Research Paper:

The Effect of Face-to-face Sex Education on the Sexual Function of Adolescent Female Afghan Immigrants

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ABSTRACT

Background: Access to precise information about sexual behaviors is an essential need for a favorable marital life. In the context of Afghan society culture, unawareness about sex issues in offspring on the verge of marriage could lead to an undesirable sexual function. The present study aimed to determine the effect of face-to-face sex education on the sexual function of adolescent female Afghan immigrants.

Methods: This was a quasi-experimental study with a Pre-test-Post-test and a control group design. This research was conducted in the immigrant neighborhoods of Mashhad City, east of Iran, in 2018. Two charity centers with the largest numbers of Afghan immigrants were randomly selected as the case and control centers. A continuous sampling technique was applied to select the study participants. Besides, women who met the study inclusion criteria completed a demographic questionnaire and the Female Sexual Function Index (FSFI) before and at 4 and 8 weeks after the intervention. In addition to the center's routine programs, the experimental group received face-to-face education through PowerPoint slides, while the control group only received routine training of the center. The collected data were analyzed by SPSS using descriptive and inferential statistics.

Results: There was no significant difference in the sexual function scores between the two study groups before the intervention (P=0.850), while there was a significant difference between them after 4 (P=0.003) and 8 weeks (P<0.001) of intervention provision.

Conclusion: Face-to-face sexual training improved sexual function in adolescent female Afghan migrants; therefore, this training method could be used for sexual education in young female immigrants.

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Highlights

- Most marriages of immigrants living in Iran occur during adolescence.
- Unawareness about sexual and marital issues could adversely affect marital relationships.
- Women's ignorance of various aspects of sexual issues could lead to unsuccessful sexual relationships and undesirable sexual function.
- Sexual education could increase awareness and consequently improve sexual function.

Plain Language Summary

The current study assessed the effect of face-to-face sex education on the sexual function of adolescent female Afghan immigrants in the selected charity centers of the immigrant areas of Mashhad City, Iran. Obtaining accurate, documented, and credible information on sexual issues could prevent undesirable sexual function. This information, in the form of sex education, helps couples to gain the necessary knowledge to satisfy each other's sexual needs. This study reported that providing face-to-face sexual training has improved the sexual function of adolescent female Afghan migrants; therefore, this training method could be used for sexual education in young female immigrants.

1. Introduction

Adolescence is associated with sexual maturity (Tulloch & Kaufman 2013). Moreover, improper parent-adolescent relationships complicate understanding how to behave and manage the sexual needs of this age group (Refaie Shirpak et al. 2007). A total of 979, 400 Afghan, and Iraqi live in Iran (Khodabakhshi-Koolaee 2019). Iran and Afghanistan, like other countries of the South Asian region, have the first rank of marriage in adolescents (UNICEF 2014; UNFPA 2012). Marriage, at this age, has deep cultural roots and is sometimes due to the low socioeconomic status of the girl's family (Central Statistics Organization 2018; Hadi 2016).

Sexual disorders and the inability to have a healthy and enjoyable relationship could results in widespread biopsychosocial consequences (Shakerian et al. 2014; Tavakol et al. 2012; Ziaee et al. 2014b). Having a satisfying sexual relationship plays a vital role in keeping the family together (Mohammadsadeg et al. 2018). Sexual ignorance is among the factors affecting incompatibility and, consequently, dissatisfaction in relationships (Sadri Damirchi et al. 2016). Lack of knowledge and access to information resources due to religious taboos and cultural norms have led to increased levels of obtaining information from unscientific resources; such issue not only has led to couples' dissatisfaction but also has caused problems in their relationships (Refaie Shirpak et al. 2007). Education in this area plays a key role in family health (WHO 2014); therefore, providing sexual education to women could be effective (Jahanfar & Molaie Nejad 2013). The importance of this training is especially critical in developing countries because they have limited information services and low access to sexual and reproductive health resources (Hindin & Fatusi 2009). The quality of sexual training and the level of information about these issues vary in different regions depending on the cultural norms.

