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Sexual function of pregnant women in the third trimester



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ABSTRACT

Introduction: Physical, hormonal and psychological changes during pregnancy can affect a woman's sexuality as well as a couple's sexual relationship. The aim of this study was to examine sexual function of pregnant women in the third trimester of pregnancy.

Methods: The data of descriptive and cross-sectional study was collected via a questionnaire form and Female Sexual Function Index. A score ≤ 26.55 is classified as female sexual dysfunction. A total of 125 volunteer healthy and married pregnant women in third trimester of pregnancy who admitted to the antenatal policlinics were included in this study.

Results: The determined that 92% of participants had sexual dysfunction. The Female Sexual Function Index and domains scores in the 28th–31st, 32nd–35th and 36th and higher gestational weeks of pregnancy were as follows: sexual desire scores, 2.50, 2.77 and 2.40; sexual arousal scores, 2.26, 2.72 and 1.69; lubrication scores, 2.61, 3.42 and 1.97; orgasm scores, 2.51, 2.85 and 1.78; sexual satisfaction scores, 3.17, 3.77 and 2.66; pain scores, 2.44, 2.72 and 1.66, and total Female Sexual Function Index scores were 15.51, 18.29, 12.26, respectively. Sexual arousal ($p = 0.008$), lubrication ($p = 0.001$), orgasm ($p = 0.031$), sexual satisfaction ($p = 0.005$), pain ($p = 0.049$) and total Female Sexual Function Index score ($p = 0.004$) were the lowest in 36th and higher gestational weeks, and only sexual desire did not differ ($p = 0.191$).

Conclusions: Sexual function of pregnant women in the third trimester were negatively effected. Health professionals should be trained to evaluate sexual difficulties in pregnant women and to recommend possible solutions.

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1. Background

Sexuality is an important part of women's health, quality of life, and general well-being and is influenced by the interaction of biological, social, psychological, economic, political, historical, cultural, legal, religious and spiritual factors.¹

The state of pregnancy profoundly affects a woman's sexuality and sexual health. It is characterized by physical, hormonal and psychological changes, all of which are influenced by social and cultural factors. These changes during pregnancy can affect a woman's sexuality as well as a couple's sexual relationship.² Some changes can be attributed to marital adjustment, low self image, a history of previous pregnancies and abortions, and mood instability.³ Most of the studies on this subject indicate that sexual function decreased during pregnancy.^{4–8} Previous studies have reported a slight decrease in sexual function during the first trimester of pregnancy, a variable pattern in the second trimester, and a significant decrease in the third trimester.^{2,9,10} Despite the increasing number of studies, few studies have been conducted with Turkish women to evaluate sexual function during pregnancy.

The aim of the study was to investigate sexual function in pregnant women during the third trimester of pregnancy.

2. Materials and methods

2.1. Design and participants

This descriptive and cross-sectional study was conducted in province in northern Turkey. A total of 125 volunteer healthy and married pregnant women who admitted to the antenatal policlinics were included in this study. All of pregnant women had in third trimester of pregnancy.

2.2. Data collection

The data was collected via a questionnaire form and Female Sexual Function Index (FSFI).¹¹ A score ≤ 26.55 is classified as

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female sexual dysfunction.¹² The data were collected using the questionnaire form and the adapted Turkish version of the FSFI.¹³ The questionnaire form and FSFI were completed in 10–15 min.

2.2.1. The questionnaire form

The questionnaire form included questions about women's demographic, obstetric and sexuality during pregnancy. These characteristics; woman's age, marrying age, current weight (kgs), weight before pregnancy (kgs), height (cms), level of education, occupation, family type, economic status, place of living, husband's age, educational level and occupation, duration of marriage, age at first pregnancy, number of pregnancies, number of giving birth, number of curretage, number of abortion, duration of pregnancy (weekly), status intended of pregnancy, sexual intercourse beliefs during pregnancy, reasons of restriction on sexual intercourse during pregnancy, person initiated sexual intercourse during pregnancy (wife or husband) and the status changing of the partner's sexual behavior during pregnancy.

