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The effect of sexual health education program on sexual function and attitude in women at reproductive age in Iran

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Abstract:

BACKGROUND: Female sexual dysfunction is a common and often distressing public health problem. This study aimed to determine the effect of the sexual health program on female sexual function and attitude in reproductive age in the west of Iran.

MATERIALS AND METHODS: This was a field trial study. A total of 103 women attending health centers were assigned into two groups; an experiment and a control group. Data collection tool involved sociodemographic characteristics questionnaire, sexual female attitude questionnaire, and the Female Sexual Function Index (FSFI), which was completed by participants before and after the implementation of a sexual health education program. Data were analyzed using SPSS software version 22.

RESULTS: The results revealed that after the intervention, female sexual function in the experiment group based on the FSFI tool was significantly improved ($P < 0.01$) in the domains of desire, arousal, orgasm, satisfaction, pain, and the total score compared with the control group. Besides, there was no significant difference between posttest mean score of sexual attitude in the experiment group and control group ($P > 0.05$). However, a significant difference was found in the mean score of sexual attitudes in the experimental group before and after the intervention ($P = 0.004$).

CONCLUSION: The findings showed that sexual health program was effective in improving women's sexual function and attitude in the experiment group. It is recommended that the effect of other training methods remain to be addressed on women's sexual function and attitude.

Keywords:

Sexual attitude, sexual function, sexual health program, women

Introduction

Sex life is an important part of individual life, and there is an increasing emphasis on the importance of addressing this issue.[1,2] Healthy sex life affects people of all ages and life stages. Hence, sexual health education program emphasizes on promoting sexual health level and reducing sexual problem among different community groups, particularly women.[3,4]

Sexual dysfunction is a common problem affecting approximately 40% of women of reproductive age.[5] In Iran, the prevalence of sexual dysfunction in the general population of women has been reported 77%, according to different studies.[6-8] It seems that the prevalence of this disorder in women in traditional communities like Iran is higher than this rate due to the lack of proper community-level reporting.[7] Besides, the results of some studies in Iran signify that the prevalence of this disorder is more common among women with lower socioeconomic and education level.[7,9,10] It has been estimated that almost half of the divorce among Iranian couples, directly and indirectly, is due to sexual dissatisfaction.[11]

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A lack of information and sexual knowledge with increasing the vulnerability of individuals causes problems in favorable sexual functioning.[12] Individuals' sexual information from childhood to maturity mainly obtained through film, newspaper, social media, friends, and evolution of maturity. Since audiences of these sources are from different social classes and the presentation of content is without consideration of age, gender, and culture, it can lead to adverse effects on people's sexual attitude.[13,14] Comprehensive sex education programs can prevent sexual dysfunction, create safe sexual behavior and mental health, increase positive health behaviors and sexual identity, according to the WHO.[15]

Despite the relatively high level of literacy in Iran's general population that paves the way for highly efficient and effective education programs, successful reproductive health programs, and the existence of national youth reproductive health programs, the subject of sexual training has not yet been extensively studied. Hence, it seems that there are problems in the primary health care system, health system, and family planning. In Iran, individuals with sexual dysfunction especially women do not consult with a health-care provider due to cultural values, and even feel ashamed to ask questions regarding this issue in the appointment with physicians and health-care providers.[16] Numerous researches inside and outside the country indicate the urgent and increasing need of the community to such education.[6,7,17-21]

Sexual health education can create positive outcomes in the level of individual health and interpersonal relationships, in addition to a positive role in negative implications prevention such as unintended pregnancy, sexually transmitted diseases, sexual abuse, sexual violence, and sexual frustration. Such positive results can include proper sexual communication between couples, pleasure in sexual relationships, strengthening self-confidence, and self-esteem.[12,17,18]

Sexual education is a prolonged process through which people can obtain required information and knowledge concerning sexual issues and formed their own attitudes, beliefs, and values. In addition, sexual education helps to healthy sexual development, marital life health, interpersonal relationships, intimacy, positive body image, and gender roles.[17,20]

