



Effect of Educational Counseling on Knowledge and Attitude of Pregnant Women Towards Sex During Pregnancy

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Abstract

Background: Insufficient information about sex during pregnancy as well as negative attitude towards it may lead to serious problems in the couple's communication and sexual relationship. Therefore, this study was conducted to determine the effect of educational counselling on sexual knowledge and attitude of pregnant women during 2014-2015.

Materials and Methods: This study was performed on 200 pregnant women referred to 5 health care centers in Kerman. The random allocation method was used to assign mothers to intervention (n=100) and control (n=100) groups. Data were collected by demographic information, sexual knowledge, and attitude questionnaires. Data were analyzed by paired and independent t test, Fisher exact test, chi-square test, Mann-Whitney, Wilcoxon, ANOVA, Kruskal-Wallis, and Pearson's and Spearman's correlation tests in SPSS software version 22.0.

Results: The mean scores of sexual knowledge and attitude before educational counselling in intervention group were 33.7 ± 15.44 and 50.09 ± 10.88 , respectively. Before the intervention, no significant differences were observed between the two groups in knowledge and attitude. One month after the counselling, the mean scores of knowledge and attitude in the intervention and control groups were respectively 79.03 ± 8.71 and 67.88 ± 8.62 , indicating a significant difference ($P < 0.0001$).

Conclusion: The results of this study confirmed the positive role of counseling and education in increasing knowledge and creating positive attitude towards sexual relationships in pregnant women.

Keywords: Counseling, Knowledge, Attitude, Sex, Pregnant woman, Education

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Received: November 8, 2019, Accepted: June 2, 2020, ePublished: June 30, 2020

Introduction

Sexual activity is a physiological need and plays an important role in life. Although its absence does not seem a serious threat to life, it causes anxiety and severe psychological problems due to alterations in the individual's mental image (1).

Every person's sexual response cycle is a multistage model in response to sexual stimulation, which includes excitement, sexual joy, intoxication, orgasm, loss of excitement, relaxation, and peace. Sexual health is promoted when the person performs sexual and reproductive behaviors according to cultural and personal values, gets free from stressful issues such as fear, embarrassment or guilt, which may cause a disorder in sexual activities, and maintains physiological health,

on which sexual or genital functionality depends (2).

Pregnancy is a special period in women's life that affects the woman and her partner's sexual life by hormonal, physical, and mental changes associated with social and cultural factors. Hormonal changes (increase in Estrogen, Progesterone, and Prolactin) result in nausea, vomiting, and breast pains, and these factors along with fatigue, weakness, and anxiety cause problems in sex (3). Given that pregnancy is a critical stage in life and the woman needs more emotional support in this stage, couples' inadequate information about sex during pregnancy and negative attitude towards sexual issues during this period cause problems for the individual (4).

Sexuality during pregnancy is widely studied in Europe, America, and some East Asian countries. Although 86-

100% of women remain sexually active during pregnancy, many of them experience a decrease in sexual desire and the number of intercourses (5, 6). Moreover, due to special conditions during pregnancy and emotional changes in mother because of bearing a fetus, there would be feelings of guilt and embarrassment of sex. These negative attitudes are against Islamic commands and except for some few cases, Islam emphasizes the importance of sexual activity in strengthening the family and considers it a sacred issue (7). Research has shown that sexual dysfunction results in serious problems between couples, causes a decrease in emotions and tender relationship with the spouse, and is associated with social problems such as crime, sexual violation, psychological diseases, and divorce, whereas desirable sexual functionality is a key factor in strengthening the family and community structure (2, 8, 9). In this regard, Torkestani et al found that although the sexual intercourse during pregnancy has no adverse effects on the fetus, the prevalence of sexual intercourse decreases due to the couple's fear of its negative effects during pregnancy (10). In a study by Heydari et al, the participated pregnant women attributed the causes of decreased libido to dyspareunia, fear of harm to fetus, miscarriage, preterm rupture of membranes, premature birth, and infection, and 46% of them had a negative attitude towards sexual relationships during pregnancy (11).

Besides having a positive role in preventing some negative consequences, sexual health education develops positive outcomes such as having a good relationship with the spouse, enjoying sex, promoting self-confidence and self-esteem, and improving informed decision-making in individual and interpersonal relationships (12). Education and guidance are inseparable domains of counseling (13). Educational counseling is also a type of consultation, in which people involved in healthcare centers consult as a trainer in a learning environment (14). Usually, the consultants ignore this very important aspect of life, and even if they have essential skills for consulting and solving problems, make various excuses and refuse to do it (15). In a study, participants reported that their sexual activity changed during pregnancy. Approximately 75% of pregnant women were not informed of pregnancy and 32.5% stated that they need sexual advice during pregnancy and that they wished they could have talked with someone about this (4).

