

Determination of the Effect of Sexual Training for Pregnant Women on the Attitude Toward Sexuality and Sexual Response During Pregnancy: A Randomized Controlled Trial

Gebelere Verilen Cinsel Eğitimin, Gebelikte Cinselliğe Yönelik Tutum ve Cinsel Yanıt Etkisinin Belirlenmesi; Randomize Kontrollü Araştırma

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Abstract

Objectives: This study was carried out to establish the effect of sexual training for pregnant women on the attitude toward sexuality during pregnancy and pregnancy sexual response.

Materials and Methods: This randomized controlled study was completed with 73 pregnant women (intervention group =36, control group =37). The data were collected using the Pregnancy Sexual Response Inventory (PSRI) and the Attitude Scale toward Sexuality during Pregnancy (ASStSdP). Participants between the 14th and 22nd weeks of their pregnancy in the intervention group were provided with individual education which lasted two hours, on sexuality during pregnancy.

Results: PSRI and ASStSdP scores of both intervention and control groups resembled each other at the beginning of the study ($p>0.05$). The evaluation carried out four weeks later demonstrated that score averages for PSRI, ASStSdP, anxiety about sexual intercourse during pregnancy, and approving sexuality during pregnancy of the intervention group were higher than the same scores for the control group ($p<0.05$).

Conclusion: Sexual training during pregnancy positively affects attitudes toward sexuality and sexual response during pregnancy. Education of all pregnant women in the prenatal period about sexuality provided by nurses and midwives is recommended.

Key Words: Pregnancy, sexuality, education, nurses

Öz

Amaç: Bu çalışma, gebelere verilen cinsel eğitimin gebelikte cinselliğe yönelik tutuma ve gebelikte cinsel yanıt etkisinin belirlenmesi amacıyla yürütülmüştür.

Gereç ve Yöntem: Bu randomize kontrollü bir müdahale çalışması, 73 gebe ile (eğitim grubu =36, kontrol grubu =37) tamamlanmıştır. Veriler; Gebelikte Cinsel Yanıt Envanteri (GCYE), Gebelikte Cinselliğe Karşı Tutum Ölçeği (GCKTÖ) ile toplanmıştır. Eğitim grubundaki katılımcılara, gebeliğin 14-22. haftaları arasında iki saat süren gebelikte cinsel yaşam hakkında bireysel eğitim verilmiştir.

Bulgular: Araştırmanın başlangıcında eğitim ve kontrol gruplarının GCYE ve GCKTÖ puanları benzerdi ($p>0,05$). Dört hafta sonra yapılan değerlendirmede eğitim grubunun GCYE, GCKTÖ, gebelikte cinsel birleşmeye yönelik kaygı, gebelikte cinselliği onaylama puan ortalamalarının kontrol grubundan daha yüksek olduğu görülmüştür ($p<0,05$).

Sonuç: Gebelikte verilen cinsel eğitim, gebelikte cinselliğe yönelik tutumları ve cinsel yanıtı olumlu yönde etkilemektedir. Hemşire ve ebelerin doğum öncesi dönemde tüm gebelere cinsellik konusunda eğitim vermesi önerilmektedir.

Anahtar Kelimeler: Gebelik, cinsellik, eğitim, hemşireler

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Introduction

Sexuality is one of the key components of health and well-being and is affected by numerous factors (1). Pregnancy, one of the physiological changes that affect sexual health, plays a significant role in the sexual functions and behaviors of women. Pregnancy is, therefore, a process where sexual problems are widely experienced (2). In addition to the physiological reasons that are hard to change, the majority of sexual problems occur due to reasons like attitudes, taboos, lack of knowledge, and fear. In the literature, the belief that sexual intercourse during pregnancy would harm the baby (3,4), the belief that sexual intercourse is not safe, fearing sexual intercourse, shame, and problems associated with perceptual body image are counted among the reasons behind sexual problems during pregnancy (5,6). The studies further established that many couples are poorly informed about sexual health during pregnancy (7), couples hesitate to ask questions about sexuality and feel uncomfortable talking about sexuality due to shame or fear (8,9). For all these reasons, sexual health problems may occur during pregnancy.

It is noted that sexual health problems during pregnancy may cause disappointment, increased anxiety, tension between spouses, breakdown of relationships, and lower quality of sexual activity (10). A healthy pregnancy period is crucial concerning maintaining harmony and communication between spouses, enhancing the woman's quality of life, preventing potential sexual problems that may occur in the postpartum period, and raising awareness by correcting misinformation and upholding a healthy family structure. The purpose of this study is, therefore, to establish the effect of sexual training for pregnant women on the attitude toward sexuality during pregnancy and pregnancy sexual response.