By investigating conducted literature in this context, it appears that culture and other individual and social issues are factors influencing attitude, belief, and sexual function. To the best of our knowledge, few interventional studies have been conducted in this field in western Iran because of having unique cultural and social conditions, especially in the field of sexual issues. Therefore, given the importance of this issue and relatively high prevalence of sexual dysfunction in Iran, addressing this issue and conducting intervention regarding the improvement of attitude and sexual function among community members especially women is necessary. Hence, this study aimed to determine the effect of the sexual health program on female sexual function and attitude in reproductive age.

Materials and Methods

Study design

This was a field trial study.

Setting and study population

The study population includes women attending comprehensive health centers in the west of Iran, Ilam city. Eligible women who were referred to 4 comprehensive health centers for receiving health services (centers situated in north, south, west, and east based on cluster sampling) were selected as sample. Sample size with regard to previous studies,[22] with considering an alpha level 0.05, error rate 0.2(d), and power test 0.8 was estimated 50 subjects in each group. Finally, considering a dropout rate of 10%, the total sample size of the study was estimated at 110 subjects. Then, samples using a random allocation method were assigned into the experiment group (n = 55) and control group (n = 55) [Figure 1].

Eligibility

The inclusion criteria included first marriage, age 18–45 years, willingness to participate in the study, having at least primary education both in the women and her husband for reading and writing, being married and living with a current spouse, having sexual intercourse for at least once a month, nonbreastfeeding women, nonmenopausal women, nonpregnant women, no genital infections, no sexual dysfunction in the spouse and those for whom at least 3 months had passed from the time of delivery. The exclusion criteria were: refusing to attend education classes for more than two sessions, using certain drugs that affect sexual function (e.g., antidepressants and blood pressure medications(, attending similar education programs regarding sexual issues, for example, training class or participation in an trial study similar to this study, the history of mastectomy and hysterectomy, having mental illnesses, cancer, and other systemic chronic diseases.

Intervention

First, a female researcher by attending comprehensive health centers presented required explanations to participants concerning the objective of the study. In order to decrease contamination bias, samples were

