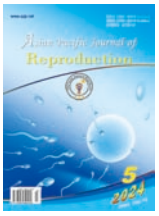

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Changes in sexual activity in young women during pregnancy

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ABSTRACT

Objective: To conduct changes in sexual activity during pregnancy and its related factors in pregnant women.

Methods: The present descriptive cross-sectional study was conducted in 2017 on pregnant women who referred to the women's clinic of Afzalipour Hospital in the southeast of Iran. Participants were included in the study through convenient sampling. The data collection tool was a researcher-made questionnaire consisting of two parts of personal social information of the couple and questions to measure the level of sexual activity and the attitude of the subjects during pregnancy compared to before pregnancy.

Results: 201 Pregnant women were included. The average age of pregnant women was (27.3±6.1) years and their average gestational age was (24.7±11.8) years. More than 62% of women had decreased sexual activity. There was a significant relationship between the amount of changes in sexual activity and delivery time (P=0.013), abortion history (P=0.001) and premature birth history (P=0.002). Most pregnant women believed that sex during pregnancy caused damage to the fetus (67.7%). A decrease in the intensity of sexual desire was reported in 63% of pregnant women. More than 60% of the subjects did not consult with doctors and midwives with regards to sexual issues (63.5%). The most common reason for not consulting was not feeling the need (32%). Most women experienced back pain during (42.8%) and after (39.8%) intercourse.

Conclusions: Changes in sex life during pregnancy are often caused by the lack of sexual knowledge and the increase in misconceptions among couples, which can affect the quality of relationships. The role of education is essential. Therefore, it is suggested that by including sexual counseling along with pregnancy care, wrong beliefs and information among women will be corrected.

KEYWORDS: Sexual behavior; Women; Pregnancy; Midwifery; Sex counseling; Fetus

1. Introduction

Pregnancy is one of the most sensitive periods in a woman's life. Due to the many physical and psychological changes that occur naturally during this period, the sexual and marital relations of couples undergo changes. In general, pregnancy causes many changes in feelings, sexual desire, intercourse frequency and sexual satisfaction[1]. Shoja *et al* study showed that 73% of pregnant women experienced a decrease in libido during pregnancy[2]. However, sexual behavior during pregnancy may depend on various socio-cultural factors, demographics, religious intensity,

Significance

Changes in sex life during pregnancy are often caused by the lack of sexual knowledge and the increase in misconceptions among couples, which can affect the quality of relationships. The study revealed a significant relationship between the amount of changes in sexual activity and delivery time, abortion history and premature birth history. By including sexual counseling along with pregnancy care, wrong beliefs and information among women will be corrected. Therefore, it seems that with the increase in the number of such investigations, attention will be paid to the importance of the issue.

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education level, length of marriage, financial status of the couple, gestational age, and the intention to have children[3]. In the studies conducted, people's misconceptions about having a proper and correct sex during pregnancy are the main cause of sexual problems and disorders during pregnancy, which include fear of harming the fetus, fear of abortion, mentioned the fear of rupture of amnion sac, painful sexual intercourse during pregnancy, fear of premature birth and fear of infection[4]. Other factors such as feeling guilty in sexual relations during pregnancy, changing the mental image of one's body, reducing the feeling of attractiveness enough for the spouse were also effective in reducing sexual relations during pregnancy[5].

Although having sex during pregnancy without following the correct principles leads to complications for the mother and the fetus, despite this, medicine and midwifery science did not set any limits for sexual activity in a normal pregnancy, and balanced sex can be had except for high-risk pregnancy groups continued during pregnancy[4].

The effect of sexual activities and marital relations on the quality of couples' relationships is undeniable. Therefore, it seems that with the increase in the number of such investigations, the attention of the officials will be attracted to the importance of the subject and gradually the attitude of people towards performing sexual activities during pregnancy will change and their awareness will increase. The present study was conducted with the aim of determining the changes in sexual activity during pregnancy and its related factors.