Materials and Methods

Study Design

The study was conducted as a randomized controlled trial with two groups. Figure 1 presents the Consolidated Standards of Reporting Trials (CONSORT) diagram of the study phases.

Participants

The study was performed at the Ankara University Cebeci Hospital Obstetric Clinic from March to June 2023. The sample size was determined by conducting a power analysis that uses the G*Power 3.1.0 software package. In the literature, results of a study by Afshar et al. (11), which analyzed the effects of sexual training provided to pregnant women on the sexual functions of pregnant women (Intervention group= 26.6±4.3, Control group= 19.6±8.4), were taken as a basis and the effect

size was calculated as $d=1.05$. The minimum number of samples required to be included in the study for a 99% statistical power and 0.05 margin of error was determined as 70 in total; response =35 and control =35. Study drop-out rate was given as 6%. The number of samples in this study was, therefore, determined as 74 (experimental =37 and control =37). Seven hundred and twenty-one pregnant women were evaluated for the study. Out of those pregnant women, 635 were excluded from the study due to not fulfilling the criteria and 12 refused to take part in the study. One participant of the 74 randomized participants was excluded in the study process because of the sexual intercourse during pregnancy is prohibited by the physician (Figure 1).

The inclusion criteria were (1) being primigravida, (2) having a singleton pregnancy, (3) being between 14–22 weeks of pregnancy (to eliminate the trimester effect by ensuring that both evaluations were in the 2nd trimester), (4) living with their partners. Exclusion criteria for participants were listed as follows; (1) pregnant woman or her partner was previously diagnosed with sexual dysfunction, (2) sexual intercourse during pregnancy is prohibited by the physician, which could result in a risky situation, and (3) use of psychiatric drugs such as antidepressants.

Randomization

In order to ensure similarity between groups, participants were randomly assigned to either intervention or control group,

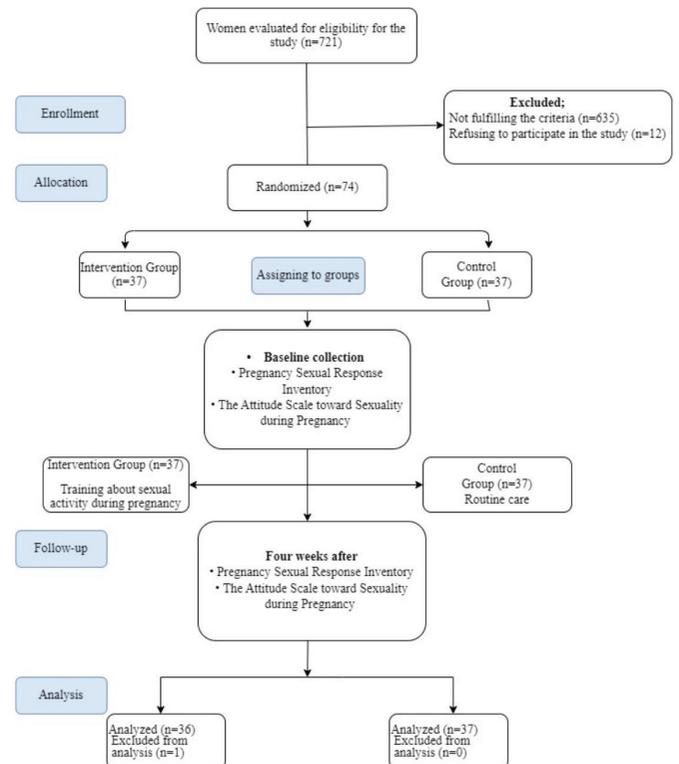


Figure 1: CONSORT diagram

CONSORT: The Consolidated Standards of Reporting Trials

in blocks. Each step of the study was conducted in accordance with the CONSORT (Figure 1).

Prevention of Bias

Stratified randomization was preferred for the prevention of selection bias. Data collection forms for the prevention of detection bias were applied by a researcher who was uninformed of research groups.

Procedure

For study purposes the patients were divided in two different groups. After initial evaluation of the women who applied to the pregnancy clinic for the eligibility criteria, eligible women were informed about the trial and written informed consents of these women were obtained. Women were randomly distributed among study groups using the block randomization method. The following practices were applied in the working groups:

Control Group: Only the routine procedure, and nothing else, was applied to the pregnant women in this group. Data collection forms were applied to the pregnant women in this group, at the beginning of the trial and four weeks later.

Once the data collection stage of the study was completed, the "Information Manual on Sexual Activity During Pregnancy" was also provided to the participants in the control group.

