

# Differences in Sexual Function Between Trimesters During Pregnancy: An Observational Study

Sunullah SOYSAL<sup>1</sup>, Abdullah SARIOZ<sup>2</sup>, Umran KILINCDEMIR TURGUT<sup>1</sup>, Gokce ANIK ILHAN<sup>1</sup>, Yusuf ARMAN<sup>2</sup>, Begum YILDIZHAN<sup>1</sup>, Tanju PEKIN<sup>1</sup>

Istanbul, Turkey

## ABSTRACT

**OBJECTIVE:** The aim of this study was to evaluate differences in sexual function between trimesters, and factors (in addition to pregnancy) that influence sexual function during pregnancy.

**STUDY DESIGN:** This observational study was conducted at a tertiary referral center with 372 pregnant women. Seventy-two of the women did not complete the questionnaire (rejections or missing data) and the overall response rate was 80.6%. Among the remaining women, 43 of them excluded due to depression. Beck Depression Inventory was used to evaluate depression. Index of female sexual function questionnaire was used to assess sexual function. Index of female sexual function had a total and six sub-domain scores which assess the quality and frequency of sexual intercourse, desire, overall satisfaction, ability to achieve orgasm, and degree of clitoral sensation (c.sensation).

**RESULTS:** Total index of female sexual function and quality, satisfaction, orgasm, and c.sensation sub-domain scores were lowest in the third trimester. Older age, lower level of education, and lower level of income negatively affected total index of female sexual function scores. Quality scores were lowest in older women and women with lower education. Frequency scores were highest during the second trimester. Desire scores were highest in women aged between 18 and 25 years, in women who were newly married (1-3 years), and during the second trimester. Satisfaction scores were lowest in women older than 35 years, and highest in newly married women. Orgasm scores were highest in women aged 18-25 years, in newly married women.

**CONCLUSIONS:** Sexual function in women during the third trimester of pregnancy is generally affected negatively.

**Keywords:** Pregnancy, Sexual function, Trimester.

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<sup>1</sup> Department of Obstetrics and Gynecology Marmara University School of Medicine at Istanbul, Turkey

<sup>2</sup> Department of Public Health Marmara University School of Medicine at Istanbul, Turkey

Address of Correspondence: Sunullah Soysal  
Zumrutevler Mah. Handegul Sok. Kiptas  
Adatepe Sitesi A4 Blok Daire 74  
Maltepe Istanbul, Turkey  
drsunullah@yahoo.com

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ORCID IDs of the authors: SS: 0000-0002-1055-6585

AS: 0000-0003-1512-3532 UKT: 0000-0003-2513-5297

GAİ: 0000-0003-2009-7041 YA: 0000-0003-4906-6054

BY: 0000-0002-7251-6853 TP: 0000-0001-9874-8399

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## Introduction

Although a healthy sexual life is not vital for living, sex is a social and physical requirement of human beings. The World Health Organization defines sexual health as “a state of physical, emotional, mental, and social well-being in relation to sexuality and not merely the absence of disease, dysfunction or infirmity” (1). Female sexual function may be affected by social, psychological, and physical factors (2,3). About 20-50 percent of the population is affected by sexual dysfunction, and the prevalence of this condition increases with advancing age (4,5). Women who have at least one sexual dysfunction prevalence has been reported to be around 40% (6).

Pregnancy itself is a physical and social burden for women and gives couples the responsibility of an unborn child. This responsibility, and the changes that occur during pregnancy, may alter sexual health and behaviors. Sexual activity and sexual intercourse were shown to be decreased during pregnancy (7). The physical and psychological changes that occur

during pregnancy may cause sexual dysfunction, especially during the third trimester (8,9).

The changes that are occurring during each trimester may have different effects on sexual function. Fatigue, nausea, vomiting, and an increase of abdominal size during the first trimester, and avoidance from harming the fetus during the second and third trimesters, may be the causes of sexual unwillingness during pregnancy. A decrease in sexual activity and an increase in sexual dysfunction, especially during the third trimester, have been shown in several studies (10-12).

