



# Female sexual behaviour and perception during pregnancy: A questionnaire-based study

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## ABSTRACT

**Objectives:** Several reasons including especially the pregnancy-specific physical changes affect and suspend sexual life in that special period of time. Although the latest scientific data have revealed that sexual activity is safe during pregnancy sexual life during that period is affected by several reasons such as the area where individuals live, thoughts and beliefs.

**Materials and Methods:** This was designed as a prospective and cross-sectional questionnaire-based study. Sexual functions were assessed with the female sexual function index. In addition to demographic characteristics, sexual behaviour and perception of individuals were questioned with an additional questionnaire form.

**Results:** The assessment was performed over 171 patients who gave complete answers to the questions. Out of the patients, 54 (31.6%) were in the 1<sup>st</sup> trimester, 51 (29.8%) were in the 2<sup>nd</sup> trimester and 66 (38.6%) were in the 3<sup>rd</sup> trimester. Although the frequency of intercourse was gradually decreasing there was no patient who had not engaged in sexual activity. According to results, the decrease in frequency of intercourse was because of the thoughts of harming the fetus and physical discomfort. Sexual dysfunction was lowest during 2<sup>nd</sup> trimester. The missionary position was the most commonly preferred position. None of the participants had oral or anal sex.

**Conclusion:** Sexual behaviour during pregnancy is specifically affected by individual changes and thoughts. Although the thought that sexual intercourse would harm the fetus does not prevent sexual activity it is still highly accepted. Further studies are needed to correct these fallacies of individuals and assess country profile.

**Keywords:** Pregnancy; sexuality; female sexual function index

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## INTRODUCTION

Pregnancy is a miraculous period of time when several physiological in particular, psychological, anatomical, and physical changes occur together. Among specific dynamics of pregnancy, its effect on sexual life is also quite important, but can be ignored. Therefore, pregnancy brings about sexual tensions which affect marriage relationships and which even defy these.<sup>1</sup> Sexual behaviours during pregnancy are affected by several factors such as decrease in sexual desire, changes in body image, fear of harming the fetus, dyspareunia, and medical contradictions.<sup>1-3</sup> These behaviours may also change in accordance with geographical, familial, religious, social, cultural, and individual beliefs. Studies performed in early 2000s in our country reveal that sexuality is repressed and sexual desire decreases during pregnancy.<sup>4,5</sup> However, there is not sufficient number of studies revealing this change and its course within time.

This study aimed to question sexuality during pregnancy specific to our country within the changing world and time. This really hard-to-speak issue in a Middle Anatolian city has been discussed in various perspectives and presented to literature to contribute to our country profile.

## MATERIALS AND METHODS

This cross-sectionally and prospectively designed study was performed as a face-to-face questionnaire with 275 pregnant women between the ages of 18 and 44 who were admitted to Yozgat Bozok University Outpatient Clinic of Obstetrics and Gynecology and who admitted to participate in the study. Women whose pregnancy was at risk, those who did not admit to participate in the study, those who gave inadequate answers to the questions, and those who did not want to answer were excluded.

The questionnaire form consisted of three sections. The first section involved socio-demographic characteristics including independent variables; second section involved attitudes and behaviours related to sexual life during pregnancy and third section involved questions of the female sexual function index (FSFI).

The FSFI was developed by Rosen et al.<sup>6</sup> as a 19-item multidimensional scale in order to assess female sexual function in the USA in 2000. This scale assesses sexual problems or function in the past 4 weeks. Seven basic parameters including desire, arousal, lubrication, pain, orgasm, satisfaction, and total score are assessed in the structure of scale. Each item is scored between 0 and 5. The highest raw score to get in the scale is 95.0 and the lowest raw score is 4.0.<sup>6</sup> Turkish adaptation of FSFI was performed by Aygin and Aslan.<sup>7</sup>

## Statistical Analysis

Statistical package program SPSS 20 (IBM Corp. released 2011. IBM SPSS Statistics for Windows, version 20.0, Armonk, NY: IBM Corp.) was used to evaluate the data. Data was expressed as mean  $\pm$  standard deviation and in percentages. Continuous variables were investigated using analytical methods (Kolmogrov-Smirnov/Shapiro-Wilk's test) to determine whether or not they are normally distributed. If the numerical data was non-parametric, the Kruskal-Wallis test was conducted, if it was parametric, a One-Way ANOVA test was carried out and Bonferroni correction was used for the post-hoc assessment. Relationships between categorical variables were analyzed by chi-square test. Bivariate correlations were investigated by Spearman's correlation analysis and  $p < 0.05$  was accepted as statistically significant.