Despite all cultural developments in training sexual information in families, the culture of societies is still a major obstacle in this regard (Abedini et al. 2016). Within the context of Afghan society, discussing sexual matters is forbidden in families and communities, and this prohibition is observed in disciplining their children (Hadi 2016). Although Afghan immigrants and Iranian citizens are living in similar environments, they have different beliefs and behaviors. As ethnicity affects individuals' sexual performance (Hosain et al. 2013), there is a need to develop a specific educational program for Afghan immigrants, considering cultural sensitivities. To ensure the success of these programs, it is required to follow the religious context of Islamic societies (Refaie Shirpak et al. 2007).

Sex education is among the top priorities of women's health (UNICEF 2018). It can lead to improved attitudes and learning special skills needed for everyone to prevent sexual problems (Mahmoudi et al. 2007; TalaiZadeh & Bakhtiyarpour 2016). Fostering a positive attitude on sexuality is inadequate for having a proper sexual

function; inappropriate information sources and insufficient information also aggravate such conditions (Refaie Shirpak et al. 2007). There are various instructional strategies that educators can use to improve learner's knowledge to provide high-quality education (Xu 2016).

Face-to-face training provision is common in the healthcare system. This is a conventional educational approach in the healthcare system, i.e., used along with other methods of education, such as group discussion and presenting educational pamphlets (Karimi Moonaghi et al. 2012; Sargazi et al. 2014). In addition to increased knowledge (Mohammadshahi et al. 2014) and higher levels of awareness in learners (Sharifi, Feyzi & Arteshehdar 2013), this educational method leads to more satisfaction and a positive understanding of the learning process (Ortega-Maldonado et al. 2017). Considering the importance of sex education and its effect on couples' relationships, this study aimed to determine the effect of face-to-face education on the sexual function of adolescent female Afghan immigrants.

2. Materials and Methods

This was a quasi-experimental with a Pre-test-Post-test and a control group design. This research was conducted in two immigrant neighborhoods of Mashhad City, Iran (Kheir-ol-Bashar Telgerd and Saheb-al-Zaman Golshar). Two charity centers with the largest numbers of Afghan immigrants were selected through purposive sampling technique. One of them was randomly selected as the case center and the other as the control center.

Young Afghan females aged 10-24 years who could communicate in Farsi (reading and writing), were married officially, were the only wives of their husbands, were married for at least one year, had not received official sex education in the past, lacked medical diseases (diabetes, thyroid dysfunction, renal & hepatic diseases), were not dependent on opium and psychedelics (including their husbands), and had not experienced stressful events (death of a child or a first-degree relative, a severe disease of a close relative, imprisonment of a family member, depression, etc.) in the past 6 months, were not pregnant or lactating, did not experience an abortion in the past three months, lived with their husband, and had sexual intercourse with their husband were included in this study (Alimohammadi et al. 2018; Behboodi Moghadam et al. 2015; Yousefzadeh et al. 2017; Kheyrkhah et al. 2014).

The exclusion criteria were pregnancy during the study, the lack of sexual intercourse with the husband for any reason during the study, the occurrence of stressful events during the study, withdrawal from the study, as well as missing the third and fourth educational sessions. Eligible subjects were enrolled from October 7 to November 6, 2018. Then, they were assigned to the case and control groups according to the charity center they presented to.

The calculated sample size was 38 subjects per group considering a confidence interval of 95%, power of 80%, and standard deviation (σ) of 5.52, considering the previous studies (Behboodi Moghadam et al. 2015), and an attrition rate of 10% using the following Formula 1, 2 & 3:

1. $$n=\frac{(z_{1-\alpha/2}+z_{1-\beta})^2\delta^2}{(\mu 1-\mu 2)^2}=\frac{(1{\cdot}96+0{\cdot}84)^2\,(5{\cdot}52)^2}{(3.53-0/86)^2}\simeq 34$$

2. $z_{1-\alpha/2}=z_{0{\cdot}975}=1{\cdot}96$

3. $z_{1-\beta}=z_{0{\cdot}8}=0{\cdot}84$

The required data were collected by a demographic form and the Female Sexual Function Index (FSFI). The demographic sheet contained 23 questions, including the couple's age, age at marriage, marriage duration, the couple's occupational status, the couple's educational level, the number of children, the number of pregnancies, the number of abortions, initial willingness for marriage, living with others except for children, having a private bedroom, economic status, the use of certain medications or substances to increase libido, their experience of sexual relationship, sexual satisfaction, foreplay by husband, sex initiator, contraception type, as well as the duration and frequency of sexual intercourse per month.