Sexual dysfunction may negatively affect couples and cause a relationship to breakdown (13). For social, psychological, and physical reasons, it is important to understand the changes in sexual function that occur during pregnancy. Couples should be informed about the lesser-known facts of sexuality during pregnancy. This study aimed to identify the factors that influence sexual function during pregnancy in Turkish women during each trimester.

## Material and Method

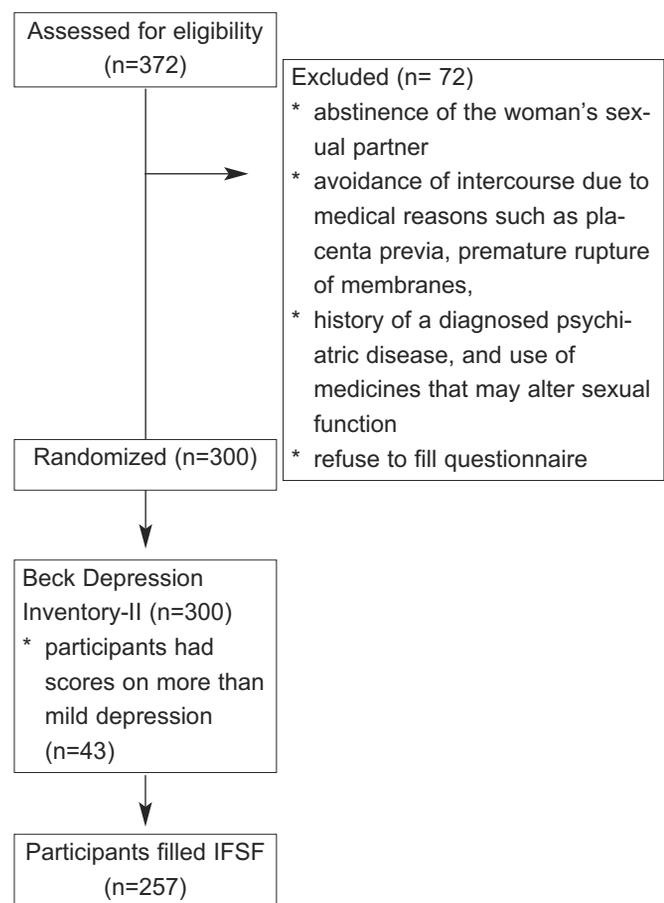
This descriptive study was carried out in Marmara University hospital in Istanbul, Turkey. Our hospital is a tertiary referral center that performed 12,935 antenatal visits in outpatient clinics in 2016. The study population consists of volunteer pregnant women in the first (0-14 weeks), the second (14-28 weeks), and the third (> 28 weeks) trimesters, who received antenatal care during the six-month period between May–November 2015. This study was conducted in accordance with the International Conference of Harmonization/Good Clinical Practice (ICH/GCP) guidelines and the latest version of the Helsinki Declaration. Written “informed consent” was obtained from all participants and ethical approval was received from the Marmara University ethical board (Approval number: 09.2015.064). The inclusion criteria were an age of at least 18 years and a documented pregnancy. Exclusion criteria were abstinence of the woman’s sexual partner and avoidance of intercourse due to medical reasons such as placenta previa, premature rupture of membranes, history of a diagnosed psychiatric disease, and use of medicines that may alter sexual function.

The Beck Depression Inventory-II (BDI) is used to evaluate the state of depression in women. The Turkish validity of the Beck depression scale was performed by Kapçi et al (14). Scores of 0-12 suggest minimal depression, 13-18 mild depression, 19-28 moderate depression, and 29-63 severe depression (14).

Index of Female Sexual Function (IFSF), previously described by Kaplan et al, was used to assess sexual function (15). The IFSF is a scale composed of nine items and six subdomains. Subdomains are as follows: quality of sexual intercourse (quality), frequency of sexual intercourse (frequency),

desire, overall satisfaction with sexual function (satisfaction), ability to achieve orgasm (orgasm), and degree of clitoral sensation (c.sensation). Responses are graded on a scale of one (almost never or never) to five (almost always or always). Higher scores indicate better sexual function (15).