## RESULTS

A total of 252 patients were included in the study. Patients who gave incomplete answers to the questions were excluded and the assessment was performed over a total of 171 patients. The patients were divided into 3 groups by their pregnancy trimesters. Out of the patients, 54 (31.6%) were in the 1<sup>st</sup> trimester, 51 (29.8%) were in the 2<sup>nd</sup> trimester and 66 (38.6%) were in the 3<sup>rd</sup> trimester.

There was no significant difference among the groups in terms of patient ages ( $p=0.899$ ). Mean body mass index (BMI) values were significantly higher among patients in the 3<sup>rd</sup> trimester compared to those in the 1<sup>st</sup> and 2<sup>nd</sup> trimesters ( $p < 0.001$ ). There was no significant difference among the groups in terms of duration of marriage. Mean gestational week was  $8.4 \pm 1.8$  in the 1<sup>st</sup> trimester,  $17.8 \pm 2.6$  in the 2<sup>nd</sup> trimester and  $31.6 \pm 2$  in the 3<sup>rd</sup> trimester ( $p < 0.001$ ). There was no significant difference among the groups in terms of educational levels of participants ( $p > 0.05$ ). The 1<sup>st</sup> and 2<sup>nd</sup> trimester groups had higher income level compared to 3<sup>rd</sup> trimester group ( $p < 0.001$ ). Demographic characteristics of the participants were reported in Table 1.

Of the patients, 22.2% in the 1<sup>st</sup> trimester, 35.3% in the 2<sup>nd</sup> trimester and 31.8% in the 3<sup>rd</sup> trimester stated that they were afraid of harming the fetus if they had sexual intercourse during pregnancy. According to the answers of patients about sex position changes, 11.1% of patients in the 1<sup>st</sup> trimester, 29.4% in the 2<sup>nd</sup> trimester and no patient in the 3<sup>rd</sup> trimester stated that they did not change their positions during sexual intercourse and the difference among the groups was significant ( $p < 0.001$ ). Regarding that change, especially patients in the 2<sup>nd</sup> trimester preferred having sex in side-lying and doggy positions in addition to missionary. None of the patients preferred oral and anal sex or partnerbation instead of sexual intercourse. Of the pregnant women, 63% stated that their frequency of sexual intercourse

decreased during pregnancy. According to the statistical analysis, there was no change in pregnant women's frequency of sexual intercourse by trimesters ( $p>0.05$ ) and sexual activity continued even in the 3<sup>rd</sup> trimester. The prevalence of foreplay during pregnancy was significantly higher in the 3<sup>rd</sup> trimester ( $p<0.01$ ) (Table 2). Of the participants, 75% stated that sexual intercourse during pregnancy caused them to feel physical discomfort and 63% stated that they thought the fetus would get hurt during sexual activity. This rate was higher in the 3<sup>rd</sup> trimester, but not statistically significant.

According to the intergroup assessment of FSFI results, total FSFI and sub-domain scores were statistically significantly higher in

the 2<sup>nd</sup> trimester ( $p<0.001$ ). Only the lubrication score was higher and satisfaction score was statistically significantly lower in the 3<sup>rd</sup> trimester compared to the other groups (Table 3) ( $p<0.01$ ). No statistically significant relationship was found among total FSFI scores and age, BMI and duration of marriage in all patients ( $p>0.05$ ). In subgroups, as age ( $r=-0.291$ ,  $p=0.033$ ) and duration of marriage ( $r=-0.445$ ,  $p=0.001$ ) increased total FSFI score decreased. As duration of marriage ( $r=0.333$ ,  $p=0.017$ ;  $r=0.320$ ,  $p=0.009$ ) increased in the 2<sup>nd</sup> and 3<sup>rd</sup> trimesters total FSFI score statistically significantly increased. In addition, as BMI increased in the 3<sup>rd</sup> trimester ( $r=0.505$ ,  $p<0.001$ ) total FSFI score statistically significantly increased (Table 4). Total FSFI scores were statistically significantly higher in all patients in the groups with