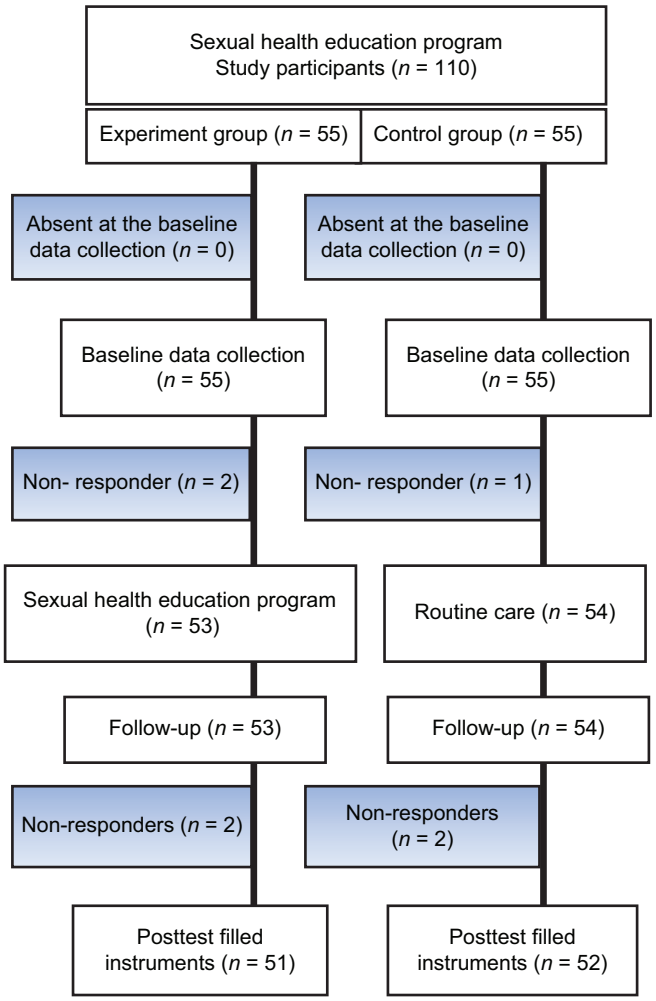

Figure 1: Participants' enrollment for this study

asked to avoid sharing the content of the sessions to others except for spouse. Besides, educational sessions of the experiment group were held on Saturday, Monday, and Wednesday, and the control group was informed to refer to health centers for receiving usual health services on Sunday, Tuesday, and Thursday. Then, the instruments of the study, including the sociodemographic characteristics questionnaire, sexual female attitude questionnaire, and the Female Sexual Function Index (FSFI), were filled out by participants in the pretest stage.

The sexual health program was given to the experiment group by two of the female midwifery and psychology experts. Education intervention for participants was carried out in a comprehensive health center in groups of 8–10, including four in-person education sessions. Each session lasted from 45 min to 1 h and was held once a week. The intervention was designed educational counseling in a group class, and individual consultation was offered to one on request. The content, at first, was stated to samples as lecture and using educational assistance software, then in line with the educational goals of the session, it was continued as a question-and-answer session. After the end of each session, participants were asked to study the content related to each session which was designed in an educational booklet by the researcher for this purpose and posed their questions at the beginning of each session. Samples were told to inform their spouse about the content of the booklet to read it as well. Besides, individual consultation was provided to some participant based on participants' need and request. Before the intervention, a need assessment for developing material and educational content was performed through a focus group interview with professionals, psychologists, sexologist, and talking to women referring to health centers. The session's content was comprised of anatomy and physiology of the genital, principles of reproductive, sexual health, sexual activity and its techniques, the role of exercise and nutrition in sexual health, incorrect beliefs on sexual intercourse, principles of communication and how to relate to a spouse in psychological, emotional, and sexual dimensions. The female sexual attitude questionnaire and the FSFI were again filled out by participants in both groups 1 month after the intervention. Samples were followed up for 4 weeks after the end of the educational sessions, and then they were invited to complete the questionnaire again.

Study instrument

The instrument for data collection consisted of three sections. The first part included sociodemographic characteristics such as age, education, and income. The second part was a self-administered female sexual attitude questionnaire. This questionnaire consists of 9 items, and each item is rated on a five-point Likert scale (completely agree to completely disagree). The items with a positive attitude (questions 2, 7, and 9) were given a score of 4-0, and items with a negative attitude (questions 1, 3, 4, 5, 6, and 8) were given a reverse score of 0-4. The lowest and highest scores were 0 and 36, respectively, with higher scores reflecting better sexual attitude.

The third part included the FSFI, which was designed by Rosen *et al*. in 2000.[23] This questionnaire consisted of six dimensions with 19 items that assess a woman's sexual function during the previous month; desire (2 questions), orgasm (3 questions), lubrication (4 questions), arousal (4 questions), satisfaction (3 questions), and pain (3 questions). In this questionnaire, each item was given a score 0–5, except for items 1, 2, 15, and 16 that were scored from 1 to 5. A score of zero in each domain indicated no sexual intercourse during the previous month. The score of each item was obtained by summing up the scores obtained from the questions of each domain. Then, the sum of each domain's scores

was multiplied by the domain factor in the FSFI (desire 0.6, arousal/lubrication 0.3 and orgasm/satisfaction/pain 0.4). The overall score of the questionnaire ranged from 2 to 36, with a higher score indicating better sexual function. FSFI score of <26.5 is taken as an indicator of sexual dysfunction.