Participants were asked to complete questionnaires in a private room and no time limit was given. During the study period, 372 women were offered to fill questionnaires. Among those women, 312 women had accepted to fill questionnaires. Twelve participants refused to fill out IFSF after reading the content of the questionnaire or did not completed the questionnaire and so were excluded from the study. The overall response rate was 80.6%. Forty-three of the remaining 300 participants had scores on the BDI that indicated more than mild depression and were also excluded from the study. The study was conducted with the remaining 257 participants (Figure 1).



**Figure 1:** Flow Chart

Routine antenatal care was given to all participants and their demographical and obstetrical features were recorded. The income levels of the patients were classified according to the minimum wage in Turkey.

### Statistical analyses

Descriptive data were expressed as n (%) for categorical

variables and median (range) for quantitative data. The distribution of the data was assessed with a Kolmogorov-Smirnov test. Comparisons were performed with a Chi-square test and Fisher's exact test for categorical variables. Mann-Whitney U and Kruskal-Wallis tests were used to compare the quantitative variables, due to their non-normal distributions. Analyses were performed with a statistical program with a personal computer. Results with p values of <0.05 were considered to be significant.

## Results

The total number of participants was 257. Age, duration of the marriage, level of education, level of income, way of labor (on previous pregnancy/ies), state of employment, and medical and obstetrical features of the participants were shown in Table I. There was no significant difference between study variables according to trimesters, except a history of pre-term labor, which was higher in the first trimester participants (Table I).

**Table I:** Demographic and clinical features of the study population according to trimesters

	First trimester		Second trimester		Third trimester		p
	n	(%)	n	(%)	n	(%)	
Age (years)							
18-25	16	(28.1)	45	(39.8)	28	(32.2)	0.650 <sup>†</sup>
26-30	17	(29.8)	34	(30.1)	25	(28.7)	
31-35	18	(31.6)	25	(22.1)	23	(26.4)	
>35	6	(10.5)	9	(8.0)	11	(12.6)	
Duration of marriage (years)							
1-3	17	(29.8)	35	(31.0)	26	(29.9)	0.764 <sup>†</sup>
4-6	8	(14.0)	23	(20.4)	20	(23.0)	
7-9	15	(26.3)	23	(20.4)	14	(16.1)	
>10	17	(29.8)	32	(28.3)	27	(31.0)	
Education level							
Primary	21	(36.8)	35	(31.0)	29	(33.3)	0.473 <sup>†</sup>
Collage	9	(15.8)	35	(31.0)	23	(26.4)	
High school	18	(31.6)	26	(23.0)	25	(28.7)	
University	9	(15.8)	17	(15.0)	10	(11.5)	
Income							
Minimum wage (MV)	17	(29.8)	35	(31.0)	28	(32.2)	0.840 <sup>†</sup>
Up to 2 MV	28	(49.1)	57	(50.4)	47	(54.0)	
More than 2 MV	12	(21.1)	21	(18.6)	12	(13.8)	
Way of labor							
Vaginal	21	(46.7)	34	(42.5)	33	(48.5)	0.931 <sup>‡</sup>
Episiotomy	0	(.0)	1	(1.3)	1	(1.5)	
Cesarean sec.	24	(53.3)	45	(56.3)	34	(50.0)	
Employed	7	(12.3)	19	(16.8)	11	(12.6)	0.619 <sup>†</sup>
Positive history of abortion	12	(21.1)	36	(31.9)	25	(28.7)	0.336 <sup>†</sup>
Presence of obstetrical disease	9	(15.8)	25	(22.1)	19	(21.8)	0.592 <sup>†</sup>
Positive history of ectopic pregnancy	1	(1.8)	3	(2.7)	2	(2.3)	1.000 <sup>‡</sup>
Positive history of threatened abortion	18	(31.6)	29	(25.7)	25	(28.7)	0.708 <sup>†</sup>
Positive history of preterm labor	8	(14.0)	7	(6.2)	2	(2.3)	<b>0.021<sup>‡</sup></b>
Pregnancy via ART	6	(10.5)	3	(2.7)	2	(2.3)	0.053 <sup>‡</sup>
Presence of medical illness	8	(14.0)	13	(11.5)	15	(17.2)	0.511 <sup>†</sup>

