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#### **ORIGINAL ARTICLE**



# The effects of motherhood and body perception on sexual dysfunctions among pregnant women

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#### **Abstract**

**Purpose:** This study aimed to determine the effects of motherhood and body perception of pregnant women on sexual dysfunction.

**Methods:** Data were collected using a demographic data form, the Self-Perception of Pregnants Scale (SPPS) and the Female Sexual Function Index (FSFI). The study which is cross-sectional was conducted with 280 pregnant women. Percentages, Pearson correlation, and multiple regression analyzes were used for data analysis.

**Findings:** Pregnant women with a positive pregnancy-related motherhood and body perception had low sexual dysfunction. There was a moderately significant positive relationship between sexual functions and pregnancy-related motherhood perception (r: 0.430, p < 0.001) and a moderately significant negative relationship between pregnancy-related body perception (r: -0.376, p < 0.001).

**Clinical Implications:** Healthcare professionals should know what is the motherhood and body perception of pregnants while evaluating sexual health.

#### **KEYWORDS**

body perception, motherhood, pregnancy, sexual dysfunction

### 1 | INTRODUCTION

Sexuality, which begins in intrauterine life and continues throughout life, is shaped by many factors including not only the genitals but the whole body and mind (Bozdemir & Özcan, 2011). Sexuality is a central aspect of being human. Sexuality is experienced and expressed through fantasies, desires, beliefs, attitudes, values, behaviors, practices, roles, and relationships (WHO, 2017). Sexual health is a state of physical, emotional, mental, and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction, or infirmity (WHO, 2017). However, sexual functions may be impaired for some reason. Although physiological reactions to sexual stimulation are defined in four phases as arousal, plateau, orgasm and resolution, sexual dysfunction is defined as a clinically significant disorder in a person's ability to respond sexually or to experience sexual pleasure (APA, 2013; Büyükkayacı et al., 2015).

There are many factors in the etiology of sexual dysfunctions that concern both men and women. The factors that cause female

sexual dysfunctions are endocrine problems such as menopause, chronic oral contraceptive use, neurological and psychological problems such as spinal cord trauma, disc herniation, body image disorders, affective disorders, and depression (Büyükkayacı et al., 2015). Pregnancy, which is a period with endocrine and psychological changes, may also affect sexual functions. Studies indicate that pregnancy negatively affects sexual functions and that the frequency of sexual dysfunction in pregnant women is between 18.6% and 92.6% (Daud et al., 2019; Gałązka et al., 2015; Küçükdurmaz et al., 2016; Maya et al., 2020; Wallwiener et al., 2017). Complaints such as respiratory distress, back and leg pain, and breast tenderness, and the changes in the growing abdomen and sexual organ experienced during pregnancy may negatively affect pregnant's attitudes towards sexuality (Güleroğlu & Beşer, 2014; Uçtu et al., 2017).

Moreover, psychological problems such as body image disorders may also negatively affect sexual health during pregnancy (Büyükkayacı, 2019). It is known that individuals who perceive their bodies positively are individuals who have high self-esteem are

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successful, self-confident, and compatible in their relationships with themselves and their environment (Kumcağız et al., 2017). In a study, it is stated that women's body image levels and scores are lower than men's and low body image negatively affects sexual functions (Çaynak et al., 2021).

Another condition that affects body image is the pregnancy period. The studies indicate that the perception of body image is negatively affected by the changes experienced during pregnancy (Inanir et al., 2015; Skouteris et al., 2005). As the pregnancy period is a period in which women are affected psychologically, physiologically and socially, it is important for the woman to have a positive body perception in this period for the healthy progress of the process and the quality of life.

On the other hand, the perception of motherhood of pregnant women is also important for sexual functions. As every woman adapts to the idea of pregnancy first and then becomes a mother, the psychosocial health conditions of women with a positive process of adaptation to the motherhood role may also positively affect their sexual life. Healthcare professionals play an important role in determining maternity needs, supporting them in knowledge and skills and facilitating the transition to motherhood (Korukcu, 2019). In this way, they can positively affect both the perception of motherhood and the sexual health of pregnant women. When the literature was examined, no study was found that examined the relationship between the perception of motherhood and sexuality during pregnancy.

This study was conducted to determine the effect of pregnant women's self-perception relating to their bodies and motherhood on their sexual functions.

# 2 | METHODOLOGY

# 2.1 Design

This study was conducted cross-sectionally.

# 2.2 | Research questions

- What is the sexual dysfunction status of pregnant women?
- How is the motherhood and body perception in pregnant women?
- Does self-perception relating to body and motherhood in pregnant women affect their sexual functions?

# 2.3 | Participants

The sample size was determined as 270 pregnant women based on regression analysis on the G\*power statistics program, a significance level of 0.05, power of 90% and moderate effect size (0.15). The study was conducted with 280 pregnant women who voluntarily agreed to participate in the study, had written consent and met the inclusion criteria.