**Table 1. Demographic characteristics**

		1 <sup>st</sup> trimester	2 <sup>nd</sup> trimester	3 <sup>rd</sup> trimester	<i>p</i>
Age (years)		29.9±7,9	29±7	28.4±4.5	0.899
BMI (kg/m <sup>2</sup> )		27.1±5.1 <sup>a</sup>	26.4±4.9 <sup>a</sup>	29.1±3.9 <sup>b</sup>	<0.001
Pregnancy week		8.4±1.8 <sup>a</sup>	17.8±2.6 <sup>b</sup>	31.6±2.0 <sup>c</sup>	<0.001
Period of marriage		5.7±5.9	5.3±5.7	5.9±5.0	0.473
Education level	Primary school	21 (38.9%)	12 (23.5%)	24 (36.4%)	0.121
	High school	12 (22.2%)	15 (29.4%)	24 (36.4%)	
	University	21 (38.9%)	24 (47.1%)	18 (27.3%)	
Income	Low	12 (22.2%)	21 (41.2%)	15 (22.7%)	<0.001
	Middle	12 (22.2%)	6 (11.8%)	33 (50.0%)	
	High	30 (55.6%)	24 (47.1%)	18 (27.3%)	

BMI: body mass index; weight (kg)/height (m)<sup>2</sup>, <sup>abc</sup>There is no significant difference between groups containing the same letter

**Table 2. Attitudes and behaviors of participants regarding sexual relations during pregnancy**

		1 <sup>st</sup> trimester		2 <sup>nd</sup> trimester		3 <sup>rd</sup> trimester		
		n	%	n	%	n	%	
Foreplay	Yes	27	50.00	30	58.80	57	86.40	<0.001
	No	27	50.00	21	41.20	9	13.60	
Sex position	Changed	6	11.10	15	29.40	0	0.00	<0.001
	Has not changed	48	88.90	36	70.60	66	100.00	
Position preference	Missionary	51	94.40	33	64.70	57	86.40	<0.001
	Woman on top	3	5.60	0	0.00	9	13.60	
	Side lying	0	0.00	12	23.50	0	0.00	
	Dogi	0	0.00	6	11.80	0	0.00	
I'm fearing that sex will damage my baby	Yes	12	22.20	18	35.30	21	31.80	0.31
	No	42	77.80	33	64.70	45	68.20	
We prefer only oral sex	Yes	0	0.00	0	0.00	0	0.00	
	No	54	100.00	51	100.00	66	100.00	
	No	54	100.00	51	100.00	66	100.00	
We prefer anal sex	Yes	0	0.00	0	0.00	0	0.00	
	No	54	100.00	51	100.00	66	100.00	

low education and income level ( $p < 0.01$ ) (Table 5). According to total FSFI score, general prevalence of sexual dysfunction was 52.6% (90/171) in all pregnant women.

## DISCUSSION

This study primarily reveals that sexual life during pregnancy is still a hard-to-speak issue at least in some regions of our country. A total of 252 pregnant women participated in the study; however, 171 (67.8%) of them gave complete answers to the questions. As pregnancy proceeds the frequency of sexual intercourse decreases. Main reason of this was found as the fear of harming

the fetus during sexual activity. Throughout pregnancy, the most commonly preferred position was missionary position followed by doggy and side-lying positions. According to FSFI scores, the lowest prevalence of sexual dysfunction was observed in the 2<sup>nd</sup> trimester. The general prevalence of sexual dysfunction was 52.6% among all pregnant women.

Pregnancy is the most special period of a woman in her life. Especially the first pregnancy is a crucial crisis period. Several physiological changes occur in that special period. These changes occur in order to provide healthy growth of fetus in particular and facilitate adaptation of mother to pregnancy. Although changing

**Table 3. FSFI parameters according to trimesters**

	1 <sup>st</sup> trimester	2 <sup>nd</sup> trimester	3 <sup>rd</sup> trimester	<i>p</i>
Desire	2.8±0.8 <sup>a</sup>	3.7±1.1 <sup>b</sup>	3.2±0.6 <sup>a</sup>	<0.001
Arousal	3±0.8 <sup>a</sup>	3.6±0.8 <sup>b</sup>	3.1±0.7 <sup>a</sup>	0.001
Lubrication	3.6±0.9 <sup>a</sup>	4±0.8 <sup>a</sup>	4.3±0.6 <sup>b</sup>	<0.001
Orgasm	2.8±0.7 <sup>a</sup>	3.8±1 <sup>b</sup>	3.3±0.7 <sup>a</sup>	<0.001
Satisfaction	3.9±0.2 <sup>a</sup>	4.7±0.4 <sup>b</sup>	2.5±0.8 <sup>c</sup>	<0.001
Pain	3.1±1.4 <sup>a</sup>	3.4±1 <sup>a</sup>	4.1±0.9 <sup>b</sup>	<0.001
Total score	19.3±3.1 <sup>a</sup>	23.2±2.7 <sup>b</sup>	20.6±2.3 <sup>a</sup>	<0.001