Intervention Group: The pregnant women in this group were trained about sexual activity during pregnancy. Individual training lasted for approximately two hours. The content of the training consists of genital anatomy, concepts associated with sexuality, physiology of sexual activity during pregnancy, factors affecting sexual activity during pregnancy, misconceptions/myths about sexuality during pregnancy, alternative ways other than sexual intercourse, sexual positions during pregnancy, and the importance of open communication between couples.

At the end of the training, homework was assigned to pregnant women, to be practiced at home, which included "sharing sexual feelings and opinions with the spouse, sharing sexual problems and concerns with the spouse, and use of alternative options other than sexual intercourse". Moreover, the "Information Manual on Sexual Activity During Pregnancy" was provided to them and they were asked to read the information given in the manual and share them with their spouses. Data collection forms were applied to the pregnant women in this group, at the beginning of the trial and four weeks after the training.

Data Collection Tools

The "Pregnancy Sexual Response Inventory (PSRI)" and the "Attitude Scale toward Sexuality during Pregnancy (ASTsDP)" were used to collect data.

PSRI: The PSRI was developed by Rudge et al. (12) and adapted into Turkish by Nakip et al. (13). Assessing sexuality

and sexual problems in pregnant women, the scale consists of two sections and a total of 38 items. The first section (12 items) questions the demographic characteristics (age, gestational age, socioeconomic status, smoking habits, whether the pregnancy was intended or not, and use of condoms) of the pregnant women. The second section (26 items) questions sexual functions in "prepregnancy" and "during pregnancy" (frequency of sexual activity, sexual desire, sexual satisfaction, arousal, orgasm, dyspareunia, sexual difficulties and sexual dysfunction, initiation of sexual intercourse, and opinion of the pregnant woman's partner on the sexual response). The total score ranges from 0 to 100, and higher scores indicate a better sexual response. In the Turkish reliability study for the scale, the Cronbach alpha coefficient was found as 0.79 for the pregnancy process (13). Cronbach alpha value was found as 0.62 in the first measurement and 0.61 in the second measurement, for the pregnancy process.

The ASTsDP: ASTsDP was developed in the Turkish language by Yılmaz Sezer and Şentürk Erenel (14) to determine the attitudes of pregnant women and men whose spouse is pregnant toward sexuality during pregnancy. It consists of three sub-dimensions "[Anxiety about Sexual Intercourse during Pregnancy (Anxiety), Dysfunctional Beliefs and Values about Sexuality during Pregnancy (Beliefs and Values), Approving Sexuality during Pregnancy (Approval)]" and 34 items. It is a five-point Likert-type scale. High scores on the total ASTsDP indicate that the attitudes toward sexuality during pregnancy are positive. Cronbach's alpha value was found as 0.90 (14). In this study, Cronbach alpha value was calculated as 0.88 in the first measurement and 0.92 in the second measurement.

Statistical Analysis

SPSS Windows 25.0 software package was used for statistical analysis, and $p < 0.05$ was considered significant. This method pays regard to skewness and kurtosis values generated from the data set to test normality. Skewness and kurtosis values were found between ± 2 , which was considered the evidence of the normal distribution. The chi-square statistic was used for testing relationships between categorical variables. Independent-samples t-test was used in the comparison of two independent groups and the Paired-samples t-test was used in the two paired groups.

Ethical Aspect of the Research

For conducting the study, an ethical approval was obtained from Ankara University Health Sciences Sub-Ethics Committee (date: 19.12.2022, decision no: 20/189) and permission from the relevant hospital. Written informed consent was obtained from all participants admitted into the scope of the sample. The research was conducted as subject to the Declaration of Helsinki.

Results

The descriptive characteristics and prepregnancy PSRI scores of the participants are given in Table 1. No significant differences were found between the groups ($p>0.05$).

At the beginning of the research, there was no statistically significant difference in terms of PSRI and AStSdP scores between the groups ($p>0.05$). When the PSRI and AStSdP scores of study groups are compared four weeks later, the PSRI, Anxiety, Approval, and AStSdP score averages of the intervention group are found to be higher than the score averages of the control group ($p<0.05$). In addition, the PSRI, Anxiety, Beliefs and Values, Approval, AStSdP score averages of the intervention group from four weeks later and the PSRI, Anxiety, Approval, AStSdP score averages of the control group from four weeks later are both higher than the initial score averages ($p<0.05$) (Table 2).