2. Subjects and methods

2.1. Study design and participants

The present descriptive-cross-sectional study was conducted in 2017 on pregnant women who referred to the women's clinic of Afzalipour Hospital in the southeast of Iran. The sample size was calculated according to Heidari *et al*'s study[6] of 201 people. The average sexual activity before pregnancy was 6.1 and after pregnancy was 2.9, and the sample size was calculated. In order to improve the results and increase the statistical power of the test, 201 people were examined. The research units were included in the research through easy sampling.

The inclusion criteria included sexually active women of reproductive age. Those who suffered from systemic diseases, gynecological or psychiatric disorders (diagnosed by asking the patient about the history of the disease or the current disease), and complications during pregnancy such as threatened abortion and placenta previa in the current pregnancy, history of alcohol, tobacco and drug use were used. Effects on sexual desire, such as antidepressants or antihypertensive drugs, were considered by couples as exclusion criteria.

2.2. Data collecting

The data collection tool was a researcher-made questionnaire consisting of two parts of personal social information of the couple and questions to measure the level of sexual activity and the attitude of the research subjects during pregnancy compared to before pregnancy which was prepared after reviewing the texts. Validity and reliability of the questionnaire were measured. In order to check validity, the questionnaire was sent to 15 faculty members of the Department of Gynecology and Obstetrics, and experts' corrective comments were applied to the items (α=0.93). To determine the reliability of the questionnaire, a pilot study was conducted on 30 pregnant women and Cronbach's alpha coefficient was determined (α=0.89).

A history was taken from all pregnant women who referred to the clinic if they were willing to participate in the study, and after gaining their trust and informed consent, the questionnaire was completed in private and with privacy protection.

2.3. Statistical analysis

SPSS software version 20 were used to analyze the data. The data were normally tested and conformed to normal distribution. Descriptive statistics (mean, frequency and relative frequency) and analytical methods (such as *Chi*-square test) were used. Data were expressed as mean±standard deviation (mean±SD), and n(%). A significance level of P<0.05 was considered.

2.4. Ethics statement

This study was approved by the ethics committee of Kerman University of Medical Sciences (ethics code: IR.KMU.AH.REC.1398.040).

3. Results

3.1. Participant characteristics

201 Pregnant women were included. The average age of pregnant women and their husbands was (27.3±6.1) years and (31.0±6.1) years, respectively. The average age of pregnancy was (24.7±11.8) years and the average duration of marriage was (5.9±4.9) years. The average number of pregnancies of these women was 2.1±1.2.

Most of the studied women were housewives (81.5%) and university educated (40.5%). The jobs of most of their husbands were free (43%). Most of the participants had multiple pregnancies (48%). Pregnancy was desired and planned in most of the studied samples (71.5%). Out of 201 pregnant women who entered the

study, 126 (62.5%) had decreased sexual activity. While 8 people had increased sexual activity (4%), 18 people (9%) had lost sexual activity and 46 people (23%) had no change. Based on the obtained results, there was a significant relationship between the amount of changes in sexual activity and delivery time (P=0.013), abortion history (P=0.001) and premature birth history (P=0.002) (Table 1). The amount of changes in women's sexual activity according to age (P=0.121), spouse's age (P=0.606) and duration of marriage (P=0.087) did not show any significant difference.

Table 1. Distribution of personal-social characteristics of 201 women participating in the study [n(%)].