<sup>abc</sup>There is no significant difference between groups containing the same letter, FSFI: female sexual function index

**Table 4. The relationship of total FSFI scores with age, BMI and duration of marriage**

FSFI total	Age		BMI		Period of marriage	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
1 <sup>st</sup> trimester	-0.291	0.033	-0.152	0.273	-0.445	0.001
2 <sup>nd</sup> trimester	0.169	0.236	-0.202	0.155	0.333	0.017
3 <sup>rd</sup> trimester	-0.142	0.256	0.505	<0.001	0.320	0.009
All groups	-0.094	0.222	0.007	0.924	0.052	0.500

BMI: body mass index; weight (kg)/height (cm)<sup>2</sup>, FSFI: female sexual function index

**Table 5. The relationship between FSFI total score and education level and income level**

	Education level						<i>p</i>
	Primary school		High school		University		
	Mean	SD	Mean	SD	Mean	SD	
FSFI total all groups	21.89	3.05	21.45	1.80	19.78	3.62	<0.001
FSFI total 1 <sup>st</sup> trimester	19.61	2.33	20.88	2.90	18.09	3.55	0.437
FSFI total 2 <sup>nd</sup> trimester	25.63	2.05	22.32	1.59	22.56	2.94	<0.001
FSFI total 3 <sup>rd</sup> trimester	22.03	1.98	21.20	0.87	18.03	1.87	<0.001
	Income						<i>p</i>
	Low		Middle		High		
	Mean	SD	Mean	SD	Mean	SD	
FSFI total all groups	22.71	3.58	20.79	2.64	19.97	2.58	<0.001
FSFI total 1 <sup>st</sup> trimester	18.43	2.46	21.65	2.68	18.71	3.13	0.003
FSFI total 2 <sup>nd</sup> trimester	25.09	2.99	22.70	2.08	21.70	1.36	<0.001
FSFI total 3 <sup>rd</sup> trimester	22.82	1.17	20.13	2.52	19.75	1.24	<0.001

FSFI: female sexual function index; SD: standard deviation

physiology during pregnancy seems to make some functions including sexual intercourse difficult the present scientific data reveal no harmful effect of sexual activity during pregnancy, on the contrary, parents' getting used to that period and facilitation of their adaptation to physical and emotional changes are closely associated with continuity of sexual activity.<sup>8-10</sup> However, sexual intercourse cannot be provided as desired due to some reasons. Especially pregnancy-specific physiological and psychological changes are on the top of these reasons. First reflections of this situation have almost never changed in literature. Sexual desire and frequency of sexual intercourse decrease as the gestational week proceeds and the most comfortable sexual activity happens during the second trimester. While orgasm reveals individual changes a general decrease in sexual satisfaction is reported.<sup>11-13</sup> Our study results are similar to these data. Frequency of sexual activity was the highest in second trimester. Kerदारunsukri and Manusirivithaya<sup>14</sup> reported that one out of five pregnant women had no sexual relationship within the past four weeks. Bartellas et al.<sup>15</sup> found that sexual activity increased only in 6% of pregnant women. Our data reveal that sexual activity did not end even during the 3<sup>rd</sup> trimester but decreased.

In a study performed in Aydın, Türkiye in 2012, the rate of pregnant women who had the thought that sexual intercourse during pregnancy would harm the fetus was 59% and the rate of those who changed their sexual position due to that thought was 45.5% and the rate of those who answered the question what position change was 27% (8%: Missionary, 7%: Side-lying position, 7%: Knee chest position, 5%: Sitting position). A significant relationship was found between the thought that the fetus would get hurt during sexual activity and position change in statistical analysis. According to our results, missionary position was most commonly used and no positional change was needed throughout pregnancy and the participants defined their sexual activity as "as before". Although positional change in sexual intercourse is associated with physical changes caused by pregnancy, missionary position is the most commonly preferred sex position during pregnancy as well as during non-pregnancy period in Europe.<sup>16,17</sup> Considering the other studies performed in our country and our practice, we think that women do not want to answer such questions and that they hesitate and often dismiss them as "as before". On the other hand, the most commonly preferred position in Iran where there is a conservative structure like in our country is doggy position.<sup>18</sup>