ART: Assisted reproductive technology, <sup>†</sup> Chi-square test, <sup>‡</sup> Fisher's exact test

When IFSF scores were analyzed according to age, the 18-25-year age group had higher scores than the older age groups in terms of total IFSF, and the quality, desire, satisfaction, and orgasm sub-domains ( $p < 0.05$  for all). Women older than 35 years of age had lower c.sensation sub-domain scores than the younger age groups ( $p < 0.05$ ). Frequency sub-domain scores were similar in all age groups ( $p > 0.05$ ) (Table II).

In the third trimester, total IFSF, and quality, satisfaction, orgasm, and c.sensation sub-domain scores were found to be lower than in the first and second trimesters ( $p < 0.05$ ). Frequency and desire sub-domain scores were found to be higher in the second trimester than in the other trimesters ( $p < 0.05$ ) (Table II).

The duration of marriage also influenced IFSF scores. Satisfaction, orgasm, and desire sub-domain scores were higher in women who had a shorter duration of the marriage (1-3 years) ( $p < 0.05$ ). Total IFSF and other sub-domain scores were similar according to the duration of the marriage ( $p > 0.05$ ) (Table II).

Total IFSF and quality sub-domain scores were found to be higher in women with a university level of education ( $p < 0.05$ ). Other sub-domain scores did not differ according to education level ( $p > 0.05$ ) (Table II).

The participants' levels of income were evaluated according to minimum wage. Women who have minimum wage had lower total IFSF and quality sub-domain scores compared with women who had a higher level of income. Orgasm sub-domain score was lower in women with an income of up to two times the minimum wage ( $p < 0.05$ ). Frequency, desire, and c. sensation sub-domain scores did not differ according to income level ( $p > 0.05$ ) (Table II).

There were no statistically significant differences in total IFSF and sub-domain scores with respect to the state of employment, history of abortion, history of ectopic pregnancy, presence of medical disease, way of labor of previous pregnancy/ies (if applicable), presence of threatened abortion, way of marriage, smoking, and use of alcohol (data not shown) ( $p > 0.05$  for all).