Discussion

The PSRI scores of the intervention group and control group were close to each other at the beginning of the research. However, in the assessment made four weeks later, a difference was found between the intervention group and control group, regarding the scores of sexual response during pregnancy. Sexual response scores of pregnant women who were provided with sexual training during pregnancy were found to be higher than the scores of the control group. Previous studies in this field confirm the results of the present study. As the result of Alizadeh et al. (15) prospective randomized controlled trial, there was a statistically significant difference in the mean score of PSRI and Sexual Quality of Life-Female in the training group and the control group. Similarly, Navidian et al. (16) showed that sexual activity and responses increased significantly in the intervention group after sex education. Another research conducted in Iran revealed that, after the education, the mean

Table 1: Distribution of participants' descriptive characteristics (n=73)

Socio-demographic and obstetric characteristics	Control group (n=37)	Intervention group (n=36)	Total	Analysis	
	Mean \pm SD	Mean \pm SD	Mean \pm SD	t ^a	p-value
Age	26.19 \pm 4.12	28.08 \pm 5.25	27.12 \pm 4.78	-1.717	0.090
Age of spouse	30.46 \pm 4.72	31.78 \pm 5.14	31.11 \pm 4.94	-1.142	0.257
Week of pregnancy	17.97 \pm 1.52	18.58 \pm 2.97	18.27 \pm 2.35	-1.144	0.258
	n (%)	n (%)	n (%)	χ^2 ^b	p-value
Educational status					
Primary school	10 (27)	5 (13.9)	15 (13.9)		
High school	19 (51.4)	22 (61.1)	41 (56.2)	1.932	0.381
University	8 (21.6)	9 (25.0)	17 (23.3)		
Status of working at an income-generating job					
Unemployed	33 (89.2)	31 (86.1)	64 (87.7)	0.160	0.689
Working	4 (10.8)	5 (13.9)	9 (12.3)		
Smoking habits					
Frequent or heavy smoker	1 (2.7)	3 (8.3)			
Occasional smoker	6 (16.2)	5 (13.9)		1.146	0.564
Non-smoker	37 (81.1)	36 (77.8)			
Pregnancy intention					
Intended	31 (83.8)	29 (80.6)	60 (82.2)	0.130	0.719
Unintended	6 (16.2)	7 (19.4)	13 (17.8)		
Condom using habit					
Not using	30 (81.1)	30 (83.3)	60 (82.2)		
Using before pregnancy	4 (10.8)	4 (11.1)	8 (11.0)	0.186	0.911
Frequent or very frequent user	3 (8.1)	2 (5.6)	5 (6.8)		
Prepregnancy PSRI scores	66.89 \pm 10.92	67.08 \pm 13.02	66.99 \pm 11.92	-0.068	0.946

^aIndependent samples t-test, ^bChi-square, PSRI: Pregnancy sexual response inventory, SD: Standard deviation, Min.-Max.: Minimum-Maximum

of the total score of sexual function of pregnant women turned out to be significantly higher in the intervention group than the control group's mean difference (11). In line with these findings, it appears that the training on sexuality during pregnancy positively affects sexual response during pregnancy.

While the AStSdP scores of the intervention group and the control group were close at the beginning of the research, a difference was found with respect to the AStSdP scores between the intervention group and the control group in the assessment performed four weeks later. Attitude toward sexuality during pregnancy scores of pregnant women who were provided with sexual training during pregnancy were found to be higher than the scores of the control group. Furthermore, four weeks later, anxiety and approval scores of pregnant women who were trained, regarding sexual intercourse during pregnancy, were higher than the control group, while the belief and values scores were found to be similar in both groups. These results indicate that pregnant women trained on sexuality during pregnancy are less anxious about sexuality during pregnancy and they exhibit attitudes affirmative of sexuality during pregnancy at higher levels. In the literature, it is stated that having knowledge about sexual life during pregnancy affects attitudes toward sexuality and that individuals who receive information have a more positive attitude (16,17). Navidian et al. (16) stated that sexual counseling decreased traditional perceptions about sexual activity, especially during pregnancy. Riazi et al. (17) stated that traditional perceptions about fear of harming the fetus, infections, and unpleasant feelings about sexual activity during

pregnancy decreased in women participating in sex education classes. Also, Pakray et al. (18) stated that sexual education and counseling given to pregnant women were effective in creating a positive attitude toward sexuality. Similarly, Avcıbay and Gökyıldız Sürücü (19) showed that possessing adequate knowledge in the field of sexual counseling serves as an effective predictor for the reduction of negative attitudes and beliefs towards sexuality during pregnancy. In line with these results, it appears that the training on sexuality during pregnancy positively affects attitudes toward sexuality during pregnancy. In our research, the attitudes that involve beliefs and values against sexuality during pregnancy remain unaffected by the provided training, which can be attributed to the fact that such beliefs and values involve attitudes that are formed in the longer term through the interaction of factors such as personal characteristics and the characteristics of the community they live in. Further response and monitoring studies may be required for longer terms in order to alter the negative attitudes that involve beliefs and values against sexuality during pregnancy.