The FSFI is a 19-item inventory which evaluates female sexual performance in 6 domains of desire, arousal, lubrication, orgasm, satisfaction, and pain (Rosen et al. 2010). According to its instructions, because the number of questions in each domain is not similar, to calculate individual domain scores, the scores of the individual items that comprise the domain are added up, and the sum is multiplied by the domain factor. To obtain the total scale's score, the scores of the 6 domains are added up, which ranges from 2-36. A higher overall score indicates a better sexual function with a cut-off point of 28 (Rosen et al. 2000). Fakhri et al. (2011) evaluated the reliability of the Persian version of the FSFI and reported a correlation coefficient of 0.42 for desire, 0.56 for arousal, 0.65 for lubrication, 0.68 for orgasm, 0.72 for satisfaction, 0.30 for pain, and 0.54 for the total score (Fakhri et al. 2011). In the present study, the test-retest method was applied to assess the reliability of the tool. Twenty subjects, who were not included in the survey,

were requested to complete the questionnaire at a two-week interval. After data collection, a test-retest-reliability coefficient of 0.86, 0.82, 0.86, 0.80, 0.91, 0.88, and 0.87 was obtained for the subscales of desire, arousal, lubrication, orgasm, satisfaction, pain, and total sexual function score, respectively.

After receiving ethical permission, an introduction letter was issued by Iran University of Medical Sciences, which was presented to Mashhad University of Medical Sciences. Then, two charity centers in two different regions of the city with the largest number of female Afghan visitors were selected. These centers provided services on various topics, such as first aid, basic reading and writing skills, English language, sewing, Quran learning, child-rearing, etc. to immigrants. These services were provided in the form of educational workshops and classes at meager costs, or sometimes free of charge.

One center was randomly selected as the case center. The eligible subjects that met the inclusion criteria were enrolled, and informed consent was obtained from them after explaining the study objectives. Then, they completed the demographic questionnaire and FSFI. In addition to routine programs of the center, the case group subjects received 4 weekly training sessions for 4 consecutive weeks. The educational content was reviewed and approved by 5 faculty members of Iran University of Medical Sciences. Furthermore, the training was provided by the researcher (Master of Midwifery Student) in 60- to 90-minute sessions. The training was conducted face-to-face using lectures, as well as questions and answers. Slides were also used as teaching aids. At the end of the last session, the study participants' questions were answered. The content presented in the intervention sessions is presented in Table 1.

Finally, the FSFI was completed by all the study subjects. To evaluate the durability of this educational method, the study participants were contacted via phone to attend the center and complete the questionnaires after 8 weeks. The control group only received routine programs at the charity center. To encourage attendance, the study subjects in both groups received a free-of-charge breast examination. At the end of the study, the relevant CDs were also provided to the control group.

Of 78 participants (39 in the control group and 39 in the case group), 6 and 4 were excluded during and at the end of the study, respectively. Three study subjects were excluded from the control group due to pregnancy, the lack of sexual intercourse with their husband, and moving to another house. In the case group, 3 study subjects were excluded due to unwillingness to continue participating in the study, pregnancy, and long distance from the center. The data of 68 subjects, 34 per group, were eventually analyzed.

The obtained data were analyzed using SPSS. Descriptive statistics, such as frequency distribution tables, numerical indicators, and inferential statistics, such as Chi-squared test, Independent Samples t-test, Paired Samples t-test, one-way Analysis of Variance (ANOVA), repeated-measures ANOVA, and Bonferroni post-hoc test were applied for data analysis (Figure 1).

3. Results

There was no significant difference between the demographic characteristics of the study groups. Table 2 presents the demographic characteristics of the study participants.

Table 1. Titles presented in the training sessions

Sessions	Explanations
First	An introduction to the male and female reproductive organs, menstrual cycle, puberty, masturbation, and reproductive health.
Second	Normal and abnormal vaginal discharge, gynecologic infections, and contraceptive methods.
Third	Importance of sexual relationship in married life, communication skills for couples, the effect of intimacy and compromise, methods to improve the quality of the sexual relationship, different sex positions, married life in Islam, and the legal rights of couples.
Fourth	Normal sexual cycle stages, abnormal sexual response (sexual disorders), and treatment.

