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Prevalence of Sexual Dysfunction in Thai Pregnant Women

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ABSTRACT

Objective: To study the prevalence of sexual dysfunction in Thai pregnant women.

Materials and Methods: A descriptive cross-sectional study was conducted among 260 healthy, singleton and third trimester pregnant women, presenting with a stable relationship with their partners, attended at the antenatal care clinic, Department of Obstetrics and Gynaecology, Siriraj Hospital during July 20, 2010 to December 15, 2010. The Female Sexual Function Index (FSFI) questionnaire was used to evaluate the sexual function in each trimester. A total FSFI score of < 26 was interpreted as sexual dysfunction.

Results: The mean age of participants was 28.1+5.8 years old. The mean gestational age was 36.9+2.3 weeks. The prevalence of sexual dysfunction was 90.8% (95%CI 86.6% to 93.7%). Those in the first, second and third trimesters were 58.1% (95%CI 52.0% to 63.9%), 61.5% (95%CI 55.5% to 67.2%) and 88.5 % (95%CI 84.0% to 91.8%), respectively. The prevalence of sexual dysfunction increased in accordance with advancing gestational age. Additionally, this study also demonstrated the decreasing of sexual frequency from 3.4+0.9 to 1.3+0.9 times per week along with the 22.7% changing of position during pregnancy period.

Conclusion: The prevalence of sexual dysfunction in Thai pregnant women was rather high particularly in the third trimester. Besides the routine antenatal care, the healthcare providers should concern and provide the useful information for this sensitive issue.

Keywords: sexual dysfunction, female sexual function index (FSFI), pregnant women

Introduction

The most important concerns of antenatal care are the safety and well-being of mother and fetus. So, pregnant women should be given the highest quality of antenatal care provided by their healthcare providers who realize the holistic approach including physical and psycho-social aspects, nutritional support and sexuality. Not only the sexuality is the sensitive issue, it is also one of the most important components to set up the relationship of couple life and is frequently influenced by many factors such as physical and emotional demands[1,2]. It may associate with the changes of attitude, beliefs and partner's sexual demand. The effect of these factors can have a wide range of variation[1-3].

Pregnancy is the physiological process and causes a number of changes to pregnant women.

Anatomical adaptation during such period also brings about many aspects of the women-life such as more discomfort movement. Furthermore, this change may unavoidably effect the sexual behavior and activity throughout pregnancy period[3-5]. If the sexual response cycle deviates from normal range of functioning, it is defined as sexual dysfunction.

Many previous studies have shown that sexual intercourse in normal pregnant women had no significant serious adverse effects such as an increased risk of abortion, premature rupture of membranes or preterm labor[1,6-8]. A large number of pregnant women did not believe so[2,8,9], however, their misunderstanding could progress to sexual dysfunction. Although the sexuality during pregnancy period has been generally studied but assessment of its function or dysfunction still was limited and various because of the different definitions, research methodology, traditions, culture or lifestyle[1,5,10,11].

The Female Sexual Function Index (FSFI)[7,10], a widely used instrument to evaluate the sexual function was selected because of its excellent validity and reliability. It composes of six domains (desire, arousal, lubrication, orgasm, satisfaction and pain) including 19 questions about sexual function. Regarding the cut-off level, a total FSFI score of less than 26 was considered as sexual dysfunction. In the present study, the FSFI questionnaire, translated into Thai version and proved to have a high reliability coefficient was used to assess the prevalence of sexual dysfunction in each trimester[10].

Materials and Methods

A descriptive cross-sectional study was conducted at the antenatal care clinic, Department of Obstetrics and Gynaecology, Siriraj Hospital between July 20, 2010 and December 15, 2010.

The study was conducted in accordance with the ethical principles after approval by the Siriraj Institutional Review Board. All participants were the third trimester, singleton, pregnant women and ages at least 18 years old. All of them could understand Thai language, had been in regular relationships with their partners at least six month-period before pregnancy. Pregnant women with maternal and/or fetal complications or any co-morbid conditions that should refrain from sexual activities during pregnancy or unwilling to participate in this study were excluded. After informed consent was obtained, each participant was interviewed in a private room for the following data such as demographic data, obstetric history, female sexual activity during pregnancy compared with pre-pregnancy life and their sources of knowledge about sexuality. Additionally, they were also assured that the recorded data was anonymous and would be kept strictly confidential. Thereafter, all participants were asked to complete the Thai version of self-administered FSFI questionnaire[10] to evaluate the six domains (desire, arousal, lubrication, orgasm, satisfaction and pain) of sexual function in each trimester. Particularly in the first and second trimesters, all participants had to recall their experiences about sexual activity and function during such periods. Each domain had score range from minimum to maximum (zero or one to five). The total FSFI score of less than 26 was defined as sexual dysfunction.

