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Investigating the impact of counseling based on PLISSIT model on sexual intimacy and satisfaction of breastfeeding women

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ABSTRACT

***Purpose:** sexual activity and sexual satisfaction are one of the most well-known aspects of human life, and the first sexual intercourse after childbirth is an important step for couple to create intimate relationships. This study was conducted to determine the impact of counseling based on PLISSIT model on sexual intimacy and sexual satisfaction of breastfeeding women during 6 months after childbirth. **Methods:** This study is based on randomized clinical trial. The samples of study consisted of 82 nulliparous and breastfeeding women during the first six months after childbirth, who had least self-reported one sexual problem. Samples were assigned randomly in intervention group and control group. To collect data, demographic and midwifery characteristics questionnaire and Larson's sexual satisfaction and intimacy questionnaire were used. Sexual satisfaction and sexual intimacy of person were measured in three phases: before intervention, 1 month and 3 months after intervention. **Results:** Three months after intervention, the mean of sexual satisfaction and sexual intimacy scores increased significantly in intervention group ($P< 0.001$). There was significant difference between sexual intimacy and sexual satisfaction scores in the experimental and control groups, one month ($P<0.001$) and three months ($P<0.001$) after the intervention by doing Mann-Whitney test. **Conclusion:** based on results of this study, sexual counseling increased sexual satisfaction and sexual intimacy of breastfeeding women, and the impact of the counseling was still stable one month and three months after the intervention.*

INTRODUCTION

Sexual instinct is one of the strongest human instincts affecting people behavior [1]. According to World Association of Sexology, sexual desire is an integral part of each person's personality [2]. Sexual activity and sexual satisfaction obtained from it is one of the most well-known aspect of human life [3]. The desirable sexual

satisfaction is each person's judgment and analysis of amount of pleasure created during sexual activity. Sexual satisfaction is defined as reaching to the stage of orgasm [4]. In a study conducted in Iran among those seeking to divorce, it was found that 66.7% of males and 68.4% of females are not satisfied in their sextual life that this lack of satisfaction was effective in their sexual activity [5].

Pregnancy and childbirth is certain period of woman life in which physical and harmonic changes occur in woman affecting significantly her health and life quality [6]. The postpartum period is known as vulnerable and stressful period for women in different cultures since mothers face with new concerns and problems in this period [7]. In general, during the pregnancy, women receive frequent visits to check pregnancy, preparation for child delivery and breastfeeding. They also refer to health centers and physician or midwife to examine physically their genitals and counseling centers to select the most appropriate prevention method, while less attention is paid on sexual life of women during this time [8].

Sexual activity in the postpartum period is an important issue for couple so that the first sexual intercourse after childbirth is an important step for couple to create intimate relationships [9]. Intimacy includes different meanings based on age, sex, education, and culture, and there is no consensus among researchers on the root concept of intimacy which makes its definition difficult [10]. Bagarozzi (2001) defines intimacy as proximity, similarity and a personal romantic or emotional communication that requires knowledge and understanding of another person to express thoughts and feelings [11]. Intimacy is considered as a key feature of marital relations and important feature of a successful marriage. This feature refers to the interaction between couple. The absence or lack of it is an indicator of the turmoil in the marital relationship [12]. Social and cultural issues and inappropriate function of units providing health services on sexual health training area and lack of willingness of health care providers to speak on sexual activity areas are main causes of sexual disorders and lack of sexual satisfaction in this period [13].

Health providers can play an important role to help couple adapt to postpartum period due to changes that occur at this time. Thus, intimacy, sexual satisfaction, and sexual performance will improve mothers [14]. Ignoring the sexual instinct in humans is associated often with irreversible effects, and disorder in sexual relationships and sexual dissatisfaction of couple sometimes leads to collapse of the foundation of the family. Physical and psychological pressures resulting from undesirable satisfaction of the sexual desires distract the person and impair his health [15].

One of the approaches used to investigate the sexual issues is PLISSIT model. This model was developed by Annen in 1970 and it deals with sexual issues individually. In this model, people are allowed to speak on their sexual problem, limited information is provided for them in sexual issues, and specialized recommendations are provided to solve their sexual problem. Finally, special therapy is provided for those require further intervention [16]. Therefore, researcher used this model in various studies and its impact has been measured. The present study was conducted to determine the impact of PLISSIT model in sexual intimacy and satisfaction of breastfeeding women referred to Health Center of Medical Science University in Bandar Abbas in 2015.