2.2.2. Female sexual function Index

The FSFI is a validated and reliable measure of female sexual function. It consists of 19 questions that assess the six domains of sexual function: desire, arousal, lubrication, orgasm, satisfaction, and pain. The total score scale ranged from 2 to 36, and FSFI total score indicated the general status of sexual function.¹¹ The scale of the cutoff value was ≤ 26.55 . Total FSFI score of ≤ 26.55 is defined as having sexual dysfunction, >26.55 is defined having normal sexual function.¹² The validity and reliability tests of the FSFI were conducted in Turkey.¹³ In this study, the Turkish version of the FSFI was used. Aygin & Eti Aslan (2005) determined that the Cronbach Alpha internal consistency coefficient of subscales of FSFI ranged 0.89–0.98.¹³ In the present study, the Cronbach Alpha internal consistency coefficient of subscales of FSFI was 0.74–0.94.

2.3. Ethical considerations

The pregnant women were informed by researcher. Participants were included with verbal consent in the study. The participants did not receive payment for their participation in the study. The study conformed to the principles of the Declaration of Helsinki. The study was approved by the management of the institution.

2.4. Statistical analysis

Descriptive statistics were used to present the socio-demographic data and independent variables and mean, Sd, range, frequency, percentage. Also, Pearson correlation test, *t*-test, Kruskal Wallis test, Mann Whitney-*U* test were used to evaluate the significance of factors related to independent characteristics according to adapted Turkish version of FSFI. A *p* value <0.05 was considered statistically significant.

3. Results

The mean age of the pregnant women was 26.12 ± 5.21 years (18–42 years); duration of marriage was 4.20 ± 4.36 years (1–23 years). Their BMI mean before pregnancy was 22.51 ± 3.99 (15.57–35.30), and the current BMI mean was 27.69 ± 4.32 (20.20–41.79). Our study results determined that 37.6% of the participants had a primary school education; 74.4% were housewives, 93.8% had social security; 72.9% described their family income as middle; 51.2% lived in a city; and 69.6% of them had a nuclear family. The mean age of the husband was 31.16 ± 7.61 (21–70 years); 39.2% of husbands had completed a secondary school education, and 59.2% of them were self employed. The FSFI domains scores

were compared according to participants' socio-demographic characteristics, and the differences in all socio-demographic features were not statistically significant ($p > 0.05$).

The study results were as follows: 52% of the pregnant women were in their first pregnancy; 21.6% of them had experienced spontaneous abortion; 60% were in their 36th–40th gestational week of pregnancy; 73.6% of women had planned the pregnancy; 58.4% of women thought that sexual activity during the pregnancy was detrimental to the baby/pregnancy. Additional results showed that 44% of women said that their husbands' sexual attitudes towards them had changed "negatively" during pregnancy; 70.7% of them indicated that the person initiating sexual intercourse during pregnancy was "usually husband", and 21.6% of women answered "always husband". Women whose husbands initiated sexual intercourse during pregnancy had the lowest FSFI total scores (9.28 ± 8.12), and the difference was statistically significant ($p = 0.002$). When the husband's sexual behavior changed "negatively" during pregnancy, the women's total FSFI score (12.44 ± 8.96) was lower than that of the other women, and the difference was statistically significant ($p = 0.050$).

Study participants' FSFI domains scores were as follow: sexual desire 2.51 ± 1.01 , sexual arousal 2.04 ± 1.65 , lubrication 2.43 ± 2.06 , orgasm 2.16 ± 2.00 , sexual satisfaction 3.02 ± 1.61 , pain 2.04 ± 1.90 (see Table 1).

The FSFI and domains scores in the 28th–31st, 32nd–35th and 36th and higher gestational weeks of pregnancy were as follows: sexual desire scores, 2.50, 2.77 and 2.40; sexual arousal scores, 2.26, 2.72 and 1.69; lubrication scores, 2.61, 3.42 and 1.97; orgasm scores, 2.51, 2.85 and 1.78; sexual satisfaction scores, 3.17, 3.77 and 2.66; pain scores, 2.44, 2.72 and 1.66, and total FSFI scores were 15.51, 18.29, 12.26, respectively. In addition, the FSFI and domains scores according to the gestational weeks in the last trimester of pregnancy were compared, and differences were statistically significant for sexual arousal ($p = 0.008$), lubrication ($p = 0.001$), orgasm ($p = 0.031$), sexual satisfaction ($p = 0.005$), pain ($p = 0.049$) and total FSFI score ($p = 0.004$). The only category which did not differ between the gestational weeks in the last trimester of pregnancy was that of sexual desire ($p = 0.191$), (see Table 2).

The total FSFI score of the study participants was 14.22 ± 9.01 . We determined that 92% of pregnant women had sexual dysfunction. The FSFI mean score of the women with sexual dysfunction was 13.01 ± 8.35 , and the FSFI mean score of women without sexual dysfunction was 28.08 ± 1.84 (see Table 3).