FSFI was used in this study for specific and multidimensional assessment of sexual dysfunction. General assessment score of this questionnaire is accepted as 26 in general population. Scores of 26 and below are included in sexual dysfunction

category. However, as all scores decrease during pregnancy several researchers accept 21 as the cut-off value.<sup>19</sup> According to the assessment in which we accepted 21, the prevalence of sexual dysfunction was 66.7% in the 1<sup>st</sup> trimester, 29.4% in the 2<sup>nd</sup> trimester and 45.5% in the 3<sup>rd</sup> trimester. In general assessment according to total FSFI score, the prevalence of sexual dysfunction was 93.4% in a study in Thailand and 61% in Brazil (cut-off value was accepted as 26.5 in both studies). It was observed in studies conducted in our country that there were differences in scale usages or that total score assessment was not performed even if FSFI was used, which makes data comparison difficult in terms of our country. In a study in which FSFI was used, when the cut-off value was accepted as 26 after the assessment of total scores, prevalence of sexual dysfunction became over 80%. In our study, the prevalence was 96.5% when cut-off value was accepted as 26. In another study in which a different index (index of female sexual function) was used, mean scores were  $23.2 \pm 9.8$  and 67% of pregnant women experienced sexual dysfunction.<sup>20-22</sup> When the trimesters were assessed we found a common finding in which all scores decreased and sexual dysfunction became evident in the 1<sup>st</sup> and 3<sup>rd</sup> trimesters. For subscores in our study, all scores in the 2<sup>nd</sup> trimester were statistically significantly high ( $p < 0.001$ ). Only the lubrication score was higher and satisfaction score was statistically significantly lower in the 3<sup>rd</sup> trimester group compared to the other groups. Two studies performed in our country reveal that the prevalence of sexual dysfunction is higher in individuals with low educational level and without social insurance and in those who do not want to be pregnant.<sup>23,24</sup> In our study, we found no statistically significant relationship between total FSFI scores and age, BMI and duration of marriage in all patients. In subgroups, total FSFI score in the 1<sup>st</sup> trimester decreased as age and duration of marriage increased. It statistically significantly increased during the 2<sup>nd</sup> and 3<sup>rd</sup> trimesters as the duration of marriage increased. This may suggest that younger and recently married couples are more willing to have sexual intercourse. Another finding in our study was that the decision of sexual intercourse was more affected by physical discomfort or fear of harming the fetus rather than religious opinions, which is faced as an independent thinking. In a study performed by Yangin and Eroğlu<sup>25</sup>, the responses of 24 couples who ended sexual activity during pregnancy for the question why they ended were assessed and according to the results, 63% felt physical discomfort during sex, 58% believed that they would physically harm the fetus, 33% believed that having sex during pregnancy was sinful for Islam, 25% believed that their baby would "get stained", and 21% ended sexual activity upon the advice of a healthcare personnel.

## Study Limitations

Although the internet use has increased and access to information has become easier the information that sexual intercourse during pregnancy does not harm the fetus still remains uncovered. This may be associated with the geographical region in which our study was conducted. Talking about sex was characterized as a shame or a sin in studies performed in previous years as well and the data are similar in some countries such as Iran where sexuality cannot be freely spoken.<sup>19</sup> The most important limitation of this study is that its sample size is not large enough to represent general country profile; however, it can represent the Middle Anatolian profile. Sexual dysfunction complaints of partners were orally questioned and were not objectively assessed with a scale, which can be another limitation of our study because female sexual dysfunctions may result from their partners. On the other hand, participants who answered all the questions were having their first pregnancy and had nuclear family profile, which homogenized our data and made a healthier assessment possible.

## CONCLUSION

Sexual dysfunction increases in the 1<sup>st</sup> and 3<sup>rd</sup> trimesters during pregnancy. Sexuality during pregnancy or maybe salt sexuality is still faced as a hard-to-speak issue. The thought that sexual intercourse during pregnancy may harm the fetus is a common idea in our country. It is necessary to popularize consultancy services and education to correct this fallacy and for healthy sexuality.

## ETHICS

**Ethics Committee Approval:** Ethics committee approval was obtained from the Clinical Research Ethics Committee of Yozgat Bozok University (2017-KAEK-189\_2022.12.29\_09).

**Informed Consent:** Informed consents were obtained from each patient.

**Peer-review:** Externally peer-reviewed.

## Contributions

Concept: D.A.K., A.C.K.; Design: E.B., A.A.S.; Data Collection or Processing: E.B., F.C., D.A.K.; Analysis or Interpretation: E.B.; Writing: D.A.K., E.B.

## DISCLOSURES

**Conflict of Interest:** No conflict of interest was declared by the authors.

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