Validity and reliability of tools

Given the conducted literature review, there was no appropriate sexual attitude questionnaire which can be used in Iranian women of reproductive age. Therefore, in this study, a researcher-made female sexual attitude questionnaire with 13 items was designed based on a group discussion with corresponding professionals and review of related literature.[24-27] To ensure that the content of the questionnaire is relevant to the target construct, the instrument was given to sex therapy psychologists, gynecologist, midwives, and psychiatrist. After amendment and remove four items of the questionnaire, the questionnaire was given to professionals again for the content reliability and asked them to score the relevancy, clarity, and essentiality of items based on a 4 point Likert scale. The Content Validity Index and content validity ratio of the questionnaire was determined ≥0.8 and ≥0.86, respectively. To determine the reliability and applicability of the questionnaire, a pilot study consisting of 30 women aged 18–48 years who were not included in the main sample, was performed. The Cronbach''s alpha coefficient was determined 0.8, which reflects the reliability of the instrument.[28] The pilot test also helps us to refine the wording of two items and also the layout of the questionnaire.

The FSFI is a standard instrument for the assessment of female sexual function that has been used in Iran and many other studies, and its validity and reliability have been confirmed.[29,30]

Ethical considerations

All ethical considerations including obtaining permission from the Ilam University of Medical Science Ethics Committee (IR.MEDILAM.REC.1398.209), obtaining written informed consent, maintaining confidentiality, and identity of participants and anonymity of the questionnaire. Further, participants were informed of their right to refuse participation and to withdraw from the study at any given time. During a pretest analysis, when it was identified that a participant needs emergency consulting services, the referral happened. At the end of the study, when some participants were in need of more consultation in the context of sex, they were referred to more specialized levels. Moreover, the educational booklet was given to the control group at the end of the study, it should be noted that both control and intervention groups were referred for further consultation if they needed.

Statistical analysis

The collected data were analyzed by statistics software SPSS version 22 (SPSS, Chicago, IL). The descriptive statistics such as percentage, mean, and standard deviation were used for assessing participants' sociodemographic characteristics. The Chi-square test was used to compare sexual dysfunction, education level, income level, and job in both the groups. After confirming the normality of data in both groups using Kolmogorov–Smirnov test, the ANCOVA test was used to compare the difference mean of sexual attitude and function among groups. Paired *t*-test was used to compare the mean of sexual attitude and function in each group before and after the intervention. Besides, Independent *t*-test was applied to compare the groups in age, body mass index (BMI), number of children and the time passed since the marriage. $P < 0.05$ was considered as the significance level.

Results

A total of 110 participants were enrolled in this study, of whom four from the experiment group and three from the control group were excluded, and finally, 103 participants were included (51 in the experiment group and 52 in the control group). The sociodemographic characteristics of participants are shown in Table 1.

As shown in Table 1, there was no significant difference between the two groups in age, BMI, number of children, education, job, and time passed since marriage ($P > 0.05$). Before the intervention, 24 (47.1%) from the experiment group and 21 (40.4%) from the control group had sexual dysfunction that there was no significant statistical difference between the two groups. After the implementation of sexual health program, 6 (11.8%) from the experiment group and 21 (38.5%) from control group reported sexual dysfunction, which according to Chi-Square test a significant difference observed between the two groups.

ANCOVA test was used to compare the mean score of posttests in the experiment and control groups. Considering the computed Levene's test was not statistically significant for none of the variables, the assumption of homogeneity of variance was confirmed.

Table 2 indicates the mean score of participants' sexual function in six domains of FSFI. A significant difference was found in all domains of FSFI between posttest in the experiment and control groups ($P < 0.01$), except for lubrication, indicating the experiment group had a better sexual function compared with the control group after the intervention. Furthermore, in comparison with before and after the implementation of the sexual health program, the experiment group had a better sexual

Table 1: Sociodemographic characteristics of subjects in both groups at the baseline