Several studies have referred to the positive effect of consultation in different fields, for instance, Babazadeh et al found that educating sexual issues positively affects the women's satisfaction in sex and results in their increased satisfaction with sex during pregnancy (16). Some women, who receive wrong information from non-scientific resources, do not have proper sexual behavior during pregnancy, and this results in problems in marital relations (17).

According to physical and mental health principles,

all the aspects of women's health, especially physical, mental, and even social aspects, are influenced by sexual functionality and relationship between couples. On the other hand, sexual functionality is influenced by physical and mental changes in different stages of a woman's life, especially during pregnancy. Therefore, maintaining and improving couples' general and sexual health and strengthening the foundation of the family are undeniable necessities (18). Unfortunately, sex education and consultation with community members in this field have been forgotten in our country (15).

Considering the importance of sex in marital life and due to the fact that people's knowledge and attitude can affect their sexual functionality, we decided to conduct this survey to determine the effect of educational consulting on the knowledge and attitude of pregnant women referred to health centers of Kerman regarding sex during pregnancy during 2014-2015.

Materials and Methods

This interventional clinical trial was conducted to determine the effect of educational counseling on the knowledge and attitude of pregnant women referring to health centers in Kerman about sex during pregnancy in 2015. For this purpose, 11 healthcare centers were identified, among which 5 centers were chosen through simple random sampling. A convenient sampling method was used to select 40 mothers (20 in the intervention group and 20 in the control group) who referred to the centers and met the inclusion criteria from each center. The inclusion criteria were a gestational age of less than 32 weeks, singleton pregnancy, and lack of pregnancy complications, and the exclusion criteria were an underlying disease, addiction to drugs, alcohol consumption, and medications that affect the sexual response (16). Stratified randomization was used to achieve homogeneity between the two groups regarding age and educational level. These groups include a different combination of educational levels and age groups. Additionally, in each age and education class, block randomization (4-item block) was utilized to assign people to the intervention and control groups. Therefore, using the sampling method, the likelihood of information exchange between the control and intervention groups was minimized.

In this study, a three-part questionnaire consisting of demographic information and researcher-made questionnaires of knowledge and attitude was used. The content validity of knowledge and sexual attitude during pregnancy questionnaires was assessed by 10 professors and experts of Kerman University of Medical Sciences and determined to be 0.88 and 0.85, respectively. The reliability of the knowledge and attitude questionnaires was calculated using Cronbach's alpha coefficient and determined to be 0.84 and 0.78, respectively.

Sexual knowledge questionnaire consisted of 27 three-

choice questions with Yes, No, and I don't know answers, in which 0 was considered for "wrong and don't know" and 1 was considered for "True" responses. These two choices were scored in the same way because some individuals do not know the answer but do not tend to show unawareness. However, the fact is that both not knowing the answer and giving the wrong answer show a lack of sufficient knowledge in this field.

Sexual attitude questionnaire included 18 questions with a 5-point Likert scale ranging from 1 (totally disagree) to 5 (totally agree). Finally, the scores ranged from 0 to 100.

Qualified participants were included in the study after explaining the research goals to them and obtaining informed consent. First, the participants' knowledge and attitude about sex (in this study, we mean performing intercourse) during pregnancy using the above-mentioned questionnaires were examined, and then respondents were classified as intervention (100 individuals) or control (1000 individuals) groups using the random block allocation method.

Participants of the intervention group attended an individual session of 1.5 hours (based on mean learning time of individuals studied, and their available time in the health center). After introducing the goals of the session, educational counseling was provided and the individual was ensured that all the issues discussed in the sessions would be kept confidential. A counselling package including the issues regarding genital anatomy and physiology (using moulage), factors influencing sexual activity, correct intercourse positions during pregnancy and information about sex during pregnancy was provided by researchers, which was approved by two obstetricians and psychologist. The participants were trained and counseled individually and face-to-face (16). At the end of the intervention, the provided pamphlet was given to them. For the control group participants, no education or consultation was provided by the personnel of the healthcare centers during pregnancy. Finally, knowledge and attitude questionnaires were answered again by the participants of both groups one month after the intervention (15). Descriptive statistics indices such as number, percentage, mean, and standard deviation were used to report the data, and to determine the relationship between the variables, inferential statistics were used, which are presented in the relevant tables. The paired *t*-test was used separately for both groups to examine the changes (before and after the intervention), and *P* < 0.05 was considered significance level. Data analysis was conducted by SPSS software version 22.0.