4. Discussion

The physiological and psychological changes that occur during pregnancy may affect sexual function and satisfaction.⁹ A decline in sexual function is often seen in the 3rd trimester of a woman's pregnancy.¹⁴ During this period, the avoidance of sexual relations may be due to uterine contractions, fear of harm to the mother and the fetus, low libido, a diminished image of one's sexual self,

Table 1
FSFI and domains scores of pregnant women.

FSFI domains of pregnant women	Mean	SD	Min–Max
Desire	2.51	1.01	1.20–6.00
Arousal	2.04	1.65	0.00–6.00
Lubrication	2.43	2.06	0.00–6.00
Orgasm	2.16	2.00	0.00–6.00
Satisfaction	3.02	1.61	0.80–6.00
Pain	2.04	1.90	0.00–5.60
Total FSFI	14.22	9.01	2.60–32.80

Table 2
FSFI domains scores according to gestational week of pregnancy (GW).

FSFI domains of pregnant women	GW of pregnancy						Test and p ^a
	28th-31st GWs		32nd-35th GWs		36th and higher GWs		
	Mean	Sd	Mean	Sd	Mean	Sd	
Desire	2.50	0.77	2.77	1.01	2.40	1.06	p = 0.191
Arousal	2.26	1.61	2.72	1.55	1.69	1.62	p = 0.008
Lubrication	2.61	2.06	3.42	2.03	1.97	1.94	p = 0.001
Orgasm	2.51	2.02	2.85	1.96	1.78	1.94	p = 0.031
Satisfaction	3.17	1.71	3.77	1.49	2.66	1.54	p = 0.005
Pain	2.44	1.91	2.72	1.67	1.66	1.92	p = 0.049
Total FSFI	15.51	8.49	18.26	8.65	12.18	8.75	p = 0.004

^a Kruskal Wallis test.

Table 3
Sexual function status according to total FSFI scores of pregnant women (n = 125).

FSFI scores of pregnant women	n	%	FSFI score mean ± SD
≤26.55 (Sexual dysfunction)	115	92.0	13.01 ± 8.35
>26.55 (Normal sexual function)	10	8.0	28.08 ± 1.84
Total	125	100.0	14.22 ± 9.01

fatigue, weakness, painful sexual intercourse, premature rupture risk of membranes and placenta previa.¹⁵

Corbacioğlu-Esmer et al. reported that the overall FSFI score in the third trimester was 15.35 ± 10.46 .¹⁶ This was significantly lower than the overall scores in the first and second trimesters ($p < 0.001$). In the linear regression analysis, the overall FSFI scores were adversely affected by only being in the last trimester.¹⁶ In the Iranian study by Jamali and Mosalanejad (2013) the pregnant women's FSFI total score was 16.67 ± 25.26 , and 76.2% of them experienced sexual dysfunction (FSFI < 26.5) in the third trimester.⁷ Yıldız (2015) found that the study participants' FSFI subgroup and total score averages decreased during pregnancy, with a significant decrease in the third trimester.⁸ The FSFI domains scores were as follows: desire score 1.88 ± 0.81 ; arousal score 1.42 ± 1.49 ; lubrication score 30 ± 2.25 ; orgasm score 1.36 ± 1.07 ; satisfaction score 2.86 ± 1.27 ; and the pain score was 2.64 ± 2.02 . The total FSFI score was 12.49 ± 9.63 .⁸ Another Turkish study by Aslan et al. (2005) reported significant decreases in all domains of the FSFI during pregnancy, especially during the third trimester.⁹ They also noted that the average frequency of intercourse during the last 4 weeks of pregnancy was 8.6 ± 3 , as compared with 6.9 ± 2.5 during the first, 5.4 ± 2.6 during the second, and 2.5 ± 1.4 during the third trimesters.⁹ Tosun Güleröğlu & Gördeles Beşer (2014) found that the mean subscale scores of the FSFI were as follows: desire 2.7 ± 1.1 , arousal 2.5 ± 1.4 , lubrication 3.5 ± 1.8 , orgasm 2.8 ± 1.6 , satisfaction 3.5 ± 1.6 , and pain 3.6 ± 2 , and their mean total FSFI score was 18.6 ± 8 .¹⁷ The FSFI domains scores were inconsistent with the results found in the literature.