Materials and Methods

Design and sample

This study was conducted in randomized controlled clinical trial in 2015 in Niyayesh Health Center of Bandar Abbas on 100 breastfeeding women (41 women in experimental group and 41 ones in control group) who referred to this center to receive health services, from September to January of 2015.

Inclusion criteria were (a) nulliparous and breastfeeding women after giving singleton birth, (b) during the first six months after childbirth, (c) lack of exposure to stressful events during pregnancy and after childbirth, (d) lack of postpartum depression, (e) absence of complications in pregnancy and postpartum, (f) no history of mental and

chronic physical illness, (g) availability during the study. Exclusion criteria included pregnancy during the study, loss of child, being away from her spouse, severe marital conflicts, and the occurrence of adverse events (death of loved ones, accidents, etc). In the randomly selected health center, participants were randomly allocated to control or intervention groups using Balanced Blocked Randomization method [Figure 1]. We used the results of previous studies on PLISSIT model for estimating the sample size [17]. During the study period, 10 participants dropped out of the study in the control and intervention groups, so we analyzed the data of 90 participants.

This study was conducted by approval of ethics committees of Shahid Beheshti University and it was registered in IRCT with the number 2015062522921N1. The researcher informed the participants about the purpose of the study and assured them that confidentiality would be maintained by using codes rather than names. Written informed consent was obtained from all women who participated in the study and their husbands.

Data collection

We gave an announcement in the selected health center for recruiting women with sexual problems, and thus, 90 women were recruited for the study. Data collection tools included demographic and midwifery characteristics questionnaire, Edinburgh postnatal depression questionnaire, and Larson’s sexual intimacy and satisfaction questionnaire. Demographic and midwifery characteristics questionnaire contains 32 questions about demographic information, pregnancy and childbirth status, infant gender, gender of infant desired by woman and her husband, contraception, breastfeeding duration, average intercourse per week before pregnancy and after childbirth, the manner of marriage, and marital satisfaction.

Larson’s standard sexual satisfaction questionnaire contains 25 questions in which answers are scored on a 5 Likert scale. Answers to option “never” were scored 1 and answers to option “always” were scored 5. Thirteen questions of it had negative aspect, while 12 questions of it had positive aspect. Score 25-75 was evaluated as low sexual satisfaction, 76-100 as moderate sexual satisfaction, and 101-125 as high sexual satisfaction [18]. The sexual intimacy questionnaire has 30 questions examining the couple intimacy and emotional, psychological, intellectual, sexual, physical, spiritual, aesthetic and recreational aspects of couple. Each question has four-answer range of (always, sometimes, rarely or never) scored from 1 to 4. The maximum score is 120 and minimum score is 30. The higher scores indicate higher sexual intimacy [19].

Edinburgh postnatal depression questionnaire is a developed tool to screen postpartum depression and it is a valid tool to screen depressive symptoms during past 7 days after childbirth [20]. As postpartum depression variable was considered as intervention in this study, to measure samples status in terms of postpartum depression, two groups were used and they were compared.

In a study conducted by Botlani et al, sexual intimacy questionnaire reliability was obtained 0.81 using Cronbach's alpha [19]. In this study, Cronbach's alpha was obtained 0.82. To determine Larson’s sexual satisfaction reliability in the study conducted by Ramezani, Cronbach's alpha was obtained 0.89 [21].

Intervention

After studying various papers and books and spending sex therapy workshop to increase skill in this regard, researcher referred to health center of Medical Science University of Bandar Abbas and written consent was received of qualified people after stating the goals of study. Breastfeeding women who referred to health center of Niyayesh during the first six months and had inclusion criteria were invited to participate in the study. Before starting the study, telephone number was taken of women. In the first stage, breastfeeding women completed questionnaire of personal and midwifery questionnaire, Edinburgh’s postnatal depression questionnaire, and Larson’s sexual intimacy and sexual satisfaction questionnaire. If they had inclusion criteria, they were participated

in the second phase of study. Statistically, two groups were similar in terms of mean scores of intimacy and sexual satisfaction.

The control group referred to the obstetric unit of the selected health center for handling of their sexual dysfunction. In Iran, at the obstetric units of health centers, midwives provide family planning services and prenatal care as a daily routine work. They have no training and experiment about sex education and counseling.

