The effect of pregnancy on female sexual function: a cross-sectional study

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Objective
The current study aims to evaluate the effect of pregnancy in its different trimesters on the female sexual function. A cross-sectional study was conducted at Assiut University Hospital, Assiut, Egypt.

Patients and methods
We included consecutive healthy sexually active pregnant women aged between 18 and 40 years who had attended the antenatal care clinic of Assiut Women Health Hospital between June 2014 and May 2015. We used the Arabic version of the female sexual function index (FSFI) in the interview to evaluate the sexual functions or problems during the past month. The cutoff score used to indicate sexual dysfunction was 28.1.

Results
A total of 600 healthy sexually active women were enrolled in this study: 300 women with uncomplicated pregnancy and 300 nonpregnant women. The percentage of women having total female sexual dysfunction during pregnancy was 63.3% compared with 61.2% of nonpregnant women. The percentage of women having total female sexual dysfunction was 70, 44, and 72% in the first, second, and third trimesters, respectively. The second trimester women had the highest total FSFI score, which was not significantly different from the total FSFI score in nonpregnant women ($P = 0.922$).

Conclusion
The current study reports no differences in the prevalence and indices of sexual function between pregnant and nonpregnant women. However, the second trimester represents the peak of sexual function throughout pregnancy, and the problem of sexual dysfunction is the highest during the third trimester.

Keywords:
female sexual function index, lipido, orgasm, pregnancy, sexual dysfunction

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Introduction

The WHO defines sexual health as a state of physical, emotional, mental, and social well-being through which personality, communication, and love are positively enriched and strengthened [1]. Female sexual dysfunctions (FSDs) are characterized by a lack of or diminished sexual feelings of interest, fantasies, and thoughts, or by problems becoming aroused, lubricated, or having an orgasm though adequately stimulated, or with feelings of pain in connection with intercourse [2]. They are associated with interpersonal, psychological, physiological, medical, social, and cultural factors [3].

Sexual dysfunction might cause a huge effect on women's quality of life as the decrease in sexual function can have negative effects on self-esteem and interpersonal relationships [4].

Pregnancy plays an important role in the sexual function and behavior of women [5]. Pregnancy frequently results in a significant life stress that interrupts previous styles of physical and emotional coadaptation of couples, and many women experience problems concerning sexuality during pregnancy [6]. A prevalence of reduced sexual interest ranging from 57 to 75% [7]. with subsequent reduction in the frequency of intercourse and diminution of libido and sexual enjoyment has been reported to occur during pregnancy [8].

Therefore, this study aims to determine the effect of pregnancy in its different trimesters on the female sexual function in Upper Egypt. To our knowledge, no previous studies were conducted in our community addressing this problem.

Patients and methods

This was a cross-sectional study carried out at the outpatient clinics of Dermatology and Gynecology Departments at Assiut University Hospital, Egypt, between June 2014 and May 2015. The study protocol had been approved by the Institutional Review Board.

The study included consecutive healthy sexually active pregnant women aged between 18 and 40 years who had attended the antenatal care clinic of Assiut Women Health Hospital. Pregnant women less than 18 years old, with complicated pregnancy, irregular sexual activity in the last 6 months and those with any chronic physical or psychiatric problems were excluded from the study. The control group was included sexually active, healthy nonpregnant women.

All women gave their informed consent to participate in the study after a detailed explanation of the study purpose and steps. All participants were interviewed in a private room. A full history was taken from each women, including sociodemographic, marital, obstetric, and sexual history. Sexual function was evaluated by the Arabic version of female sexual function index (FSFI) [9]. This 19-item standardized questionnaire covers six domains: desire, arousal, lubrication, orgasm, satisfaction, and pain. It evaluates sexual functioning or problems during the past month. For each domain, a score was calculated, and the total score was obtained by adding the six domain scores. The total score range is 2–36. The cutoff score to denote sexual dysfunction on the total FSFI score is determined below 28.1 [9].