Research diagram:

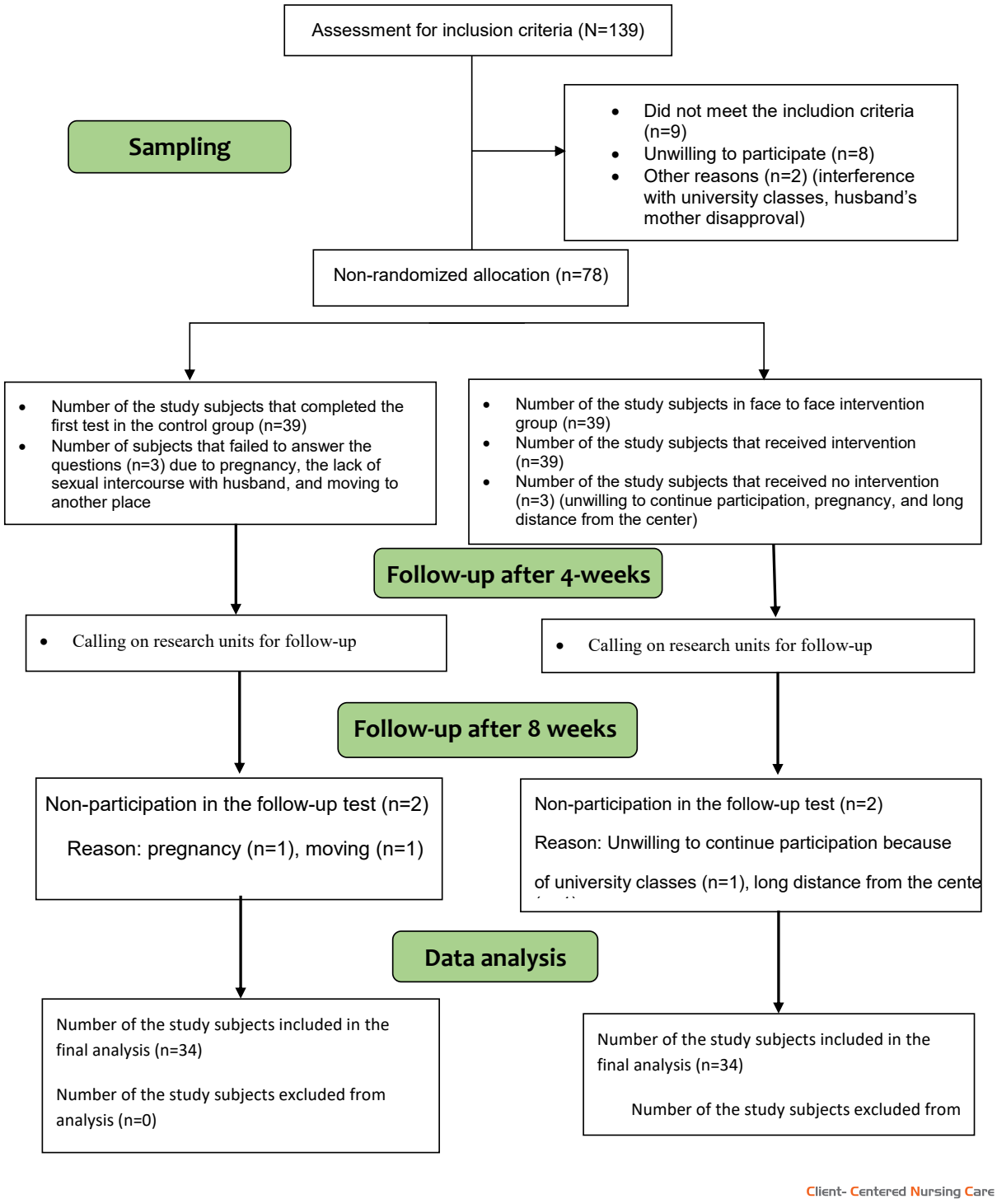

Figure 1. Design of the study method

4. Discussion

According to the present study data, providing face-to-face sex education has improved sexual function scores and all its components in the investigated Afghan immigrant adolescent women. There was no significant difference in the mean score of sexual function in the two groups before the intervention. In contrast, significant