Main outcome measurements were the prevalence of sexual dysfunction in each trimester including all details of each main domain as described above

Statistic analysis

The sample size of this study was 260 cases which was calculated by using 95 percent confidence level for prevalence 83.3%+5 %[4] and spare 20%. The collected data was analyzed by the SPSS program version 10.0 (SPSS Inc., Chicago, IL). Categorical and continuous data were shown by number (percentage), mean+standard deviation and median [min, max], respectively. Comparisons of sexual function within each trimester were done by repeated ANOVA (normality) or Friedman-test (non-normality). Comparisons between subgroups were analyzed using Cochran two tailed non-parametric or Fisher and Chi-square test as appropriated. Differences were considered statistically significant when $p<0.05$.

Results

Demographic and obstetric data of 260 enrolled cases were shown in Table 1. They were healthy and had no any associated condition which influencing sexual function e.g. previous complication or abnormal labor in prior pregnancy. The p-value was not analyzed because of the small number of each variable and those various factors were not included in the research question. Participants in age group <35 years and age group >35 years were 221 cases (85%) and 39 cases (15%), respectively. The mean ages of women and their husbands were 28.1+5.8 and 31.2+6.6 years, respectively. Most women finished secondary school (58.5%) and were laborer (68.1%). The most common monthly income was 5,000-10,000 Baht (46.5%). The median of gravida and parity were 2 and 1, respectively. Medical personnel was the most common source of sexual knowledge (50%) while forty-one cases (15.8%) never obtained any correct information about sexuality. The average sexual frequency during pregnancy was reduced from 3.4 to 1.3 times per week. The sexual position was also changed (22.7%).

Only 9.2% (95%CI 6.3 to 13.4%) of pregnant women had no sexual dysfunction. The rest [90.8% (95%CI 86.6% to 93.7%)] had the problem either during any trimester [46.2% (95%CI 40.2% to 52.2%)] or every trimester [44.6% (95%CI 38.7% to 50.7%)] (Table 2).

If stratify by trimester, sexual dysfunction was found more in longer gestational age and highest in the third trimester. Percentages of sexual dysfunction in the first, second and third trimesters were 58.1% (95% CI 52.0% to 63.9%), 61.5% (95%CI 55.5% to 67.2%) and 88.5 % (95%CI 84.0% to 91.8%), respectively (Table 3).

Regarding to maternal age (<35 and >35 yr.), percentages of sexual dysfunction in both age-groups during the first, second and third trimesters were 57.0, 64.1; 62.4, 56.4 and 88.2, 89.7, respectively. During the second trimester, percentage of sexual dysfunction in age group >35 decreased without statistical significance. Conversely, percentages in both age-groups markedly increased with statistical significance ($p < 0.05$) in the third trimester. There was no statistical difference in the prevalence between two age-groups throughout pregnancy (Table 4).

Table 5 showed the different FSFI scores of some domains in each trimester divided into two groups by age (<35 and >35 yr.). The FSFI scores changed in accordance with gestational age. During second trimester, the FSFI scores in domain 2-6 increased, while in domain 1 (desire) decreased but without statistical significance. Meanwhile, during third trimester the scores of every domain, especially in domain 2 (arousal) significantly decreased ($p < 0.05$) in both age-groups. In comparison between two age-groups within each trimester, domain 1 (desire) in the first trimester and domain 5 (satisfaction) in the second trimester were considered statistical difference ($p < 0.05$). In the third trimester, the FSFI scores in domain 2-4 (arousal, lubrication, orgasm) and total FSFI scores were statistical difference ($p < 0.05$).

Table 1. Demographic data and descriptive characteristics (N = 260)

Variables	N(%), or mean±SD
Total cases	260
<35 yr.	221 (85%)
≥35 yr.	39 (15%)
Age (yr)	
Wife	28.1±5.8
Husband	31.2±6.6
Religious	
Buddhism	257 (98.8%)
Christian	1 (0.4%)
Islam	2 (0.8%)
Education_level	
Primary	34 (13.1%)
Secondary	152 (58.5%)
Vocation	57 (21.9%)
University	17 (6.5%)
Occupation	
Housewife	43 (16.5%)
Laborer	177 (68.1%)
Government official	8 (3.1%)
Merchant	32 (12.3%)
Income (Baht)	
< 5000	30 (11.5%)
5000-10000	121 (46.5%)
10001-20000	93 (35.8%)
> 20000	16 (6.2%)
Duration of family life (yr.)	5.6±3.7
Previous method of delivery	
No delivery	114 (43.8%)
Normal labor	124 (47.7%)
Vacuum/Forceps extraction	1 (0.4%)
Cesarean Section	21 (8.1%)

The data are expressed as: n (%), mean+SD or median [min, max]

Table 1. Demographic data and descriptive characteristics (N = 260) (cont.)