Statistical analysis

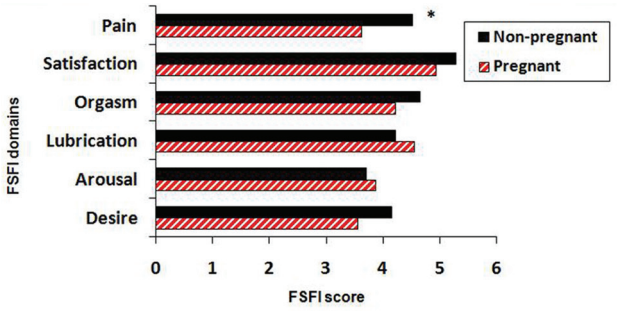
Data were analyzed using the statistical package for the social sciences for Windows, version 22.0 (SPSS Inc., Chicago, Illinois, USA). Descriptive statistics, including mean ± SD and range were presented for continuous variables. The mean values were compared between pregnant and nonpregnant groups using the *t*-test. The one-way analysis of variance was used to compare scores between groups of participants in their first, second, and third trimesters of pregnancy. χ^2-Test was used to compare qualitative variables between groups. *P* value less than 0.05 was considered of significant value.

Results

The present study included 300 women with uncomplicated pregnancy and 300 nonpregnant women. Their sociodemographic characteristics are shown in Table 1. The age of the participants ranged from 18 to 45 years, with a mean ± SD of 26.54 ± 4.79 years for cases and 27.50 ± 6.06 years for control. The pregnant and nonpregnant women did not differ significantly regarding age at enrollment ($P = 0.573$), education ($P = 0.071$), circumcision ($P = 0.061$), or parity ($P = 0.081$).

The percentage of women having total FSD during pregnancy was 63.3% compared with 61.2% of nonpregnant participants. As shown in Fig. 1, no statistically significant differences were observed in the individual domain scores (except for pain) between the pregnant and nonpregnant women. Moreover, there was no significant difference in the mean total score between pregnant (24.75 ± 4.56) and nonpregnant (25.8 ± 5.1) participants ($P = 0.813$).

Figure 1



Comparison of mean female sexual function index (FSFI) domain scores between pregnant and nonpregnant participants.

Table 1 Sociodemographaic criteria of the study participants

	Patients (*n*=300) [*n* (%)]	Control (*n*=300) [*n* (%)]	*P*
Age (years)			
<25	118 (39.3)	98 (32.7)	0.173
25-30	119 (39.7)	129 (43.0)	
>30	63 (21.0)	73 (24.3)	
Education			
Illiterate	7 (2.3)	11 (3.7)	0.091
Basic education	13 (4.3)	20 (6.7)	
Secondary	157 (52.3)	146 (45.3)	
University	123 (41.0)	133 (44.3)	
Residence			
Rural	199 (66.3)	220 (73.3)	0.036*
Urban	101 (33.7)	80 (26.7)	
Occupation			
Not working	238 (79.3)	211 (70.3)	0.040*
Working	62 (20.7)	89 (29.7)	
Circumcision			
Yes	284 (94.7)	269 (89.7)	0.061
No	16 (5.3)	31 (10.3)	
Number of children			
No children	119 (39.7)	98 (32.7)	0.281
1-2	131 (43.7)	140 (46.7)	
>3	50 (16.7)	62 (20.7)	

*Statistically significant difference.

At the time of enrollment, 77 (25.7%) of the pregnant women were in the first trimester of pregnancy, 119 (39.7%) were in the second trimester, and 104 (34.7%) were in the third trimester. The percentage of women having total FSD was 70, 44, and 72% in the first, second, and third trimesters, respectively.

The mean total and the individual scores on desire, orgasm, and pain domains differed significantly among pregnant participants in each of the three pregnancy trimesters (Table 2). There are significant differences in the total score between the participants in the first and second trimesters (P = 0.042), and those in the second and third trimesters (P = 0.010). In contrast, no significant difference was found between total scores of participants in the first and third trimesters (P = 0.334). The second trimester women had the highest total FSFI score, which was not significantly different from the total FSFI score in nonpregnant women (P = 0.922).