Variables	Experiment (*n*=51)		Control (*n*=52)		*P*
	n (%)	Mean±SD	*n* (%)	Mean±SD	
Age (year)		29.56±5.12		29.30±5.79	0.809
Education					
≥12	5 (33.3)		10 (66.7)		0.264
<12	46 (52.3)		42 (47.7)		
Financial status					
Income < expense	44 (47.3)		49 (52.7)		0.201
Income ≥ expense	7 (70.0)		3 (30.0)		
Job					
Homemaker	41 (48.2)		44 (51.8)		0.380
Employed	10 (55.6)		8 (44.4)		
Spouse education					
≥12	8 (57.1)		6 (42.9)		0.372
<12	43 (48.3)		46 (51.7)		
Sexual dysfunction	24 (47.1)		21 (40.4)		0.314
Time since marriage (year)		7.72±4.82		8.17±4.58	0.630
Number of children		1.45±0.50		1.46±0.54	0.919
BMI		26.72±3.84		26.70±4.93	0.985

BMI=Body mass index, SD=Standard deviation

Table 2: Comparing the participants sexual function in the experiment group and the control group before and after (4 weeks) the implementation of the sexual education program

Sexual function (FSFI domains)	Mean±SD				*P* (ANCOVA)
	Control (*n*=52)		Experiment (*n*=51)		
	Before	After (4 weeks)	Before	After (4 weeks)	
Desire	3.71±0.77	3.75±0.68	3.48±1.03	4.16±0.94**	0.001
Change from baseline to follow-up		0.03±0.77		0.68±1.11	
Arousal	4.18±0.94	4.41±0.87	3.88±1.12	4.90±1.07**	0.001
Change from baseline to follow-up		0.23±0.91		1.01±1.20	
Lubrication	4.69±1.01	4.85±0.85	4.37±1.35	5.01±1.12**	0.109
Change from baseline to follow-up		0.16±1.09		0.64±1.19	
Orgasm	4.89±0.88	4.78±0.85	4.58±1.09	5.08±0.98**	0.013
Change from baseline to follow-up		−0.10±1.11		0.50±0.93	
Satisfaction	4.75±1.03	4.73±0.91	4.83±1.04	5.26±0.99**	0.004
Change from baseline to follow-up		−0.01±1.17		0.42±0.82	
Pain	4.58±1.33	4.64±1.26	4.59±1.45	5.12±0.95**	0.019
Change from baseline to follow-up		0.06±1.28		0.52±1.37	
Total score	26.81±4.28	27.19±3.05	25.74±5.56	29.54±4.48**	<0.001
Change from baseline to follow-up		0.37±3.58		3.79±4.09	

**P<0.001 compared with baseline within the group (Paired t-test). ANCOVA=Analysis of covariance, FSFI=Female Sexual Function Index, SD=Standard deviation

function in all domains of FSFI compared to before the intervention ($P < 0.001$). In contrast, in comparison with pretest and posttest, a significant difference was not found in the sexual function of the control group ($P > 0.05$).

The mean scores of the participants' sexual attitudes are presented in Table 3. There was no significant difference between the posttest of sexual attitude scores in the experiment group and the control group ($P > 0.05$), according to the ANOVA test. However, in comparison with before and after the implementation of the sexual health program, the experiment group had better sexual attitude compared with before the intervention ($P = 0.004$), whereas, in comparison with the pre and posttest, a significant difference was not observed in the control group ($P > 0.05$).

Discussion

The objective of this study was to determine the effect of the sexual health program on female sexual function and attitude aged 18–45 years. The results showed that about 44% of participants had sexual dysfunction before the intervention, indicating a high prevalence of this disorder among Iranian women. Our result was compatible with some studies that have shown sexual dysfunction among Iranian women is relatively high and requires extensive interventions.[7,16,17] Since the results showed sexual health program is effective in improving

Table 3: Comparing the participants' sexual attitude in both groups before and after (4 weeks) the implementation of the sexual education program

Groups	Mean±SD		Paired *t*-test
	Before	After (4 weeks)	
Experiment group	20.52±4.70	22.25±4.18	0.004
Control group	20.900±3.57	21.38±3.98	0.099
P (ANCOVA)	0.056		

ANCOVA=Analysis of covariance, SD=Standard deviation

female sexual function and attitude, this issue need be addressed in future studies.