In the next stage, in the experimental group, sexual counseling was conducted based on components of PLISSIT model in two sessions of 60 to 90 minutes once per week. Counseling sessions for the intervention group were being held in a separate and private room in the health center. At the end of each session, women questions were answered completely and telephone follow-up was provided for them to investigate the sexual intercourse with their couple and respond to their questions.

In both intervention and control groups, sexual satisfaction and sexual intimacy were examined and evaluated in the first and third month after the counseling. The intervention and control group people referred to clinic in different days. Finally, by analyzing data, the impact of sexual counseling and training based on PLISSIT model on sexual intimacy and satisfaction of breastfeeding women in two control and experimental group was examined, one month and three months after the intervention.

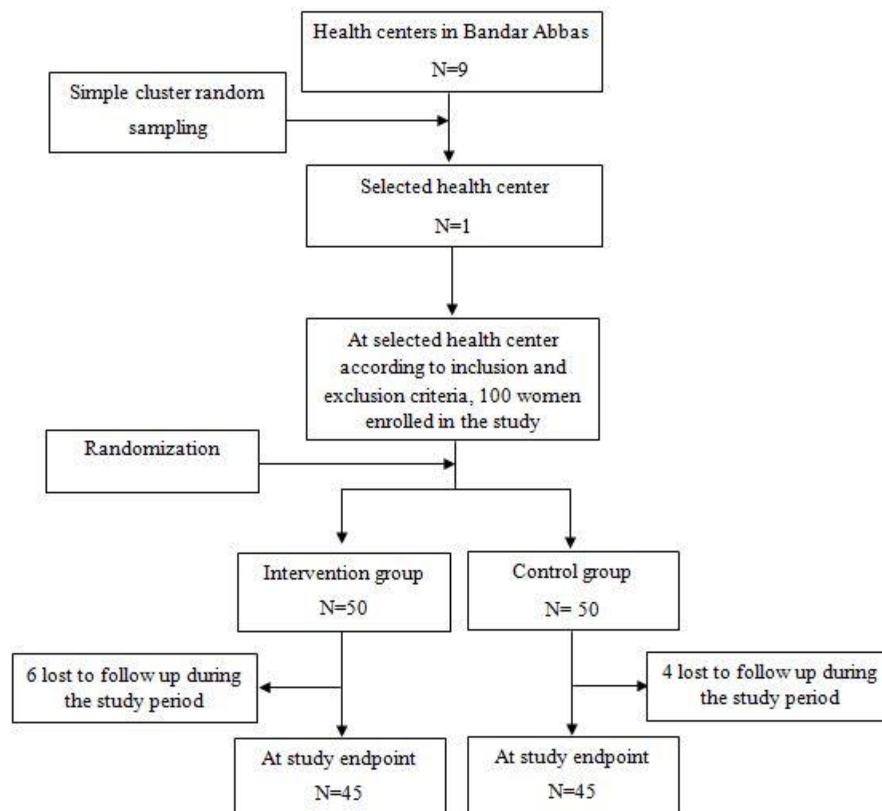

Figure 1: Study design

Statistical Analysis

The sexual intimacy and satisfaction scores were compared between the control and intervention groups at three observation time periods: Pre-counseling period and 1 and 3 months after counseling. The statistical analyses were performed using SPSS (version 16.0, SPSS Inc, Chicago, IL, 2007) software. Data were given as mean and standard deviation. Paired *t*-test and repeated measures analysis of variance (ANOVA) test were used for comparison of scores within the groups. Statistical significance was considered at $P < 0.05$ for all statistical analyses.

RESULT

Based on results of this study, the subjects were not significantly different in terms of demographic and midwifery characteristics as shown in Table 1. Before intervention, there was no significantly difference among women in term of Edinberg Postpartum Depression Score (p>0.200). There was no significantly difference among women in the postpartum period (p=0.861).