**Table II:** Scale scores according to features of the study population

	Total IFSF score	$p^\dagger$	Quality of sexual intercourse (quality)	$p^\dagger$	Frequency of sexual intercourse (frequency)	$p^\dagger$	Desire	$p^\dagger$
	Median (Range)		Median (Range)		Median (Range)		Median (Range)	
Age (years)								
18-25	25.0 (6.0 - 41.0)	<b>0.014</b>	5.0 (0.0 - 10.0)	<b>0.022</b>	1.0 (0.0 - 5.0)	0.105	6.0 (2.0 - 10.0)	<b>0.041</b>
26-30	24.0 (6.0 - 40.0)		4.5 (0.0 - 10.0)		2.0 (0.0 - 5.0)		5.0 (2.0 - 9.0)	
31-35	22.0 (6.0 - 44.0)		2.0 (0.0 - 10.0)		2.0 (0.0 - 5.0)		5.0 (2.0 - 9.0)	
>35	16.0 (6.0 - 36.0)		0.0 (0.0 - 8.0)		1.0 (0.0 - 4.0)		5.0 (2.0 - 8.0)	
Trimester								
First	24.0 (6.0 - 44.0)	<b>0.001</b>	4.0 (0.0 - 10.0)	<b>0.002</b>	1.0 (0.0 - 5.0)	<b>0.001</b>	5.0 (2.0 - 9.0)	<b>0.013</b>
Second	26.0 (6.0 - 41.0)		6.0 (0.0 - 10.0)		2.0 (0.0 - 5.0)		6.0 (2.0 - 10.0)	
Third	20.0 (6.0 - 38.0)		1.0 (0.0 - 10.0)		1.0 (0.0 - 4.0)		5.0 (2.0 - 9.0)	
Duration of marriage (years)								
1-3	26.0 (6.0 - 41.0)	<b>0.073</b>	6.0 (0.0 - 10.0)	0.650	2.0 (0.0 - 5.0)	0.427	6.0 (2.0 - 10.0)	<b>0.006</b>
4-6	22.0 (6.0 - 40.0)		3.0 (0.0 - 10.0)		1.0 (0.0 - 4.0)		5.0 (2.0 - 9.0)	
7-9	21.0 (6.0 - 36.0)		4.0 (0.0 - 10.0)		1.0 (0.0 - 5.0)		5.0 (2.0 - 9.0)	
>10	23.5 (6.0 - 44.0)		2.0 (0.0 - 10.0)		2.0 (0.0 - 5.0)		5.0 (2.0 - 9.0)	
Education								
Primary	21.0 (6.0 - 36.0)	<b>0.018</b>	2.0 (0.0 - 10.0)	<b>0.002</b>	2.0 (0.0 - 5.0)	0.404	5.0 (2.0 - 9.0)	0.345
Collage	24.0 (6.0 - 41.0)		5.0 (0.0 - 10.0)		1.0 (0.0 - 5.0)		6.0 (2.0 - 10.0)	
High school	24.0 (6.0 - 44.0)		5.0 (0.0 - 10.0)		1.0 (0.0 - 5.0)		5.0 (2.0 - 9.0)	
University	27.5 (6.0 - 40.0)		7.0 (0.0 - 10.0)		2.0 (0.0 - 5.0)		5.0 (2.0 - 8.0)	
Income								
MV	22.0 (6.0 - 36.0)	<b>0.003</b>	2.0 (0.0 - 10.0)	<b>0.001</b>	1.0 (0.0 - 4.0)	0.079	5.0 (2.0 - 8.0)	0.650
Up to 2 MV	24.0 (6.0 - 40.0)		3.5 (0.0 - 10.0)		1.0 (0.0 - 5.0)		5.0 (2.0 - 9.0)	
More than 2 MV	28.0 (6.0 - 44.0)		7.0 (0.0 - 10.0)		2.0 (0.0 - 5.0)		6.0 (2.0 - 10.0)	