Variables	Number (%)	Changes of sexual desire				P
		Decrease 126 (62.5)	Increase 8 (4)	Missing 18 (9)	Unchanged 46 (23)	
Job						
Housekeeper	164 (81.5)	102 (80.8)	8 (100.0)	13 (72.2)	38 (82.6)	0.411
Employee	37 (18.5)	24 (19.2)	0 (0.0)	5 (27.8)	8 (17.4)	
Education levels						
Illiterate	6 (3.0)	3 (2.4)	0 (0.0)	0 (0.0)	3 (6.5)	0.514
Elementary	8 (4.0)	4 (3.2)	0 (0.0)	0 (0.0)	3 (6.5)	
Intermediate	46 (23.0)	27 (21.6)	4 (50.0)	5 (27.8)	9 (19.6)	
High school	60 (29.5)	40 (32.0)	1 (12.5)	3 (16.7)	14 (30.4)	
University	81 (40.5)	51 (40.8)	3 (37.5)	10 (55.6)	17 (37.0)	
Pregnancy desire						
Wanted	144 (71.5)	94 (76.4)	8 (100.0)	11 (61.1)	29 (69.0)	0.150
Unwanted	51 (25.5)	29 (23.6)	0 (0.0)	7 (38.9)	13 (31.0)	
Parity						
1	81 (41.0)	55 (48.7)	6 (100.0)	7 (43.8)	13 (31.7)	0.013
2	99 (48.0)	58 (51.3)	0 (0.0)	9 (56.2)	28 (68.3)	
Husband's job						
Unemployed	12 (6.0)	6 (4.8)	1 (12.5)	2 (11.1)	3 (6.7)	0.912
Manual worker	41 (20.5)	28 (22.6)	1 (12.5)	1 (5.6)	10 (22.2)	
Employee	39 (19.5)	24 (19.4)	1 (12.5)	5 (27.8)	9 (20.0)	
Un-Employee	87 (43.0)	55 (44.9)	4 (50.0)	8 (44.4)	17 (37.8)	
Other	20 (10.0)	11 (8.9)	1 (12.5)	2 (11.1)	6 (13.3)	
Husband's education levels						
Illiterate	4 (2.0)	2 (1.6)	0 (0.0)	0 (0.0)	2 (4.3)	0.676
Elementary	13 (6.5)	8 (6.5)	1 (12.5)	0 (0.0)	3 (6.5)	
Intermediate	43 (21.5)	23 (18.5)	3 (37.5)	5 (27.8)	109 (23.1)	
High school	55 (27.5)	35 (28.2)	1 (12.5)	3 (16.7)	15 (32.6)	
University	85 (42.0)	56 (45.2)	3 (37.5)	10 (55.6)	15 (32.6)	
Family income						
Insufficient	62 (31.0)	37 (29.6)	1 (12.5)	6 (40.0)	16 (34.8)	0.389
Relatively inadequate	73 (36.0)	49 (39.2)	2 (25.0)	3 (29.0)	17 (37.0)	
Enough	56 (28.0)	36 (28.8)	5 (62.5)	5 (33.3)	10 (21.7)	
Quite enough	7 (3.5)	3 (2.4)	0 (0.0)	1 (6.7)	3 (6.5)	
Offspring's sex						
Girl	38 (34.9)	4 (36.9)	1 (50.0)	4 (40.0)	11 (35.5)	0.878
Boy	41 (37.6)	25 (38.5)	1 (50.0)	4 (40.0)	11 (35.5)	
Both	30 (27.5)	16 (24.6)	0 (0.0)	2 (20.0)	11 (35.5)	
Gestational age						
First trimester	51 (25.5)	28 (22.4)	2 (25.0)	4 (22.2)	17 (37.0)	0.522
Second trimester	58 (29.0)	38 (30.4)	3 (37.5)	4 (22.2)	13 (28.3)	
Third trimester	92 (45.5)	59 (47.2)	3 (37.5)	10 (55.6)	16 (34.8)	
Obstetrics history						
History of abortion	37 (18.5)	22 (17.6)	1 (12.5)	9 (50.0)	4 (8.7)	0.001
History of premature birth	8 (4.0)	2 (1.6)	1 (12.5)	5 (27.8)	0 (0.0)	0.002
History of stillbirth	5 (2.5)	3 (2.4)	0 (0.0)	1 (5.6)	1 (2.2)	0.840
History of unhealthy baby	3 (1.5)	2 (19.6)	0 (0.0)	0 (0.0)	1 (2.2)	0.911
History of vaginal infection	15 (7.5)	10 (8.0)	0 (0.0)	3 (16.7)	2 (4.3)	0.323
Dyspareunia	17 (8.5)	15 (12.0)	0 (0.0)	1 (5.6)	1 (2.2)	0.157
History of ectopic pregnancy	2 (1.0)	1 (0.8)	0 (0.0)	1 (5.6)	0 (0.0)	0.230

Chi-square test is used.

Table 2. Reasons for sexual desire changes during pregnancy in 201 women participating in the study.