Variables	N(%), or mean±SD
Gestational age (wk.)	36.9±2.3
Gravida	2 [1, 5]
1	100 (38.5%)
2	98 (37.7%)
3	53 (20.4%)
4	7 (2.7%)
5	2 (0.8%)
Parity	1 [0, 3]
0	116 (44.6%)
1	104 (40.0%)
2	36 (13.9%)
3	4 (1.5%)
Abortion	0 [0, 3]
0	218 (83.9%)
1	37 (14.2%)
2	4 (1.5%)
3	1 (0.4 %)
Sources of knowledge	
No	41 (15.8%)
Physicians	9 (3.5%)
Medical personnel	130 (50%)
Relatives	7 (2.7%)
Newspapers/ books	9 (3.4%)
Multiple sources	64 (24.6%)
Intercourse frequency/wk	
Before pregnancy	3.4±0.9
During pregnancy	1.3±0.9
Position	
Same	201 (77.3%)
Change	59 (22.7%)

The data are expressed as: n (%), mean+SD or median [min, max]

Table 2. Prevalence of sexual dysfunction in pregnant women (N = 260)

Sexual dysfunction	Prevalence	95% confidence interval
	n (%)	
No	24 (9.2%)	6.3% to 13.4%
Any trimester	120 (46.2%)	40.2% to 52.2%
Every trimester	116 (44.6%)	38.7% to 50.7%
Every/ or any trimesters	236 (90.8%)	86.6% to 93.7%

Table 3. Prevalence of sexual dysfunction stratified by trimesters (N = 260)

Trimesters	Prevalence n (%)	95% Confidence interval
First	151 (58.1%)	52.0% to 63.9%
Second	160 (61.5%)	55.5% to 67.2%
Third	230 (88.5%)	84.0% to 91.8%

Table 4. Percentages of sexual dysfunction during pregnancy stratified by maternal age

Group_ maternal age	Trimesters			P*	P** (1^{st}x2^{nd})	P** (2^{nd}x3^{rd})	P** (1^{st}x3^{rd})
	1^{st}	2^{nd}	3^{rd}				
< 35 yr. (221 cases)	57.0	62.4	88.2	<.001	0.182	<.001	<.001
≥ 35 yr. (39 cases)	64.1	56.4	89.7	<.001	0.549	0.001	0.002
P***	0.515	0.592	1.000				

* Cochran Test non-parametric test for the three related samples

** McNemar non-parametric test for the two related samples

*** Chi-square test with continuity correction for age up to 35 and >35 years old

Fisher's Exact test

Statistically significant if p<0.05

Table 5. FSFI scores during pregnancy stratified by maternal age and weeks of gestation

FSFI domain (D) Age (years)	Score_Trimester			P*	P** 1^{st} x 2^{nd}	P** 2^{nd} x 3^{rd}	P** 1^{st} x 3^{rd}
	1^{st}	2^{nd}	3^{rd}				
N =260 cases: < 35 yr = 221 cases ≥35 yr = 39 cases							
D1 (Desire)							
< 35	3.53±0.83	3.2±0.76	2.81 ± 0.76	<0.001	<0.001	<0.001	<0.001
≥ 35	3.22±0.89	3.15±0.89	2.61 ± 0.82	<0.001	1.0	<0.001	<0.001
P***	0.034	0.384	0.147				
D2 (Arousal)							
< 35	3.19±1.49	3.59±0.87	2.22 ± 1.40	<0.001	0.003	<0.001	<0.001
≥ 35	3.09±1.32	3.60±0.67	1.61 ± 1.56	<0.001	0.062	<0.001	<0.001
P***	0.675	0.915	0.015				
D3 (Lubrication)							
< 35	3.69±1.73	4.22±0.80	2.52±1.94	<0.001	<0.001	<0.001	<0.001
≥ 35	3.54±1.64	4.02±0.88	1.74±1.97	<0.001	0.176	<0.001	<0.001
P***	0.603	0.149	0.024				

Table 5. FSFI scores during pregnancy stratified by maternal age and weeks of gestation (cont.)