Results

The results of the study showed that the mean age of pregnant women in the intervention group was 26.16 ± 4.92 and in the control group, it was 26.54 ± 4.97, and their spouses' mean age was 29.71 ± 5.04 for the intervention group and 29.78 ± 5.79 for the control group.

The mean numbers of pregnancies for intervention and control groups were 2.07 ± 1.13 and 2.1 ± 1.02 respectively, and the mean numbers of children for intervention and control groups were 0.84 ± 0.87 and 0.89 ± 0.86, respectively. The two intervention and control groups were not significantly different in terms of any of the demographic features (*P* = 0.05).

The results showed that knowledge scores for the intervention group, before and one month after the intervention were 33.7 ± 15.44 and 79.03 ± 8.71, respectively, and there was a significant difference between the scores before and after the intervention (*P* < 0.0001), indicating a significant increase in the mean knowledge scores of the intervention group after counseling. The mean knowledge scores of the control group, before and one month after the intervention were 36.66 ± 17.47 and 37.88 ± 15.77, respectively, indicating no significant difference between the scores (*P* = 0.053) (Table 1).

The mean attitude scores of the invention group, before and one month after intervention were 50.09 ± 10.88 and 67.88 ± 8.62, respectively, indicating significant differences between scores before and after the intervention (*P* < 0.0001), which means that counseling resulted in improvements in attitudes after the intervention. Additionally, the mean attitude score for the control group was 49.09 ± 11.72 before the intervention and 49.62

Table 1. Comparison of the Participants' Knowledge About Sex During Pregnancy Before and After the Intervention in the Intervention and Control Group

Knowledge	Before Intervention		After Intervention		P Value
	Mean	Standard Deviation	Mean	Standard Deviation	
Intervention group	33.7	15.44	79.03	8.71	0.001
Control group	36.66	17.47	37.88	15.77	0.053

Paired *t*-test

Table 2. Comparison of the Participants' Attitude About Sex During Pregnancy Before and After the Intervention in the Intervention and Control Group

Knowledge	Before Intervention		After Intervention		P Value
	Mean	Standard Deviation	Mean	Standard Deviation	
Intervention group	50.09	10.88	67.88	8.62	0.0001
Control group	49.09	11.72	49.62	11.26	0.053**

Results from paired *t*-test and Wilcoxon test.

Table 3. The Comparison of Participants' Knowledge and Attitude Difference Before and After the Intervention About Sex During Pregnancy Between the Intervention and Control Groups

Differences in the Score of the 2 Groups		Least	Most	Mean	Standard Deviation	Test Results
Differences in the attitude	Intervention	-4.17	37.5	17.79	7.37	<0.0001
	Control	-8.33	13.89	0.52	3.36	
Differences in the knowledge	Intervention	11.11	96.30	45.33	14.71	<0.0001
	Control	-18.52	18.52	1.22	6.22	

± 11.26 one month after it, which showed no significant statistical difference ($P=0.19$) (Table 2).

The comparison of the differences between the two groups in terms of knowledge score showed an increase of 45.33 in the mean knowledge score after consultation in the intervention group and an increase of 1.22 in the control group, indicating that the difference between the two groups was significant ($P<0.0001$) (Table 3).

Besides, the comparison of the differences between the intervention and control groups in terms of attitude score showed an increase of 17.79 in the mean attitude score after consultation in the intervention group, while it was 0.53 in the control group, indicating a statistically significant difference between the two groups ($P<0.0001$) (Table 3).

Moreover, the study results showed that there was a significant relationship between sexual knowledge and attitude of pregnant women (Table 4).

Discussion

Sexual motivation and desire, like other fundamental motivating factors, form an indispensable part of the biological, psychological, and social nature of human beings, and it is clear that satisfaction in this issue plays an important role in maintaining individual and social health and achieving peace and comfort. Nowadays, many human problems result from sexual dissatisfaction and lack of enough information about complex aspects of this fundamental desire. Lack of proper knowledge about sexual motivation and right and moral ways of satisfaction may cause several marital problems (19).