† Kruskal Wallis test

**Table II:** Scale scores according to features of the study population (continues)

	Overall satisfaction with sexual function (satisfaction)		<i>p</i> <sup>†</sup>	Ability to achieve orgasm (orgasm)		<i>p</i> <sup>†</sup>	Degree of clitoral sensation (c.sensation)		<i>p</i> <sup>†</sup>
	Median	Range		Median	Range		Median	Range	
Age (years)									
18-25	7.0	(2.0 - 10.0)	<b>0.015</b>	3.0	(1.0 - 5.0)	<b>0.033</b>	3.0	(1.0 - 5.0)	<b>0.016</b>
26-30	6.0	(2.0 - 10.0)		2.5	(1.0 - 5.0)		3.0	(1.0 - 5.0)	
31-35	6.0	(2.0 - 10.0)		2.0	(1.0 - 5.0)		3.0	(1.0 - 5.0)	
>35	5.0	(2.0 - 10.0)		2.0	(1.0 - 5.0)		2.0	(1.0 - 5.0)	
Trimester									
First	7.0	(2.0 - 10.0)	<b>0.012</b>	3.0	(1.0 - 5.0)	<b>0.001</b>	3.0	(1.0 - 5.0)	<b>0.001</b>
Second	7.0	(2.0 - 10.0)		3.0	(1.0 - 5.0)		3.0	(1.0 - 5.0)	
Third	6.0	(2.0 - 10.0)		2.0	(1.0 - 5.0)		2.0	(1.0 - 5.0)	
Duration of marriage (years)									
1-3	7.0	(2.0 - 10.0)	<b>0.029</b>	3.0	(1.0 - 5.0)	<b>0.008</b>	3.0	(1.0 - 5.0)	0.170
4-6	6.0	(2.0 - 10.0)		2.0	(1.0 - 5.0)		3.0	(1.0 - 5.0)	
7-9	6.0	(2.0 - 10.0)		2.0	(1.0 - 5.0)		3.0	(1.0 - 5.0)	
>10	6.5	(2.0 - 10.0)		2.0	(1.0 - 5.0)		3.0	(1.0 - 5.0)	
Education									
Primary	6.0	(2.0 - 10.0)	0.112	2.0	(1.0 - 5.0)	0.191	3.0	(1.0 - 5.0)	0.218
College	6.0	(2.0 - 10.0)		3.0	(1.0 - 5.0)		3.0	(1.0 - 5.0)	
High school	6.0	(2.0 - 10.0)		3.0	(1.0 - 5.0)		3.0	(1.0 - 5.0)	
University	7.0	(2.0 - 10.0)		3.0	(1.0 - 5.0)		3.0	(1.0 - 4.0)	
Income									
MV	6.0	(2.0 - 10.0)	0.105	3.0	(1.0 - 5.0)	<b>0.034</b>	3.0	(1.0 - 4.0)	0.170
Up to 2 MV	6.0	(2.0 - 10.0)		2.0	(1.0 - 5.0)		3.0	(1.0 - 5.0)	
More than 2 MV	7.0	(2.0 - 10.0)		3.0	(1.0 - 5.0)		3.0	(1.0 - 5.0)	

† Kruskal Wallis test

## Discussion

Pregnancy involves certain changes during trimesters, and those changes may adversely affect the parameters of sexual function. Potential causes of sexual dysfunction in pregnancy and puerperium have been described. Nausea and vomiting, breast tenderness, weight gain, anxiety, and fatigue caused by hormonal changes like increased level of estrogens, progesterone, and prolactin lead to a reduction in sexual desire and arousal (16).

During the first and second trimesters, nausea, vomiting, increased tendency to sleep, and fear of harming the fetus, and in the third trimester, impending labor and decreased self-esteem due to increased abdominal circumference may cause avoidance of sexual intercourse. For these reasons, we conducted a study to compare differences in sexual function between trimesters in pregnant Turkish women.

There are several studies investigating sexual function during pregnancy. Robson et al conducted a study with 119 prim-

iparous women. They showed a decrease which was marked in the third trimester in the frequency of sexual intercourse and sexual enjoyment during pregnancy (17). In a study investigating perceptions and practice in the sexual life of Nigerian pregnant women, it was shown that there was a decrease in sexual intercourse frequency (1.5 times/week vs. 2.3 times/week) during pregnancy compared with the non-pregnant state (18). A similar study in Pakistan showed a decrease in the frequency of sexual intercourse during pregnancy. The reason for the decreased frequency of sexual intercourse was a belief among women that coitus is harmful to the fetus (19).

Studies concerning the sexual function during trimesters of pregnancy showed a decrease in sexual function in the third trimester. Bartellas et al studied women's sexual experience during pregnancy and showed a decrease in vaginal intercourse and sexual activity throughout pregnancy with the trimester of pregnancy being the only independent factor (7). In Turkey, Aslan et al. studied the sexual function of 34 women during pregnancy and revealed a decrease in sexual

function throughout trimesters (20). Similarly, in a study conducted in Turkey total IFSF scores of women in the first and second trimesters were higher than the third trimester (21). In the present study, we also found that there is a decrease in total IFSF score and quality, satisfaction, orgasm, and c.sensation subdomain scores in the third trimester.