Reasons	*n* (%)
Fear of harming the fetus	136 (67.7)
Fear of self-harm	51 (25.4)
Fear of infection	97 (48.3)
Fear of abortion	126 (62.7)
Fear of premature birth	111 (55.2)
Wife's belief that sexual activity is sinful	41 (20.4)
A woman's belief that sexual activity is sinful	46 (22.9)
Reducing the attention of a woman to her husband	61 (30.3)
Reducing the husband's attention to the woman	38 (18.9)
Belief in reducing the attraction of sexual activity	81 (40.3)
Worry about the end of pregnancy	102 (50.7)
Belief that pregnancy is an obstacle in meeting the sexual needs of the wife	61 (30.3)
Failure to respect the health of the fetus and the woman on the part of the wife	43 (21.4)
Fear of amnion sac rupture	133 (66.2)

Table 3. Distribution of the frequency of discomfort during and after sexual activity in 201 women participating in the study [*n* (%)].

Causes of discomfort	During sexual activity	After sexual activity
Dyspareunia	61 (30.3)	-
Stomach ache	63 (31.3)	61 (30.3)
Urinary incontinence	10 (5.0)	-
Back ache	86 (42.8)	80 (39.8)
Breast tenderness	38 (18.9)	-
Nausea and vomiting and fatigue	70 (34.8)	-
Failure to achieve proper condition	64 (31.8)	-
Vaginal burning	-	48 (23.9)
Without discomfort	69 (34.3)	74 (36.8)

3.2. Reasons for sexual desire changes during pregnancy

Most pregnant women believed that sex during pregnancy causes damage to the fetus (67.7%). More than 65% of them also expressed the fear of rupture of the amnion sac as the reason for their decreased libido (66.2%). Fear of abortion (62.7%) and premature birth (55.2%) were among other reasons for their decreased libido (Table 2).

3.3. Cause of discomfort of participants and changes in sexual satisfaction

Most women experienced back pain during intercourse (42.8%) and after (39.8%) (Table 3). Decreased sexual desire was reported in 127 participants (63.2%) and only 4.0% had sexual satisfaction (Table 4). More than 60% of the studied people did not consult with doctors and midwives in the field of sexual issues (63.5%). The most common reason given by these people for not consulting is lack of need (32%), followed by shame and modesty (15%), lack of awareness of such services (9.5%) and inappropriate communication with the health care provider (6.5%).

4. Discussion

One of the most sensitive stages of women's life is during pregnancy, which affects their sexual relations due to numerous physical and psychological changes. Apart from the physiological factors of pregnancy such as nausea and vomiting of pregnancy, increasing fatigue during pregnancy and sleep disorders, vaginal dryness or abdominal enlargement, other factors such as misconceptions and misconceptions of people about having a proper and correct sex during pregnancy can also cause disorders.

The current study examined the changes in sexual activity of 201 pregnant women and showed that their sexual activity decreased by 62.5% during pregnancy. Most of these women had a history of miscarriage and a history of premature birth, and it was their turn to give birth several times. The results of Liu *et al*'s study showed that the frequency of sexual contact decreases in successive pregnancies[7]. In our study, most pregnant women mentioned a decrease in the intensity of sexual desire during pregnancy, which many studies also confirmed the present finding[5,8]. Most of the pregnant women believed that sex during pregnancy causes damage to the fetus. More than 65% of them also expressed the fear of rupture of the amnion bag as the reason for their decreased libido. The fear of abortion and premature birth were among other reasons for their decreased libido. Concern about adverse pregnancy outcome from sexual activity was also noted by Serati *et al*[9]. Bartellas *et al* also showed that 49% of women worry that sexual activity will harm their pregnancy. Their biggest concern was usually premature birth or premature rupture of the amnion sac[10]. Liu *et al* also reported the fear of harming the child's health as one of the reasons for pregnant women to quit sexual activity[7]. Similar conclusions have been made by other authors[10,11]. In Shoja *et al*'s study, the frequency of intercourse was reduced in 94% of people. Also, 45% of people considered proximity as a factor for harming the fetus[12]. It should be remembered that in the third trimester, the feeling of sexual pleasure and satisfaction changes for a woman. It is significantly reduced and as a result it may lead to complete cessation of sexual relations[3]. Also, sex in the last weeks of pregnancy is thought to cause infection and rupture of the amnion sac. A possible risk

Table 4. Changes in sexual satisfaction during pregnancy in 201 women participating in the study [*n* (%)].