Table 2. Demographic characteristics of the study participants in the case and control groups

Variables \ Groups	Mean±SD		Test Result
	Case	Control	
Age (y)	22.68±1.590	22.44±1.637	F=0.362; P=0.550
Husband's age (y)	27.68±1.965	26.68±2.409	F=3.519; P=0.065
Age at marriage (y)	19.59±2.017	19.74±1.912	F=0.095; P=0.759

Variables	Groups	No. (%)		Test Result
Duration of marriage (y)	1-5	32 (94.1)	31 (91.2)	P=0.100
	6-10	2 (5.9)	3 (8.8)	
Occupation	Housewife	32 (85.3)	29 (85.3)	P=0.427
	Employed	2 (5.9)	5 (14.7)	
Educational level	Unfinished high school education	10 (29.4)	12 35.3)	df=1 χ^2=0.269 P=0.604
	High school diploma and above	24 (70.6)	22 (64.7)	
Husband's occupation	Employed	2 (5.9)	2 (5.9)	P=1.000
	Unemployed	32 (94.1)	32 (94.1)	
Husband's educational level	Unfinished high school education	13 (38.2)	15 (44.1)	df=1 χ^2=0.243 P=0.622
	High school diploma and above	21 (61.8)	19 (55.9)	
Number of children	One and less	30 (88.2)	29 (85.3)	P=1.000
	Two and more	4 (11.8	5 (14.7)	
Number of pregnancies	One and less	27 (79.4)	27 (79.4)	df=1 χ^2=0.000 P=1.000
	Two and more	7 (20.6)	7 (20.6)	
Abortion	Positive	6 (17.6)	2 (5.9)	P=0.259
	Negative	28 (82.4)	32 (94.1)	
Self-selected marriage	Yes	30 (88.2)	33 (97.1)	P=0.356
	No	4 (11.8)	1 (2.9)	
Living with others	Yes	6 (17.6)	6 (17.6)	df=1 χ^2=0.000 P=1.000
	No	28 (82.4)	28 (82.4)	
Private bedroom	Yes	24 (70.6)	29 (85.3)	df=1 χ^2=2.138 P=0.144
	No	10 (29.4)	5 (14.7)	

Variables	Groups	No. (%) Case	No. (%) Control	Test Result
Economic status	Unfavorable	3 (8.8)	6 (17.6)	P=0.546
	Relatively favorable	24 (70.6)	24 (70.6)	
	favorable	4 (11.8)	4 (11.8)	
Wife's feeling about sexual intercourse	Shame and embarrassment	2 (5.9)	6 (17.6)	P=0.798
	Pleasure and joy	16 (47.1)	14 (41.2)	
	Physical discomfort	2 (5.9)	2 (5.9)	
	Fear/dissatisfaction	3 (8.8)	2 (5.9)	
	Mixed feelings	9 (26.5)	8 (23.5)	
	None	2 (5.9)	2 (5.9)	
Wife's satisfaction with sexual intercourse	Very high	6 (17.6)	7 (20.6)	P=1.000
	High	16 (47.1)	15 44.1)	
	Moderate	9 (26.5)	10 (29.4)	
	Low	3 (8.8)	2 (5.9)	
Foreplay	Yes	30 (88.2)	29 (85.3)	P=1.000
	No	4 (11.8)	5 (14.7	
Sex initiator	Wife	5 (14.7)	2 (5.9)	P=0.427
	Husband	29 (85.3)	32 (94.1)	
Contraceptive method	Natural	20 (58.8)	14 (41.2)	P=0.052
	Condom	5 (14.7)	10 (29.4)	
	Pill	2 (5.9)	0 (0)	
	IUD*	2 (11.8)	0 (0)	
	Combined/TL	3 (8.8)	2 (5.9)	
	None	2 (5.9)	8 (23.5)	
Average duration of intercourse	1-10 min	4 (11.8)	5 (14.7)	P=0.476
	11-30 min	23 (67.6)	18 (52.9)	
	31-60 min	7 (20.6)	11 (32.4)	
Number of sexual intercourses per month	3-8 times	15 (44.1)	15 (44.1)	P=0.116
	9-16 times	13 (38.2)	18 (52.9)	
	17-25 times	6 (17.6)	1 (2.9)	