Table 1- The demographic and midwifery characteristics of subjects of study in control and experimental group

Qualitative variables		Intervention		Control		Significance level
		Frequency	%	frequency	%	
Familiarity with spouse	Close relative	14	31.10	10	22.20	Chi-square test NS
	Far relative	8	17.80	6	13.30	
	Strange	23	51.10	29	64.40	
Education level	Elementary and guidance school	4	8.90	4	8.90	Fisher's exact test NS
	High school and associate	21	46.70	22	48.90	
	academic	20	44.40	19	42.20	
Education level of spouse	Elementary and guidance school	6	13.30	3	6.70	Fisher's exact test NS
	High school and associate	22	48.90	19	42.20	
	academic	17	37.80	23	51.10	
job	Housewife	36	80.00	39	86.70	Chi-square test NS
	Employed	9	20.00	6	13.30	
spouse job	Employer	18	40.00	26	57.80	Chi-square test NS
	Worker	6	13.30	4	8.90	
	Self-employed	21	46.70	15	33.30	
Housing status	Private	15	33.30	18	40.00	Chi-square test NS
	Rental	26	57.80	24	53.30	
	Relatives house	4	8.90	3	6.70	
Separate bedroom status	Yes	36	80.00	40	88.90	Chi-square test NS
	No	9	20.00	5	11.10	
Income level	Between 5 to 10 million Rails	10	22.20	9	10.00	Chi-square test NS
	Between 10 to 15 million Rails	20	44.40	19	42.20	
	Higher than 15 million Rails	15	33.30	17	37.80	
Type of childbirth	Cesarean	18	40.00	22	48.90	Chi-square test NS
	Natural	27	60.00	23	51.10	

Manner of marriage	Traditional	8	19.50	10	24.40	Chi-square test NS
	Previous friendship or familiarity with couple	33	80.50	31	75.60	
Quantitative variable characteristics		Mean	SD	Mean	SD	Significance level
Age		24.93	3.10	23.44	2.64	Independent t test NS
Weight during birth (g)		3111	363.34	3191.44	451.33	Independent t test NS
Pregnancy age during childbirth (week)		38.69	1.10	38.89	1.13	Independent t test (NS)
Average number of intercourse before pregnancy per week		2.54	1.30	2.40	1.40	Mann Whitney NS
Average number of intercourse after pregnancy per week		1.24	0.75	1.40	1.29	Mann Whitney NS
Time of starting the first intercourse after childbirth per week		7.09	2.61	6.56	1.58	Mann Whitney NS
Time after childbirth		3.56	1.58	3.56	1.80	Mann Whitney NS
Edinberg Postpartum Depression Score		24.53	4.10	25.53	3.18	Independent t test NS

Sexual satisfaction mean score in control group was 84.76 before the intervention, it was 95.80 one month after intervention, and it was 115 three months after the intervention that this difference was statistically significant by doing t-paired test (respectively $p < 0.001$ and $p < 0.001$). In the control group, sexual satisfaction mean was 86.93 before intervention, it was 88.87 one month after intervention, and it was 91.01 three months after intervention, that this difference was not statistically different in the first month, while it was significant in the third month ($p=0.024$).

Additionally, the mean score of sexual intimacy in experimental group was 81.19 before the intervention, it was 99.29 one months after the intervention, and it was 112.02 three months after the intervention that this difference was significant (respectively $p< 0.001$ and $p=0.24$). In the control group, sexual intimacy mean score was 82.02 before the intervention, it was 85.85 one month after intervention, and it was 90.02 three months after the intervention, that these differences were not significant [Table 2].

Table 2- Comparison of mean and standard deviation of sexual satisfaction and intimacy score before, one moth, and three months after intervention in control and experimental groups

groups					
	Intervention mean (SD)			Test result (significance level)	
Variables	Before intervention	One month after intervention	three month after intervention	Before and one month after intervention	Before and three months after intervention
Sexual satisfaction	84.76±11.53	95.80±9.80	115±8.90	p<0.001	p<0.001
Sexual intimacy	81.19±11.81	99.29±7.85	112.02±9.66	p=0.024	p<0.001
	Control mean (SD)			Test result (significance level)	
Variables	Before intervention	One month after	three month after	Before and one month after	Before and three months after

		intervention	intervention	intervention	intervention
Sexual satisfaction	86.93±10.70	88.87±11.63	91.01±11.50	NS	p=0.024
Sexual intimacy	82.02±11.25	85.85±10.67	90.02±10.11	NS	p=0.054

There was no statistically difference between sexual intimacy and sexual satisfaction scores in the experimental and control groups before the intervention (p=0.480), but significant differences were observed in two groups one month (p < 0.001) and three months (p < 0.001) after the intervention among scores of sexual intimacy and intimation after doing Mann-Whitney test [Figure 2].