Discussion

Pregnancy frequently results in a significant life stress that interrupts previous styles of physical and emotional coadaptation of couples [6]. Serati *et al*. [10] analyzed the studies that addressed female sexual function during pregnancy in the period between 1960 and 2009. Their conclusion was that female sexual function decreases significantly during pregnancy, mainly during the third trimester. However, their analysis was conducted before the development of objective measures of female sexual function.

Several studies have evaluated sexual function in pregnant women using the FSFI and reported conflicting results [11–14]. In this study, the prevalence of FSD during pregnancy is 63.3%; such prevalence is similar to the results reported by other studies such as the studies performed in Iran (79.1%) [12], in Egypt (68.7%) [14], and in Turkey (63.4%) [13].

However, this prevalence is less than that reported in two previous studies performed in Thai pregnant women, which found the prevalence of FSD during pregnancy was 93.4% [11] and another one in Turkey, which reported 91.08% of pregnant women had sexual dysfunction [15]. The differences in prevalence rates might be owing to sociocultural and economic characteristics of women in different countries [16].

In this study, the percentage of FSD varied according to the gestational age. It was demonstrated to be significantly increased in the first and third trimesters of pregnancy compared with the second trimester. This is consistent with a previous study which found that the percentages of FSD across the three trimesters were 46.6, 34.2, and 73.3%, respectively [17]. Similarly, another study found that FSD percentages were 56.1, 40.4, and 63.4% across the three trimesters, respectively [14]. Other previous studies showed that sexual dysfunction increased with the progress of pregnancy, in a way that the highest sexual dysfunction was detected during the third trimester [12,18].

When FSFI total and individual domain scores were compared between each trimester of pregnancy, significant differences were found in the mean scores on desire, orgasm, and pain domains and the mean total FSFI score. These findings are consistent with those reported in other studies [11,17–19].

This difference was in the form of decrease in the first and third trimesters compared with the second trimester. This can be explained by the fact that factors in the first and third trimesters that negatively affect sexual function are not present or not as marked. Fear of fetal loss diminished, pregnant pelvic vascular congestion and cessation of nausea allows an increase in orgasmic quality as well as the level of eroticism.

However, the third trimester of pregnancy is characterized by significant changes in the women's body, which could be the reason for decreased sexual interest and sexual activity during that period. Another contributing factor could be the partner's loss of sexual interest because of the nonerotic effect of the women's

Table 2 Comparison of mean female sexual function index total and individual domain scores in different pregnancy trimesters

	First trimester (n=77) (mean±SD)	Second trimester (n=119) (mean±SD)	Third trimester (n=104) (mean±SD)	Total (n=300) (mean±SD)	P			
					P_1	P_2	P_3	P_4
Desire	3.37±1.35	3.82±1.00	3.39±0.97	3.56±1.11	0.010*	0.773	0.001*	0.002*
Arousal	3.67±1.22	4.05±0.95	3.77±1.04	3.86±1.06	0.030*	0.542	0.074	0.058
Lubrication	4.64±1.09	4.60±1.00	4.42±1.04	4.55±1.04	0.600	0.119	0.242	0.264
Orgasm	4.11±1.15	4.51±0.99	3.97±1.28	4.22±1.16	0.021*	0.587	0.003*	0.005*
Satisfaction	4.81±1.05	5.04±1.02	4.94±1.00	4.94±1.02	0.084	0.398	0.291	0.201
Pain	4.04±1.16	3.55±0.99	3.39±1.11	3.62±1.10	0.002*	0.000*	0.337	0.001*
Total female sexual dysfunction	24.64±5.08	25.97±4.01	23.88±4.63	24.75±4.56	0.042*	0.334	0.010*	0.038*

P_1: P value between the first versus second trimesters, P_2 P value between the first versus third trimesters, P_3: P value between the second versus third trimesters, P_4: P value among all groups.*Statistically significant difference.

appearance at the end of pregnancy. Additionally, restricted positions during sexual activity, especially in the last trimester of pregnancy, could influence, and even decrease the duration of intercourse. These restrictions are related to several causes, such as limitations owing to abdominal volume, body changes, hormonal changes, and psychological factors with myths and beliefs that create fear and insecurity related to engaging in sex during this period.

