on the basis of sex, in women with sexual dysfunction, improves sexual performance and overall score in all dimensions except dyspareunia, compared to the control group (31).

The results of this research is consistent with the study of Nematzadeh Khamsi (2010), where entitled effect of

training skills on increasing marital sexual function and sexual self-efficacy showed that sexual education has profound impact on sexual function. Their results showed that education increases sexual desire, arousal, orgasm and satisfaction, as well as decreases sexual pain. In addition, training enhances the marital relationship, sexual satisfaction, and marital self-efficacy. They declared that appropriate training could increase sexual awareness and



enhance information as well as working to improve sexual function and marital self-efficacy to reduce sexual dysfunction (32). Also, the results of a study showed that training of sexual skills enhanced the marital relationship, sexual satisfaction, as well as marital self-efficacy, and thus can increase conflict-solving, positive feelings and intimacy in couples (19).

Kockott (2007) emphasizes that sex counseling could increase sexual awareness and improve sexual dysfunction (33). As well as, research by Kilmann et al. (1983) showed sex education increased the frequency of orgasm and lowered sexual anxiety in women and increased the duration of sexual intercourse and sexual arousal in males (34).

The results of study by Pakghohar (2006) showed that sex education could bring positive feelings of intimacy and marital relations, which could cause marital satisfaction (35). Also a study by Attari et al. (2006) showed that the training and solution-focused counseling enhances all subscales of the marital compatibility (36). In another study by Shahsiah et al. (2010), results showed that sexual education in addition to increasing of marital satisfaction, improves communication, the consent of the spouse's personality, and conflict solution among the couples (37). The results of the study by Rezazadeh showed that marital satisfaction increases with communication skills. The results of all mentioned studies are inconsistent with the results of this study that may be due to the short duration of follow-up and the low number of educational sessions (38).

Sanchez and Kiefer (2007), in their study about body concerns in and out of the bedroom declared that people spend an enormous amount of time, energy, and money in attempts to improve their physical appearance and undergo numerous operations to reach these beauty ideals. Men and women's body shame was related to greater sexual self-consciousness, which in turn, predicted lower sexual pleasure and sexual arousability (10). Results of a study by Calogero and Thompson (2009), on 101 college women attending university in the UK concerning, body shame, sexual self-esteem, and sexual satisfaction consistent with predictions indicated that greater internalization of appearance ideals leads to more body surveillance, which leads to higher body shame and lower sexual self-esteem, which, in turn, predicts less sexual satisfaction. In addition, body surveillance and body shame directly predicted sexual satisfaction (39).

A strong point of the present study was that there was no loss of participants because our strategy for analyzing data was intended to treat analysis and all participants were included in their arm in which they were allocated, whether or not they received an intervention given to their arm. We used all principles of clinical trials in prevention of probable biases. One of the limitations of the present

study, due to its nature, is that training sessions were not provided for the women's partners too. Sexual function were checked out only for women with active health files and not included for inactive women to refer to that was considered as the other limitations of study. Thus the results of this study could not be generalized to all women, which reduces the generalizability of the study.

#### 4.1. Conclusions

The results showed that 3 training sessions, based on the expression of normal appearance, function of the reproductive system and causes of negative image have no effect on the genital self-image and sexual function in women. Due to the limitation of this study, the systematic planned training could be designed for those who suffer from body image disorders and sexual dysfunction in order to promote their sexual function and body image.

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#### Footnote

**Conflict of Interests:** The authors declare no conflict of interest.

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