Domain	Decrease	Increase	Unchanged	Unknown
Changes in sexual desire	127 (63.2)	7 (3.5)	61 (30.5)	6 (3.0)
Changes in sexual satisfaction	104 (51.5)	8 (4.0)	82 (41.0)	7 (3.5)
Ability to reach orgasm	103 (51.0)	97 (48.5)	-	1 (0.5)

associated with preterm labor may occur due to uterine contractions caused by sexual activity with vaginal ejaculation. Self-awareness and awareness of these limitations and threats affect the decision to perform or stop sexual activity during pregnancy[3]. However, the most important reason for abandoning sexual activities during pregnancy is hyperactive libido disorder, *i.e*. lack or absence of sexual needs. Another strong argument in support of the decision to quit sexual activity is the doctor's suggestion in case of some pregnancy complications[3].

In the present study, most pregnant women had experienced back pain during intercourse and after. Lack of desire often leads to insufficient sexual stimulation, which is associated with vaginal lubrication, decreased satisfaction, and lack of orgasm. Therefore, there is a group of women who stop sexual activity during pregnancy due to pain during intercourse. This is in the study published by Hanafy *et al* and Chang *et al*. It was confirmed[13,14].

In this present study, 4% of women mentioned that their libido increased during pregnancy. In Shoja *et al*'s study, 6% of women had increased libido[12]. Bartellas *et al*'s study also showed that libido increases in a small percentage of women during pregnancy[10].

Many concerns and doubts related to sex life during pregnancy may be resolved during the education phase of the future mother[3]. In our study, more than 63% of the studied subjects did not consult doctors and midwives in the field of sexual issues. The most common reason for these people for not seeking counseling was lack of feeling of need and then shame and modesty, lack of knowledge of such services, and improper communication with the health care provider. In the study of Staruch *et al*, only one third of the respondents discussed sexual problems during pregnancy with the medical staff[3]. Bartellas *et al*'s results were also consistent with these results. In their study, 29% of women consulted their doctor about sexual activity, 34% felt uncomfortable about it, and the majority felt it should have been discussed[10]. In the study of Shoja *et al*, none of the people had consulted a doctor or midwife to solve their problem, but they felt the need to get information in this field[12]. It is obvious that counseling is a very important and sensitive matter and should be done by people who have sufficient knowledge about this matter in order to prevent the promotion of false beliefs while explaining the prohibitions of intimacy. According to the results of the study by Staruch *et al*, the main source of information about sex during pregnancy is the Internet[3], which was also mentioned by Liu *et al*[7]. Other sources included media, books and magazines. The experience and knowledge of the other partner can also be an important source of information, for example, the child's father, medical personnel or an experienced friend[3]. Therefore, the role of medical staff is insufficient and couples should be informed about the possible problems of sexual activity and changes in sexual relations that may be observed by pregnant women[15,16].

One of the limitations of this study was that it was difficult to obtain a comprehensive understanding of sexual activities during pregnancy when activities were measured by questionnaires. Because some people might hide the truth due to shame and embarrassment. In addition, some persons refused to participate in the study.

In conclusion, as a result, changes in sex life during pregnancy are often caused by the lack of expansion of sexual knowledge and the increase of misconceptions among couples, which can cause problems in the quality of relationships. The role of education is essential in this. Therefore, it is suggested that by including sexual counseling along with pregnancy care, incorrect beliefs and information among women will be corrected; because the foundation of every practice needs education, and Iranian society needs education more than it needs treatment. Medical personnel, especially obstetricians and gynecologists who care for pregnant women, should be more involved in the process of sex life education during pregnancy.

Conflict of interest statement

The authors have no example conflicts of interest to disclose.

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Authors' contributions

Ghazal Mansouri conceptualized and designed the study. Mina Zakeri collected the data. Azam Dehghani analyzed the data. Fatemeh Karami Robati drafted the initial manuscript. Leila Allahqoli reviewed, revised and translated the manuscript. All authors approved the final manuscript as submitted and agreed to be accountable for all aspects of the work.

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