Several studies have found that advanced age negatively affects sexual function (12,22-24). We similarly found that total IFSF scores were lower in pregnant women aged over 35 years. Quality, satisfaction, and c.sensation subdomain scores were also lower in pregnant women aged over 35 years.

Eryilmaz et al and Guleroğlu et al showed that a low level of education can negatively affect sexual function (12,25). Similarly, we found that participants with a low level of education had lower IFSF scores compared with their highly educated counterparts. This difference could be due to the lower self-esteem and self-confidence that may be accompanied by a low level of education. Also, those women may have insufficient knowledge about the changes during pregnancy that could affect sexual function (24).

It has been shown that low socioeconomic status is a risk factor for sexual dysfunction (26). Like a study conducted in Turkey (12), we also found that women with the low-level income had lower total IFSF and quality sub-domain scores compared with their higher level income counterparts. The economic concerns and anxiety associated with living on a low income may be a stress factor, not only for the woman but also for her partner. This state of anxiety may negatively affect sexual function.

Studies in the literature have shown the longer duration of marriage leads to decreased sexual function (12,25). Our study similarly demonstrated that women who were newly married had higher IFSF sub-domain scores than women with a longer duration of the marriage. As the marriage progresses, the responsibilities of the woman may change due to increases in the number of children and the amount of housework. This may lead to a decrease in sexual function in those women.

The findings of this study suggest that sexual function during pregnancy is generally affected negatively by age, lower level of income, and longer duration of the marriage. In addition, pregnancy trimesters have different influences on sexual function. Women in the third trimester generally have lower sexual function scores. This finding may be attributable to impending labor and the physical changes to the woman's body. Pregnancy causes different complaints in different individuals, and these may affect women's sexual function to differing degrees. Every woman should be followed up about sexual function changes during pregnancy.

The design of this study may compromise its ability to establish causality. The descriptive nature of the study cannot

show the change throughout pregnancy individually. To overcome this limitation, prospective studies should be designed. Additionally, an advanced statistical analysis such as regression models could not be performed due to non-parametric data nature.

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## References

1. World Health Organization. Measuring sexual health: conceptual and practical considerations and related indicators, 2010.
2. Basson R. The female sexual response: a different model. *J Sex Marital Ther.* 2000;26(1):51-65. doi: 10.1080/009262300278641.
3. Bachmann GA, Avci D. Evaluation and management of female sexual dysfunction. *The Endocrinologist.* 2004;14(6):337-45.
4. Coskun B, Coskun BN, Atis G, Ergenekon E, Dilek K. Evaluation of sexual function in women with rheumatoid arthritis. *Urol J.* 2014;10(4):1081-7. PMID: 24469654.
5. Hosseini L, Iran-Pour E, Safarinejad MR. Sexual function of primiparous women after elective cesarean section and normal vaginal delivery. *Urol J.* 2012;9(2):498-504. PMID: 22641494.
6. Witting K, Santtila P, Alanko K, Harlaar N, Jern P, Johansson A, et al. Female sexual function and its associations with number of children, pregnancy, and relationship satisfaction. *J Sex Marital Ther.* 2008;34(2):89-106. doi: 10.1080/00926230701636163.
7. Bartellas E, Crane JM, Daley M, Bennett KA, Hutchens D. Sexuality and sexual activity in pregnancy. *BJOG.* 2000;107(8):964-8. doi:10.1111/j.1471-0528.2000.tb10397.x.
8. Leite APL, Campos AAS, Dias ARC, Amed AM, De Souza E, Camano L. Prevalence of sexual dysfunction during pregnancy. *Rev Assoc Med Bras (1992).* 2009; 55(5):563-8. doi: 10.1590/s0104-42302009000500020.
9. Ribeiro MC, Nakamura MU, de Tubino Scanavino M,