Before the intervention, there was no significant difference between the two groups in terms of sociodemographic variables and domains of FSFI. Sexual health program resulted in an improvement in female sexual function in the domains of desire, arousal, orgasm, satisfaction, pain, and the overall score of the FSFI in the experiment group compared with the control group. The improvement of this function in the domains of FSFI ranged from 0.5 to 1 that given the narrow score range of FSFI instrument's domains (0–6) and participants' satisfaction with content and training received, it can be inferred that the results of this study were clinically significant.

In our study, sexual health program resulted in an improvement in participants' sexual function in the domains of desire and arousal. Some studies have shown that sexual health program could lead to the improvement of female sexual function in domains of desire and arousal,[20,22] which was in line with our results. Mahnaz *et al*. have conducted a study entitled "the effect of a structured educational package on women's sexual function during pregnancy." Their results showed a significant difference between sexual function and all domains, except for the pain in the experiment group in comparison with the control group.[31]

Based on this study, compared with the experiment group, there was no significant difference between participants' sexual functioning and the domain of lubrication in the control group. Consistent with our results, in a study by Nazarpour *et al*. sexual health program did not show a significant difference in the improvement of sexual function in postmenopausal women in the experiment group compared with the control group.[22]

According to study findings, participants in the experiment group had a better functioning in all domains of FSFI as compared with before and after the intervention, which reflects the effectiveness of the sexual health program.

An additional objective of this study was to determine the effect of the sexual health program on participants' sexual attitude. The results demonstrated no significant difference in participants'' sexual attitude in both groups when compared to the posttest. However, in comparison with before and after the intervention, a significant improvement reported in the sexual attitude of participants in the experiment group.

One of the factors influencing behavior that leads to the sustainability of individuals'' functioning in the long-term is the domain of affective or attitude, according to Bloom''s taxonomy of cognitive learning.[32] In a study by Hashemi *et al*., the negative sexual attitude had an unfavorable effect on menopausal women' sexual function in the domains of desire and orgasm.[24] Therefore, individuals' sexual attitude can have a considerable impact on improving their sexual function and behavior, which few studies have addressed the importance of this issue in sexual health interventions. Given the intervention conducted in this study, there had been an emphasis on the quality of couples' emotional and romantic relationships during sex and talking freely about sex with the spouse. It also attempted to reconstruct women's sexual attitudes about sex, and required knowledge was given to participants on a healthy sexual relationship. However, change in attitude is a time-consuming process and require more prolonged monitoring.

This study has many applications in sexual health education among Iranian women. Considering the high prevalence of sexual dysfunction among Iranian women and the positive effect of sexual health education programs, such programs ought to be of great interest as part of routine programs in primary health-care centers. Since this study conducted in one of the western cities of Iran with traditional culture and women in such societies feel ashamed to talk about their sexual problems, requiring this taboo is broken in such communities through primary health-care centers and general training. In addition, with regard to researchers' experiences at the time of conducting this study, retraining programs should be taken into account on sexual health for primary health-care centers' staff to be able to consider this issue better and take necessary measures.

Limitations

Despite some strengths, a researcher-made questionnaire was used to assess participants' sexual attitude, which its validity requires more studies and may have affected the findings of this study. Next, the duration of the sexual health program in this study was short, and change in sexual attitude requires longer measures and time. It is recommended that this issue receive more attention in addition to develop standard sexual attitude tool among Iranian women.

Conclusion

According to the findings, the sexual health program was effective in improvement of participants' sexual function. Although there was no significant effect in the domain of attitude in the experiment group compared to the control group, compared to before and after the intervention, a significant impact was found in the experiment group. However, further studies are needed on the durability of these training over the long-term.

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Conflicts of interest

There are no conflicts of interest.

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