*Intrauterine Device (IUD)

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Table 3. Comparing the effect of face-to-face sex education on sexual function in the case and control groups before, as well as 4 and 8 weeks after the intervention (N=68)

Variable	Measurement Time	Mean±SD Case	Mean±SD Control	Confidence Interval Lower Bound	Confidence Interval Upper Bound	P (Independent Samples t-test)
Sexual function	Before	67.29±14.84	66.6214.44	63.41	70.50	0.850
	After 4 weeks	76.29±12.85	66.29±13.90	68.05	74.53	0.003
	After 8 weeks	78.00±12.00	65.53±13.58	68.66	74.86	<0.001
P (Repeated measures)				P<0.001		

Client- Centered Nursing Care

Table 4. Comparing the effect of face-to-face sex education on sexual function domains in the case and control groups before as well as 4 and 8 weeks after the intervention (N=68)

Variables	Measurement Time	Mean±SD		Confidence Interval		P (Independent Samples t-test)
		Face-to-face	Control	Lower Bound	Upper Bound	
Desire	Before	6.21±1.47	6.32±2.26	5.80	6.72	0.800
	After 4 weeks	7.24±1.37	6.09±1.58	6.30	7.02	0.002
	After 8 weeks	7.41±1.15	5.94±1.65	6.33	7.02	<0.001
	P (repeated measures)			P=0.009		
Arousal	Before	12.74±3.80	12.62±3.27	11.81	13.53	0.892
	After 4 weeks	15.00±3.99	12.32±3.16	12.79	14.53	0.003
	After 8 weeks	1559±3.20	12.26±3.08	13.16	14.68	<0.001
	P (repeated measures)			P=0.001		
Lubrication	Before	14.44±2.65	14.09±3.78	13.47	15.05	0.658
	After 4 weeks	15.85±3.04	13.65±3.10	14.00	15.49	0.004
	After 8 weeks	16.35±2.76	14.00±3.61	14.39	15.95	0.004
	P (repeated measures)			P<0.001		
Orgasm	Before	10.82±3.43	10.41±2.89	9.84	11.38	0.595
	After 4 weeks	12.00±3.66	10.38±2.76	10.40	11.97	0.044
	After 8 weeks	12.12±3.73	10.38±3.17	10.41	12.08	0.043
	P (repeated measures)			P=0.004		
Satisfaction	Before	11.59±3.06	11.15±2.95	10.63	12.09	0.548
	After 4 weeks	13.35±2.11	11.38±2.74	11.77	12.96	0.001
	After 8 weeks	12.94±2.66	11.53±2.76	11.57	12.89	0.036
	P (repeated measures)			P<0.001		
Pain	Before	12.18±3.05	11.65±2.69	11.21	12.60	0.451
	After 4 weeks	13.41±2.36	11.26±2.47	11.75	12.92	0.001
	After 8 weeks	13.59±1.89	11.59±2.51	12.05	13.12	<0.001
	P (repeated measures)			P=0.013		

Client- Centered Nursing Care

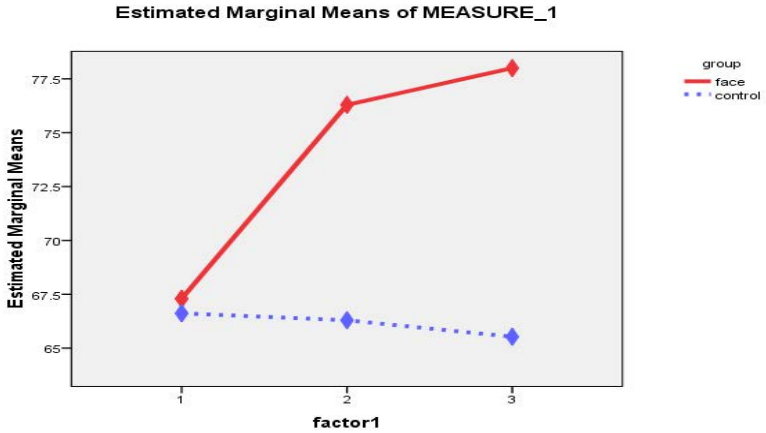

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Figure 2. Comparing the trend of sexual function score changes in the case and control groups before as well as 4 and 8 weeks after the intervention