In our study, another notable finding was that both the control and experimental groups exhibited higher scores in sexual response, attitude toward sexuality during pregnancy, anxiety, and approval four weeks after the intervention compared to their baseline scores. The fact that all participating pregnant individuals were in their second trimester throughout the study, coupled with the potential increase in adaptation to pregnancy within the four weeks following the initial assessment, might have positively influenced responses towards sexuality during

Table 2: Comparison of the PSRI and AStSdP scale scores of the groups (n=73)

	Control group (n=37)	Intervention group (n=36)	Analysis	
	Mean ± SD	Mean ± SD	t ^a	p-value
PSRI (1)	49.73±11.65	49.61±19.42	0.033	0.974
PSRI (2)	58.56±18.42	66.44±13.70	-2.069	0.042
Analysis ^b	t=-2.993 p=0.005	t=-5.676 p<0.000		
Anxiety (1)	33.73±6.47	33.22±6.66	0.330	0.742
Anxiety (2)	35.68±5.29	38.17±3.78	-2.311	0.024
Analysis	t=-2.402 p=0.022	t=-4.921 p<0.000		
Beliefs and values (1)	41.84±5.87	40.81±6.72	0.700	0.486
Beliefs and values (2)	42.19±4.70	43.03±4.69	-0.763	0.448
Analysis	t=-0.504 p=0.617	t=-2.489 p=0.018		
Approval (1)	48.54±8.35	48.11±8.33	0.220	0.827
Approval (2)	51.03±9.30	57.94±6.88	-3.606	0.001
Analysis	t=-2.254 p=0.030	t=-8.346 p<0.000		
AStSdP (1)	124.11±15.04	122.14±16.77	0.528	0.599
AStSdP (2)	128.89±15.29	139.14±13.49	-3.033	0.003
Analysis	t=-3.014 p=0.005	t=-9.475 p<0.000		

^aIndependent samples t-test, ^bPaired-samples t-test

(1) Baseline

(2) Assessment after four weeks

PSRI: Pregnancy Sexual Response Inventory, SD: Standard deviation, AStSdP: Attitude Scale toward Sexuality during Pregnancy

pregnancy. Additionally, the data collection forms utilized in the study may have potentially contributed to obtaining a certain level of positive response in the assessment four weeks later, independently of the educational intervention, by providing participants with opportunities to contemplate the subject under investigation. Nevertheless, it is noteworthy that the increase in scores in the control group was not as pronounced as in the group receiving sexual education during pregnancy.

Study Limitations

This research has some limitations. In order to control the effect of pregnancy on sexuality, only pregnant women in the second trimester were included in the sample of the study. The effects of the education given in the study, during the third trimester of pregnancy and in the postpartum period, were not monitored. Additionally, partners of pregnant women were not included in the study.

Conclusion

In conclusion, this study demonstrates that the sexual training provided during pregnancy positively increases attitudes toward sexuality during pregnancy and improves sexual response. Pregnant women's knowledge of sexuality affects their attitudes and behaviors toward sexuality during pregnancy. In order to improve sexual health and solve potential problems at an earlier stage, sexual health training should be addressed as an essential component of prenatal care. Nurses and midwives, providing training and consultancy services on a number of subjects, for the purpose of protecting and enhancing the pregnant women's and their family's health in the prenatal period should also integrate the issue of sexuality during pregnancy into the process. Education of every pregnant woman in the prenatal period on sexuality is recommended.

Ethics

Ethics Committee Approval: For conducting the study, an ethical approval was obtained from Ankara University Health Sciences Sub-Ethics Committee (date: 19.12.2022, decision no: 20/189) and permission from the relevant hospital.

Informed Consent: Written informed consent was obtained from all participants admitted into the scope of the sample.

Authorship Contributions

Concept: N.Y.S., M.N.A., C.A., A.Z.D., Design: N.Y.S., M.N.A., Data Collection or Processing: N.Y.S., M.N.A., A.Z.D., Analysis and/or Interpretation: M.N.A., Literature Search: N.Y.S., M.N.A., C.A., A.Z.D., Writing: N.Y.S., M.N.A.

Conflict of Interest: No potential conflict of interest any financial or non-financial interest was reported by the authors.

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