FSFI domain (D) Age (years)	Score_Trimester 1st	2nd	3rd	P*	P** 1st x 2nd	P** 2nd x 3rd	P** 1st x 3rd
D5 (Satisfaction)							
< 35	4.57±0.87	4.67±0.69	4.19±0.99	<0.001	0.200	<0.001	<0.001
≥ 35	4.58±0,94	4.95±0.45	4.16±0.96	<0.001	0.056	<0.001	0.094
P***	0.944	0.016	0.862				
D6 (Pain)							
< 35	3.77±1.83	4.68±1.28	3.24±2.37	<0.001	<0.001	<0.001	0.038
≥ 35	4.33±1.80	4.99±1..07	2.92±2.52	<0.001	0.074	<0.001	0.036
P***	0.082	0.143	0.442				
Total score							
< 35	22.54±7.1	24.78±3.41	17.82±7.59	< .001	< .001	< .001	< .001
≥ 35	22.36±7.2	25.07±3.28	15.14±7.86	< .001	0.051	< .001	< .001
P***	0.882	0.617	0.044				

FSFI scores = Female sexual function index scores (mean + standard deviation)

Scores <26 means sexual dysfunction while score >26 means normal

The mean difference is significant if p<05.

* Repeated ANOVA

** Multiple comparison Bonferroni method

*** Independent t-test

Discusion

Female sexual function is a complex and dynamic interplay of variables that involve physical, emotional and psychological state. During pregnancy, sexual activity theoretically changes in accordance with gestational age.

The Female Sexual Function Index (FSFI), a validated and multi-dimensional self-reported questionnaire, has widely been used to assess the sexual function in many conditions for example, female sexual desire and libido[7,10]. The higher the FSFI scores, the lower probability of sexual dysfunction is. The score of less than 26 was then considered female sexual dysfunction[7].

The prevalence of sexual dysfunction of our participants was quite high (90.8%) and up to 44.6% had to face with this problem throughout pregnancy period. It was higher than the western countries[1,3], but was similar to the studies in Asia[2,8] This might be from the different cultures, degree of concern, research methodology and definitions used for clarifying sexual dysfunction. The selected cut-off value (score <26) adopted from the Western Country might also affect the outcome of this research because of different cultures, lifestyles and races between both countries. The prevalence would be lower than this if the higher cut-off score was used.

Focusing on each trimester, the prevalence of sexual dysfunction increased as advancing gestation (58.1, 61.5 and 88.5% in the first, second and third trimesters, respectively). These results reasserted the influence of pregnancy on female sexual function as observed in other previous studies[1,4,6,9,12]. When analyzing into each domain of the FSFI, there were significant decrements in sexual desire, arousal, lubrication, orgasm, satisfaction and pain during pregnancy compared with pre-pregnancy period. Additionally, when taking into the consideration of the FSFI score, we found that the total scores changed in accordance with advancing gestation clarified by significantly increasing and then decreasing in the second and third trimesters, respectively. However, when thoroughly considering in each domain of the FSFI during second trimester, only the scores of domain

2-6 increased whereas the score of domain 1 (desire) decreased. This finding demonstrated the reduction of sexual desire throughout pregnancy same as the previous studies[3,8,10]. Some paper reported the increasing in sexual desire during the second trimester because of pelvic vasculature congestion and improvement of hyperemesis gravidarum[12].

Furthermore, the increment of the total score in the second trimester was similar to the other study[12]. This result had shown that the sexual function significantly improved (despite dysfunction) during mid pregnancy period compared to the first trimester and worsened after that. The explanation for this might be hypothesized that the early adaptation of their pregnancies and significant anatomical change in late gestation were the important concerns and then, effected to their sexuality.

Frequency of sexual intercourse decreased and sexual position significantly changed throughout pregnancy from abdominal enlargement. These findings were similar to the other studies[1,11,12].

The factor associated with sexual dysfunction was maternal age. We chose the cut-off of age >35 years old to divide the participants into two groups because in obstetric care, this level has widely been accepted to be related to develop medical and obstetric complications. The prevalence of sexual dysfunction in age group >35 years old had demonstrated the non-significant decrement during the second trimester whereas that of another increased. During second trimester, sexual function was better because it is the period of the most emotionally stable when pregnancy seems to be clearly established diminishing, this way, fear of fetal loss. Reaffirmation of femininity through the duo woman/maternity associated to the pregnant pelvis vascular changes and also cessation of nausea allows an increase orgasmic quality.