The results of the study showed that there was no statistically significant difference between the intervention and control group in terms of the mean score of the knowledge about sex during pregnancy before the intervention, which was less than average.

Torkestani et al reported that although intercourse during pregnancy does not have a negative influence on the fetus, the number of intercourses decreases because the couples are afraid of negative effects during pregnancy (10). Pregnant women participated in the study by Heydari et al reported pain, fear of damage to the fetus, abortion, premature rupture, preterm delivery, and infection as causes of the decrease in sexual desire. They reported that 46% of participants had a negative attitude towards sex during pregnancy (11). Findings from a study by Sattarzadeh et al showed that women with different socioeconomic backgrounds have various

sexual experiences. Furthermore, the individual's social variables, beliefs, and opinions on sexual activity during pregnancy can influence sexual experience (1).

The results obtained from a review by Heydari et al on couples' knowledge and attitude towards sex during pregnancy showed that nearly 75% of pregnant women and 60% of their spouses are not informed about sex during pregnancy and demand sexual counseling during pregnancy (11). Studies in some areas show that women do not have correct beliefs and viewpoints about sex during pregnancy and that consultation and education can help to resolve this problem (20). By studying 238 women, Eryilmaz et al showed that 31.9% of these women had no information on sexual activity during pregnancy (21). Moreover, Ozgoli et al reported that two-thirds of women did not have enough information in this field (22). Furthermore, the results reported by Parsaee et al showed that the couples' mean score of knowledge about sex is at a low level (23); the results of this study are consistent with these surveys. The reason for this could be women's shame in asking about sexual issues as well as ignoring it by health caregivers and lack of educational and counseling programs in this field.

Besides, in the current study, there was no statistically significant difference between the two groups in terms of the mean scores of attitude towards sex during pregnancy before the intervention.

Clinical observations show that pregnancy is associated with considerable changes in the couples' attitudes towards sex (11). Sex and attitudes towards it during pregnancy have a direct relationship with sexual satisfaction during pregnancy (24). Heydari et al have reported that 46% of women did have a negative attitude towards sex during pregnancy (11), which conforms with the results of the current study. In the studies on pregnant women in some countries, a positive attitude towards sex during pregnancy was observed (25, 26), this contradicts the results of the current study, which would be because of the cultural differences. In different religions and cultures, there seem to be different attitudes towards sexual educations. One approach has considered it positive and normal, and the other has a negative view about sexual education. Adherence to customs, social networks, religious beliefs, and educational level are some factors affecting the attitudes.

Sexual education is a permanent procedure that helps in healthy sexual growth, marital hygiene, satisfactory close relationships, and sexual roles. If provided timely and properly, sexual education can play a role in controlling inappropriate sexual behaviors, creating healthy sexual behavior, reducing sexual problems, and preventing sexual diseases (27).

The results of the current study showed that the mean knowledge score of the intervention group was 79.03 ± 8.71 after counseling, which had significant differences with the knowledge score of the control

Table 4. Investigating the Relationship Between Knowledge and Attitude of the Participants About Sex During Pregnancy in the Intervention and Control Group

Group	Pearson Correlation Coefficient	P Value
Intervention	0.35	<0.0001
Control	0.4	<0.0001

Results of Pearson correlation test.

group and the knowledge score of the intervention group before counseling. In this work, intervention results in an increase in the level of women's sexual knowledge.

Mahamed et al conducted a study to analyze the effect of pregnancy health education on the knowledge and attitude of marrying girls. The comparison between the girls' mean knowledge scores before and after intervention showed that intervention significantly increased the girls' knowledge scores (28). In another study conducted by Rahimi et al, sexual knowledge of the women in the test group after cognitive-behavioral consultation showed a significant difference compared to before intervention and the control group (29). Moreover, Benni et al have concluded in their study that sexual education improves the teenagers' sexual knowledge (30). Moreover, Dehghani concluded that holding workshops before marriage results in changes in sexual knowledge (27); the results are consistent with the current study. However, our findings are to some extent different from those obtained by Moodi et al. They showed that education through speech increased the girls' knowledge of health; however, this increase was not statistically significant (31). The differences in intervention method (individual educational counseling) and studied sample (pregnant women) could be considered as the reason for this difference. Although the consultation is considered as a type of education (13), the difference is that consulting should be performed face-to-face, and the counselor and the client should directly interact so that the counselor could consider all the verbal and nonverbal exchanges and feelings expressed and all reactions that the client herself does not notice and include them in the evaluation (32).