differences were observed 4 weeks and 8 weeks after the intervention in the test group. Moreover, the difference in the values of desire, arousal, lubrication, orgasm, satisfaction, and pain was also significant between the study groups (Figure 2, 3 & 4). Providing the sexual content alongside the young age of the participants, the use of a fellow teacher to reduce misunderstanding and the possibility of discussion among study participants were among the possible causes of the success of this program among the studied immigrants.

The current study's findings were consistent with those of another study that investigated the effect of sexual training on women with sexual dysfunction. In this study, like ours, the total scores of study participants' sexual performance significantly increased after receiving sex training. It also affected the components of sexual desire, sexual arousal, lubrication, and satisfaction; however, contrary to our study, it had no effect on orgasm and sexual pain (Behboodi Moghadam et al. 2015). The inconsistency between these two studies in the components of pain and orgasm could be due to incongruences between the age of the samples and the time of their marriage. Moreover, the prolonged time post marriage could affect the studied samples' orgasm status (Mazinani et al. 2013).

According to a study on married female students at Ferdows University in Mashhad City, Iran, sex skills training can create a significant difference in the sexual function and components of sexual desire, arousal, vaginal moisture, orgasm, and satisfaction (Ziaee, Sepehri Shamlou & Mashhadi 2014a). This study was relatively consistent with the present study. Besides, the inconsistency in pain components may be due to differences in the level of education and the culture of the study participants (Khaki Rostami et al. 2015). Another study on 18- to 44-year-old women suggested improved scores of sexual desire after the training (Kaviani et al. 2014), i.e. in line with the results of this study. Another research was conducted in Mashhad to determine the effect of educational packages on the sexual function of pregnant women in childbearing age.

Accordingly, the data suggested that providing sexual function package could change sexual desire dimensions, sexual excitement, the lubrication of the vagina, orgasm, sexual satisfaction, sexual pain, and overall sexual function score (Baradaran-Akbarzadeh et al., 2018). This result is in line with that of our study. The findings of another study are to some extent consistent with ours; however, there was an inconsistency in the components of arousal, vaginal lubrication, orgasm, and sexual pain, which may be due to differences in the age and marital status of the study groups (Yousefzadeh et al. 2017). These factors affect sexual dysfunction (Mazinani et al. 2013). The mean age and the duration of the marriage were 33 and 13 years, respectively, in their studied samples, while the same figures in our study were 22 and 5 years, respectively.

A study revealed that intervention provision had modified the scores of the components of sexual desire, sexual arousal, lubrication, satisfaction, and the total score of sexual function (Brotto & Basson 2014) (Table 4). Teaching topics, such as communication and communication skills in this intervention has focused on the role of psychological factors, and this may have led to consistency between two studies; no change in pain and orgasm components in Brotto and Bassoon's research may be associated with the older age of the explored subjects and cultural differences between the selected intervention groups. The issue of gender, especially among the Afghan population, is considered as a taboo. Additionally, considering the socio-cultural, religious, and political beliefs in Islamic societies, it is recommended that training sessions be held in migrant areas. Future studies are recommended to establish sex education classes in other immigrant areas with higher sample sizes and by implementing other educational methods and comparing the relevant results with the present study.

Applying the face-to-face sex training approach improved the sexual function of Afghan adolescents. Thus, this method can be used in the sex education of adolescent couples.

Ethical Considerations

Compliance with ethical guidelines

The study protocol was approved by the Ethics Committee of Iran University of Medical Sciences (Code: IR.IUMS.REC1397.027) and registered in the Iranian Registry of Clinical Trials (Code: IRCT20180611040054N1). The study was conducted after obtaining approval from Mashhad University of Medical Sciences (Approval Number: 97/32620). An informed consent form was obtained from the study subjects after explaining to them the objectives of the study.

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Authors' contributions

All authors contributed in designing, running, and writing all parts of the research.

Conflict of interest

The authors declared no conflicts of interest.

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