There were some limitations in this study. Firstly, it was limited by using recall memory. So the results might not completely represent the overall pregnancy. Secondly, many confounders that influence the result were not fully excluded. Thirdly, the optimal cut-off level of FSFI score appropriately used in Thai pregnant population should be considered in further study.

In addition, many important factors associated with sexual dysfunction during pregnancy, such as the psychological issue, the sexual attitude of their partners, and obstetric variables, were not included in this study. Further study should be proposed with some of these factors.

Conclusion

The prevalence of sexual dysfunction during pregnancy was rather high. It showed significant alteration throughout pregnancy, slight reduction in the second trimester and a very significant increase in the third. The medical personnel should be aware and emphasizes the importance of this sensitive issue and provide routine sex education to improve the quality of antenatal care.

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ความชุกของเพศสัมพันธ์ที่ผิดปกติในหญิงตั้งครรภ์ไทย

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วัตถุประสงค์ *: เพื่อศึกษาความชุกของเพศสัมพันธ์ที่ผิดปกติในหญิงตั้งครรภ์*

วัสดุและวิธีการ *: เป็นการศึกษาเชิงพรรณนาชนิดตัดขวางในหญิงตั้งครรภ์เดี่ยวในช่วงไตรมาสที่สามที่มีสุขภาพแข็งแรง และมีเพศสัมพันธ์สม่ำเสมอ รวม 260 รายที่มาฝากครรภ์ที่โรงพยาบาลศิริราช ระหว่างวันที่ 20 กรกฎาคม ถึงวันที่ 15 ธันวาคม 2553 ตอบแบบสอบถามด้วยตนเองซึ่งเป็นแบบสอบถามเกี่ยวกับดัชนีชี้วัดพฤติกรรมทางเพศของสตรีขณะตั้งครรภ์ (The Female Sexual Function Index-FSFI) เพื่อประเมินพฤติกรรมทางเพศในแต่ละช่วงไตรมาสของการตั้งครรภ์โดยเปรียบเทียบกับก่อนตั้งครรภ์ ถ้าคะแนน "เอฟ เอส เอฟ ไอ" ต่ำกว่า 26 แปลผลว่ามีเพศสัมพันธ์ที่ผิดปกติ*

ผลการศึกษา *: ผู้เข้าร่วมการศึกษามี อายุเฉลี่ย 28.1+5.8 ปี อายุครรภ์เฉลี่ย 36.9+2.3 สัปดาห์ ความชุกของหญิงที่มีเพศสัมพันธ์ที่ผิดปกติขณะตั้งครรภ์เท่ากับร้อยละ 90.8 (ความเชื่อมั่นที่ 95% เท่ากับ 86.6% ถึง 93.7%) พบความชุกของเพศสัมพันธ์ที่ผิดปกติในช่วงไตรมาสที่หนึ่ง สองและสามเท่ากับร้อยละ 58.1 (ความเชื่อมั่นที่ 95% เท่ากับ 52.0% ถึง 63.9%), ร้อยละ 61.5 (ความเชื่อมั่นที่ 95% เท่ากับ 55.5% ถึง 67.2%) และร้อยละ 88.5 (ความเชื่อมั่นที่ 95% เท่ากับ 84.0% ถึง 91.8%) ตามลำดับ ความชุกของเพศสัมพันธ์ที่ผิดปกติเพิ่มขึ้นตามช่วงอายุครรภ์ที่เพิ่มขึ้น นอกจากนี้ยังพบว่าจำนวนครั้งของการมีเพศสัมพันธ์ลดลงจาก 3.4+0.9 เหลือ 1.3+0.9 ต่อสัปดาห์ และร้อยละ 22.7 มีการเปลี่ยนแปลงของท่าในขณะมีเพศสัมพันธ์ด้วย*

สรุป *: ความชุกของเพศสัมพันธ์ที่ผิดปกติในหญิงไทยขณะตั้งครรภ์ค่อนข้างสูงโดยเฉพาะอย่างยิ่งในช่วงไตรมาสที่สาม นอกจากให้การดูแลการฝากครรภ์ตามปกติแล้วบุคลากรทางการแพทย์ควรที่ต้องให้ข้อมูลเกี่ยวกับเรื่องที่อ่อนไหวเรื่องการมีเพศสัมพันธ์ขณะตั้งครรภ์ด้วย*