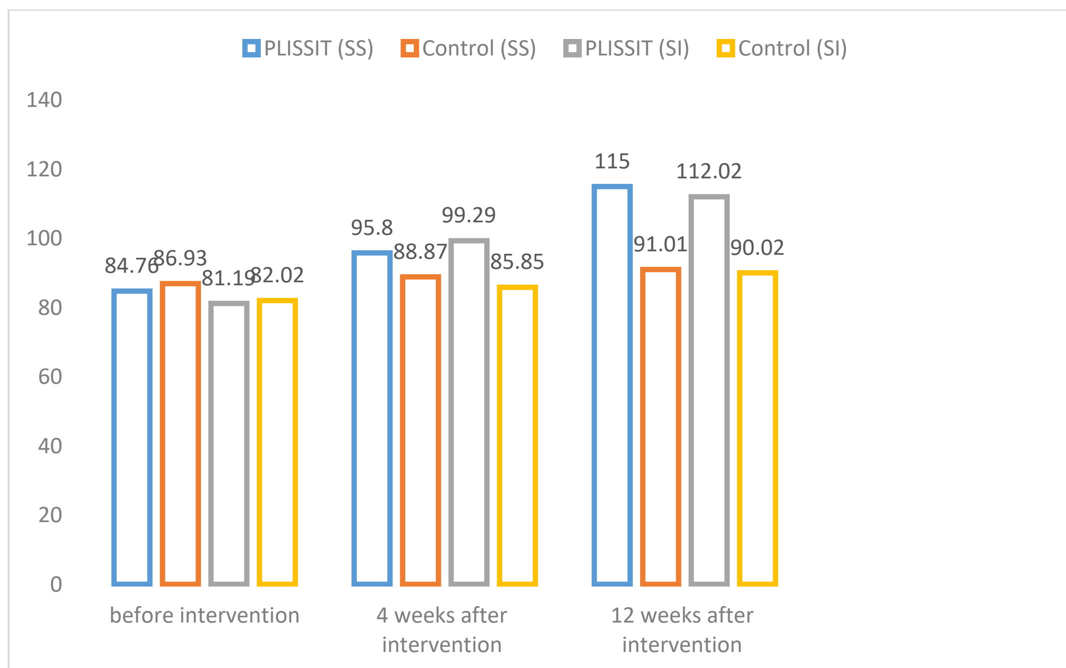

Figure 2. The changes mean of sexual intimacy and sexual satisfaction scores between PLISSIT and control groups

DISCUSSION

In this study, the impact of sexual counseling on sexual intimacy and satisfaction of breastfeeding women was examined using PLISSIT model. Results showed that there were statistically significant differences between mean of scores of sexual intimacy and sexual satisfaction in control and intervention groups at post-test and follow-up periods. Results suggested that sexual counseling increases sexual satisfaction and sexual intimacy of breastfeeding women and the impact of counseling one month and three months after the intervention was still stable.

Obtained results are consistent with results of studies conducted by Shah Siah et al who examined the impact of sexual training on improvement of couple marital satisfaction in Isfahan and they concluded that sexual training was effective in increasing the marital satisfaction and subscales of couple personality satisfaction, improved communication, sexual intercourse, and conflict solving [22]. Additionally, in a study, the sexual satisfaction of couple in the intervention group increased significantly after the intervention compared to control group, indicating that sexual health training had impact on couple sexual satisfaction in the intervention group [23]. Khanjani et al examined the impact of sexual training on improvement of marital satisfaction of couple, and results indicated that

sexual training has significant positive impact on marital quality components such as sexual satisfaction, marital satisfaction, sexual intimacy, and reduced conflicts between couple [24].

The study concluded that training sexual skills among uncoordinated couple increases coordination and satisfaction in sexual and marital issues [25]. In a study, sexual training was effective in increasing sexual intimacy of intervention group women, and the impact of sexual training after two months after training sessions was stable [26]. In a study conducted by Botlani et al, attachment-based marital therapy increased sexual satisfaction of couple. Sexual satisfaction is an important predictor of marital satisfaction [19]. Aylin et al concluded that sexual intercourse, self-belief, spouse acceptance, and sexual pleasure increased in the experimental group compared to control group [27]. Momeni Javid et al reported that training marital life promoting skills has an effective role to improve marital intimacy [28]. The results of the other studies are in line with this study [23, 29, 30].