Our results also show that the mean attitude scores after counseling for the intervention group significantly differ from attitude scores in the control group and the attitude scores in the intervention group before the intervention. The current study shows that counseling results in a more positive sexual attitude in pregnant women. In this regard, Mahamed et al reported that pre-marriage consultation significantly increases the attitude scores in girls (28). Results obtained by Rahimi et al showed that after counseling, women's sexual attitude significantly differs from that before intervention as well as the control group (29). Dehghani et al conducted a study on 45 pre-marriage couples to examine the influence of educating sexual skills on their attitude and concluded that educating sexual skill affected the couples' attitude (27). Similarly, Thammaraksa et al suggested that sexual education causes a significant increase in the attitude score of guidance school teachers (33). McGuirl and Wiederman as well as Mirzaii and Sharifi have also created a more positive attitude towards sexual issues by educating women and men (34, 35). WHO emphasizes that planned programs regarding sexual issues positively influences on health sexual attitudes and behaviors (36). The above-mentioned research results are consistent with

the current study.

Our results showed that there was a significant relationship between the sexual knowledge and attitude of pregnant women, indicating that their attitude improved as the level of their knowledge increased. In this regard, Heydari et al showed that 12% of women had high knowledge on sexual issues and 45.5% had no information or little knowledge and a negative attitude in this issue, indicating that inadequate sexual knowledge results in more negative attitudes towards sexual issues (11). Ozgoli et al reported that 76% of women had a moderate to low level of knowledge about sex during pregnancy and did not have a positive attitude towards it (22), these research findings confirm the current study. Usually, attitude follows knowledge, and attitude change is feasible by providing the background for increasing knowledge level.

Sexual counseling and education provide an opportunity to learn about sexual issues and prevent some marital problems. Likewise, it helps women to better understand sex during pregnancy, discard common misconceptions about it, and experience pleasant sex during this period. Therefore, the presence of an informed counselor in sexual issues during pregnancy and providing essential education and counseling in this field in the health centers are recommended.

Limitations

There were some limitations to this study. Given that sex is one of the most private issues in marital life, and due to cultural and religious limitations in our community, people cannot easily talk about their sexual issues. Therefore, some people's shame about explicitly expressing these issues was one of the limitations, which was attempted to be minimized by establishing proper communications and winning the participants' trust and confidence.

Suggestions

Considering the fact that the effect of educational counseling on knowledge and attitude of pregnant women was discussed and confirmed, it is recommended that future studies should be conducted on the effects of counseling on the sexual functionality of pregnant women.

Additionally, regarding providing essential information and needed education during pregnancy, it is recommended that further research with alternative educational and counselling programs should be performed, and finally, a comprehensive plan consistent with Islamic culture be provided for them and be utilized in health centers.

Conclusion

Our findings showed that knowledge and attitude scores in the intervention group increased from 33.7 and 50.09 before the intervention to 67.88 and 79.03 after the

intervention, respectively. This reinforces two approaches. First, the knowledge and attitude towards sexual issues during pregnancy are at a level that reveals the need for increasing knowledge and developing the attitude of women in this field. Second, given that sexual issues have significant importance in life and that lack of adequate knowledge and existing wrong attitudes towards sex result in undesired functionality and serious problems between couples, holding this kind of educational counseling courses for pregnant women can cause significant improvements in knowledge level and development of a positive attitude towards sexual issues during pregnancy. Therefore, counselling and education seem necessary in this field.

Conflict of Interests

There is no conflict of interests for any of the authors.

Acknowledgments

We appreciate all the pregnant women who participated voluntarily in this study, the Deputy for Research of Kerman University of Medical Sciences for financial supports, and personnel of the health centers for their help during the study.

Ethical Statement

This interventional clinical trial was registered in the Iranian Registry of Clinical Trials (IRCT20170611034452N4) and approved by the Ethics Committee of Kerman University of Medical Science (IR.KMU.REC.2014.484). All pregnant women in this study were satisfied and agreed to participate in counseling sessions.

Author Contributions

Atefeh Pakray: holding counseling sessions and writing the first draft of the article, Atefeh Ahmadi: management of writing the last version of the article, Younes Jahani: biostatistics consultant, Masoumeh Ghazanfarpour: editing the article.

Funding/Support

There is no financial support for this study.

Informed Consent

All pregnant women in this study gave oral informed consent.

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