The present study results revealed that sexual functions decreased significantly in the third trimester of pregnancy. The mean total FSFI score of study participants was 14.22 ± 9.01 , and 92% of women in the third trimester had sexual dysfunction (FSFI score ≤ 26.55). Furthermore, the overall FSFI score of the women with sexual dysfunction was 13.01 ± 8.35 and 28.08 ± 1.84 in the women without sexual dysfunction. The mean score results of this study for the FSFI domains were as follows: sexual desire score 2.51 ± 1.01 , sexual arousal score 2.04 ± 1.65 , lubrication score 2.43 ± 2.06 , orgasm score 2.16 ± 2.00 , sexual satisfaction 3.02 ± 1.61 , and the pain score was 2.04 ± 1.9 . The FSFI scores of women in the 36th–40th gestational weeks were the lowest. These results are consistent with those reported in other studies.^{7,10,16,17} Many factors may affect a woman's sexual desire during preg-

nancy. These can include cultural characteristics, physical health, and self-esteem.¹⁶

The third trimester of pregnancy is characterized by many changes in the woman's body which may contribute to a decrease in libido and sexual activity. An increase in abdominal volume and fetal weight, fatigue, anxiety and the natural fear of the onset of labor tend to make the sexual relationship less desirable or perhaps even unwanted for pregnant women. In addition, the partner may experience a loss of sexual interest with the woman's non-erotic appearance at the end of pregnancy, combined with worry about the woman and baby.⁶ Fok, Chan & Yuen (2005) reported that over 60% of the women and more than 40% of their partners had reduced sexual desire and enjoyment during pregnancy.¹⁸ Eryılmaz et al. indicated that 61.4% of pregnant women regarded coitus as a risk during pregnancy, in 81.5% sexual life was affected during pregnancy. Also, the mean frequency of intercourse was 2.02/week before pregnancy and decreased to 1.51/week during pregnancy.¹⁹

Over 80% of the women and their partners worried about the adverse effects of sexual activity on the fetus. However, less than 12% of women experienced bleeding and pain after coitus during pregnancy.¹⁸ In a survey of 500 Nigerian pregnant women, sexual desire during pregnancy remained the same as before pregnancy in 60% of women, and coital frequency was reduced for 64% of the participants.⁴ This present study showed that 44% of women noticed a negative change in their husband's sexual behavior during pregnancy, and 58.4% of the women found this "harmful" to their sexual relationship during pregnancy. Study results also showed that the person who initiated sexual intercourse during pregnancy was "usually husband" (70.7%). For 21.6% of women the initiator of sexual intercourse during pregnancy was "always husband". The FSFI total score for the woman's response that the husband "always" initiated sexual intercourse during pregnancy was 9.28 ± 8.12 . A score of 15.50 ± 8.42 was assessed for the response of "usually" when the husband initiated sexual intercourse. When the woman was the initiator of sexual intercourse, the score was 18.07 ± 11.87 for the response of "usually", and the difference was statistically significant ($p = 0.002$). When the study participants experienced changed sexual attitudes from their partners, the FSFI total score was (12.44 ± 8.96). This was lower than husbands with unchanged sexual attitudes during pregnancy (15.62 ± 8.87), and the difference was statistically significant ($p = 0.050$). These findings are consistent with the literature.^{4,6,19}

5. Conclusions

Results of the study showed that sexual functions among pregnant women in the third trimester were negatively affected. Sexual function scores were significantly lower in the 36th and higher gestational weeks of pregnancy compared to the 28th–31st and

32nd–35th gestational weeks of pregnancy. However, positive effects on the sexual function of pregnant women were the husbands' unchanged sexual attitudes during pregnancy and the women initiating sexual intercourse. No other characteristics were significantly associated with sexual function scores.

In conclusion, sexual problems during pregnancy may have a negative effect on the marital relationship and may create additional stressors for couples during this time. Therefore, obstetric nurses, midwives and other health persons should be trained to evaluate sexual difficulties in pregnant women and to recommend possible solutions. A positive step towards this goal would be to develop education and information programs about sexual functions and sexual health during pregnancy. In the future, studies involving the sexual function of pregnant women and their partners should be planned.

Limitations of the study

There are several limitations of this study: this study was not a prospective study as it compared sexuality during the third trimester of pregnancy between different pregnant women and not in the same women. The other limitation was that the women's partners could not be asked directly about sexuality during pregnancy. Also, the FSFI was used to determine sexual dysfunction of pregnant women; a clinical examination was not done to assess sexual function. For these reasons, the results of this study can be generalized only to the study group.

Author contributions

Study design, data collection, data analysis and manuscript preparation was done by NE.

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