In explaining the results, it can be said that in the training sessions when participants could establish emotional and non-sexual contacts in the first stage, they also could establish sexual emotional and touching contacts with their spouses and these contacts with their spouses were continuous. These cases caused that their spouses to feel higher level of intimacy with each other. One another case that increased sexual intimacy of participants with their spouses is the manner of speaking on sexual issues with their spouses. They learnt that they should negotiate clearly on their needs, interests, priorities, and sexual wants, especially during breastfeeding period with their spouse. When women could transfer their emotional and sexual issues for their spouses in an intimate marital context and be familiar with their spouse sexual relations, this negotiation on sexual issues caused that people find new approach on their sexual relations and display the behaviors leading to higher level of intimacy and sexual satisfaction. As a result, participants concluded that they should plan for sexual relations with their spouses and higher level of intimate relations experience through planning. In addition, when participants get more knowledge on bedroom skills and learnt new methods of sexual relations, the experience of these sexual relations became more varies and enjoyable and this helped them to experience high level of sexual intimacy with their spouses.

In the current study in the control group, significant difference was found in the control group during the follow-up in terms of sexual satisfaction score. It seems that problems reduce over time, due to more adaptability with postpartum conditions; finally, their sexual satisfaction increases. In general, training sessions caused that participants find positive view on sexual issues and realistic, positive, and healthier expectations to be shaped on sexual issues with their spouses. As a result, in the light of more knowledge on sexual issues, they could experience higher level of sexual intimacy and satisfaction with their spouses.

In conservative societies like Iran with certain cultural and religious restrictions, women may be asked to restrain their sexual desire. This may lead to sexual problem and, on the other hand, restricts sexual health-seeking behavior [31-32]. In the first step of counseling based on PLISSIT model, a trained midwife encouraged the women to express their feelings and thoughts, and desire problems were taken under control by providing information about sexual motivators in step 2. At the beginning of a given sexual experience, a woman may well sense no sexual desire. Her motivations to be sexual include increasing emotional closeness with her partner and often increasing her own well-being and self-image (sense of feeling attractive, feminine, appreciated, loved, and/or desired), or to reduce her feelings of anxiety or guilt about sexual infrequency [33].

In this study, the contributor midwife had been trained about PLISSIT model in a workshop for 3 days and she conducted the counseling sessions during the research period. The PLISSIT model helps primary care providers to increase their contribution to sexual health care. It provides capabilities for health care workers in a primary care setting for raising matters related to sexual health, asking questions, giving information, seeking appropriate care, and recognizing the possibilities for referral and finally it can increase the sexual intimacy and satisfaction of breastfeeding women.

Also, it can be concluded that sex education and counseling helps the couples gain sufficient knowledge in this area and take effective steps to deal with sexual problems and enhance their intimacy. Generally, by promoting communication, problem solving, self-disclosure, empathic response skills, and sexual education and counseling techniques, based on religious and cultural context of each society, an effective step can be taken to enhance marital intimacy and strengthen family bonds and stability [34]. Therefore, it is recommended to provide and present counseling training packages to increase marital intimacy tailored to the cultural context of the society.

There are several limitations of this study that should be noted; including the justification of people to participate in sessions, continuing the sessions as sexual issues in society are taboo, lack of counseling with their spouses that researcher considered some strategies to obtain confidence of participants by providing intimate and private environment and observing counseling principles.

CONCLUSION

Results of this study showed that sexual training and sexual counseling were effective in increasing the sexual intimacy and satisfaction of breastfeeding women in the intervention group, and the impact of sexual counseling three months after the training sessions was stable still. Considering finding of the study, it can be concluded that sexual training and sexual counseling help people improve their sexual relations and many marital problems and conflicts can be prevented by providing these trainings to couple especially in vulnerable periods of life such as breastfeeding. Due to undeniable impact of sexual issues in marital life, it is recommended that training workshops improving the sexual relations to be established in health centers, emphasizing on improved quality of sexual relation and prevention of sexual problems during pregnancy and breastfeeding, since these trainings can be used to increase sexual intimacy and satisfaction and thus marital satisfaction of couple.

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