- Torloni MR, Mattar R. Female sexual function and gestational diabetes. *J Sex Med.* 2012;9(3):786-92. doi: 10.1111/j.1743-6109.2011.02577.x.
10. Gökyıldız S, Beji NK. The effects of pregnancy on sexual life. *J Sex Marital Ther.* 2005;31(3):201-15. doi: 10.1080/00926230590513410.
  11. Johnson CE. Sexual health during pregnancy and the postpartum (CME). *J Sex Med.* 2011;8(5):1267-84. doi: 10.1111/j.1743-6109.2011.02223.x.
  12. Tosun Güleröglü F, Gördeles Beşer N. Evaluation of sexual functions of the pregnant women. *J Sex Med.* 2014; 11(1):146-53. doi: 10.1111/jsm.12347.
  13. Williamson M, McVeigh C, Baafi M. An Australian perspective of fatherhood and sexuality. *Midwifery.* 2008; 24(1):99-107. doi: 10.1016/j.midw.2006.07.010.
  14. Kapci EG, Uslu R, Turkcapar H, Karaoglan A. Beck Depression Inventory II: evaluation of the psychometric properties and cut off points in a Turkish adult population. *Depress Anxiety.* 2008;25(10):E104-10. doi: 10.1002/da.20371.
  15. Kaplan SA, Reis RB, Kohn IJ, Ikeguchi EF, Laor E, Te AE, et al. Safety and efficacy of sildenafil in postmenopausal women with sexual dysfunction. *Urology.* 1999;53(3):481-6. doi: 10.1016/s0090-4295(98)00633-5.
  16. Basson R. Women's sexual dysfunction: revised and expanded definitions. *CMAJ.* 2005;172(10):1327-33. doi: 10.1503/cmaj.1020174.
  17. Robson KM, Brant HA, Kumar R. Maternal sexuality during first pregnancy and after childbirth. *Br J Obstet Gynaecol.* 1981;88(9):882-9. doi: 10.1111/j.1471-0528.1981.tb02223.x.
  18. Adinma JI. Sexuality in Nigerian pregnant women: perceptions and practice. *Aust N Z J Obstet Gynaecol.* 1995; 35(3):290-3. doi: 10.1111/j.1479-828x.1995.tb01984.x.
  19. Naim M, Bhutto E. Sexuality during pregnancy in Pakistani women. *J Pak Med Assoc.* 2000;50(1):38-44. PMID: 10770049.
  20. Aslan G, Aslan D, Kizilyar A, Ispahi C, Esen A. A prospective analysis of sexual functions during pregnancy. *Int J Impot Res.* 2005;17(2):154-7. doi: 10.1038/sj.ijir.3901288.
  21. Erol B, Sanli O, Korkmaz D, Seyhan A, Akman T, Kadioglu A. A cross sectional study of female sexual function and dysfunction during pregnancy. *J Sex Med.* 2007;4(5):1381-7. doi:10.1111/j.1743-6109.2007.00559.x.
  22. Özkan S, Demirhan H, Çınar İÖ. Gebelik ve bazı sosyodemografik özelliklerin cinsel fonksiyon üzerine etkisi. *Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi.* 2009; 12(3):28-37.
  23. Elnashar AM, EL Dien Ibrahim M, El Desoky MM, Ali OM, El Sayd Mohamed Hassan M. Female sexual dysfunction in Lower Egypt. *BJOG.* 2007;114(2):201-6. doi: 10.1111/j.1471-0528.2006.01106.x.
  24. Moreira ED, Glasser DB, King R, Duarte FG, Gingell C; GSSAB Investigators' Group. Sexual difficulties and help-seeking among mature adults in Australia: results from the Global Study of Sexual Attitudes and Behaviours. *Sexual Health.* 2008;5(3):227-34. doi: 10.1071/sh07055.
  25. Eryılmaz G, Ege E, Zincir H. Gebelikte cinsel yaşamı etkileyen faktörlerin incelenmesi. *Atatürk Üniv. Hemşirelik Yüksekokulu Dergisi* 2002;5(1):11-8.
  26. Demirezen E. Birinci basamakta kadın cinselliğinin değerlendirilmesi. *STED.* 2006;15(5):79-81.