Conclusion

This study reports no differences in the prevalence and indices of sexual function between pregnant and nonpregnant Egyptian women. However, indices of sexual function show significant differences during the course of pregnancy. The second trimester represents the peak of sexual function throughout pregnancy, and the problem of sexual dysfunction is the highest during the third trimester.

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Conflicts of interest

There are no conflicts of interest.

References

1 World Health Organization. *Defining sexual health*. Geneva: Report of a Technical Consultation on Sexual Health; 2002. pp. 1–5.

2 Lewis RW, Fugl-Meyer KS, Bosch R, Fugl-Meyer AR, Laumann EO, Lizza E, *et al*. Epidemiology/risk factors of sexual dysfunction. J Sex Med 2004; 1:35–39.

3 Basson R. Women's sexual function: revised and expanded definitions. CMAJ 2005; 172:1327–1333.

4 Laumann EO, Paik A, Rosen RC. Sexual dysfunction in the United States: prevalence and predictors. JAMA 1999; 281:537–544.

5 Trutnovsky G, Haas J, Lang U, Petru E. Women's perception of sexuality during pregnancy and after birth. Aust N Z J Obstet Gynaecol 2006; 46:282–287.

6 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; 4:1381–1387.

7 Fok WY, Chan SY, Yuen PM. Sexual behavior and activity in Chinese pregnant women. Acta Obstet Gynecol Scand 2005; 84:934–938.

8 Change SR, Chen KH, Lin HH, YUHJ. Comparison of overall sexual function, sexual intercourse/activity, sexual satisfaction, and sexual desire during the three trimesters of pregnancy and assessment of their determinants. J Sex Med 2011; 8:2859–2867.

9 Anis TH, Gheit SA, Saied HS, Al Kherbash SA. Arabic translation of female sexual function index and validation in an Egyptian population. J Sex Med 2011; 8:3370–3378.

10 Serati M, Salvatore S, Siesto G, Cattoni E, Zanirato M, Khullar, *et al*. Female sexual function during pregnancy and after childbirth. J Sex Med 2010; 7:2782–2790.

11 Manusirivithaya S, Kerdarunsuksri A. Attitudes and sexual function in Thai pregnant women. J Med Assoc Thai 2010; 93:265–271.

12 Jamali S, Mosalanejad L. Sexual dysfunction in Iranian pregnant women. Iran J Reprod Med 2013; 11:479–486.

13 Tosun Güleroğlu F, Gördeles Beşer N. Evaluation of sexual functions of the pregnant women. J Sex Med 2014; 11:146–153.

14 Ahmed MR, Madny EH, Ahmed WA. Prevalence of female sexual dysfunction during pregnancy among Egyptian women. J Obstet Gynaecol Res 2014; 40:1023–1029.

15 Aydin M, Cayonu N, Kadihasanoglu M, Irkilata L, Atilla MK, Kendirci M, *et al*. Comparison of sexual functions in pregnant and non-pregnant women. Urol J 2015; 12:2339–2344.

16 Elnashar AM, EL-Dien Ibrahim M, El-Desoky MM, Ali OM, El-Sayd Mohamed Hassan M. Female sexual dysfunction in Lower Egypt. BJOG 2007; 114:201–206.

17 Leite APL, Campos AAS, Dias ARC, *et al*. Prevalence of sexual dysfunction during pregnancy. Rev Assoc Med Bras 2009; 55:563–568.

18 Aslan G, Aslan D, Kizilyar A, Ispahi Ç, Esen A. A prospective analysis of sexual functions during pregnancy. Int J Impot Res 2005; 17:154–157.

19 Pauls RN, Occhino JA, Dryfhout VL. Effects of pregnancy on female sexual function and body image: a prospective study. J Sex Med 2008; 5:1915–1922.