The inclusion criteria for the sample were: (a) being older than 18, (b) being primiparous and in the second trimester, (c) having an uncomplicated pregnancy (d) volunteering to participate in the study. Pregnant women with placenta previa, vaginal bleeding and who at risk of abortion or preterm labor were excluded from the sample. In addition, pregnant women who did not volunteer to participate in the study were not included.

#### 2.4 Data collection

The study was conducted in a University Faculty of Medicine Hospital Pregnancy Outpatient Clinic between August 2019 and June 2021. The women who voluntarily agreed to participate in the study were interviewed face to face, and the questionnaire was applied by the researchers.

#### 2.5 | Measures

In the study, "Demographic and Obstetric Characteristics Data Collection Form," "Self-perception of Pregnants Scale," and "Female Sexual Function Index" were used as the data collection tools.

# 2.5.1 | Demographic and obstetric characteristics data collection form

Demographic Data Collection Form was prepared by the researchers. This data collection form includes 14 descriptive questions involving socio-demographic characteristics of women and their husbands and obstetric data of women. Although demographic characteristics include questions such as age, educational level, employment status, and income levels, the questions on obstetric characteristics include questions such as gestational week, number of pregnancies, and whether or not receiving information about sexual health during pregnancy.

# 2.5.2 | Self-perception of Pregnants Scale (SPPS)

It was developed by Kumcağız et al. in 2017 to measure how pregnant women perceived themselves (Kumcağız et al., 2017). The scale consists of 12 items and two sub-dimensions. It is a 4-point Likert-type scale. Each sub-dimension of the scale is evaluated separately. In the sub-dimension of Pregnancy-Related Motherhood Perception, it was considered that the pregnancy-related motherhood perception was high as the scores increased, and the pregnancy-related motherhood perception was low as the scores decreased. The highest and lowest scores obtained from the sub-dimension of Pregnancy-Related Motherhood Perception are 28 and 7, respectively. In this sub-dimension, there are questions such as I feel lucky to be able to give birth, I think I will be a good mother, I feel special because I will have a baby.

In the evaluation of the scores of the pregnancy-related body perception sub-dimension, while high scores indicate negative pregnancy-related body perception, low scores indicate positive pregnancy-related body perception. The highest and lowest scores obtained from the sub-dimension of pregnancy-related body perception are 20 and 5, respectively. In this sub-dimension, there are questions such as I don't like myself because I gained too much weight, I'm afraid my body will always stay like this (Kumcağız et al., 2017).

The Cronbach alpha values of the first and second subdimensions of the scale were found to be 0.86 and 0.75, respectively (Kumcağız et al., 2017). For this study, the Cronbach alpha values of the first and second sub-dimensions of the scale were found to be 0.96 and 0.92, respectively.

#### 2.5.3 | Female Sexual Function Index (FSFI)

This scale was developed by Rosen et al. to evaluate female sexual functions and adapted into Turkish by Aygin and Aslan in 2005. FSFI adapted into Turkish consists of 19 items and six sub-dimensions. It is a Likert type scale. The highest and lowest scores obtained from the scale are 36.0 and 2.0, respectively. It was stated that the total score of ≤26.5 obtained from the scale indicated sexual dysfunction (Aygin & Aslan, 2005; Rosen et al., 2000). The Cronbach alpha coefficient of the scale is 0.98 (Aygin & Aslan, 2005). For this study, the total Cronbach alpha value of the scale was found to be 0.98.

# 2.6 Data analysis

Descriptive analyzes were conducted using percentages, means, and standard deviation. Skewness and kurtosis tests were used to assess the normality of data distribution. Relationships among self-perception of pregnants and female sexual dysfunction were assessed with Pearson correlation analysis. Effects of self-perception of pregnants on female sexual dysfunction levels were assessed with multiple regression analyzes and multicollinearity testing was performed Multicollinearity analysis. Predictors added to the model by variance inflation factor coefficients were less than 10, tolerance coefficients were greater than 20, and condition index less than 15 (Yan & Su, 2009). The threshold for significance was 0.001.

# 3 | RESULTS

When socio-demographic characteristics were examined, the mean age was found to be  $26.75 \pm 3.52$  among women and the mean duration of marriage was determined to be  $2.09 \pm 1.18$ . 40% of women and 48.9% of their husbands were university graduates. 55% of women were unemployed. It was found that 47.1% of women had a good income, and 82.1% of them had a nuclear family type (Table 1). When the obstetric characteristics of the women were examined, the

**TABLE 1** Descriptive characteristics

| <b>TABLE 1</b> Descriptive character | istics                   |      |  |
|--------------------------------------|--------------------------|------|--|
| Variables                            |                          |      |  |
| Age (mean ± SD) (min-max)            | 26.75 ± 3.52 (18.0-35.0) |      |  |
| Spouse age                           | 28.79 ± 3.86 (20.0-39.0) |      |  |
| Duration of marriage (year)          | 2.09 ± 1.18 (0.5-6.0)    |      |  |
|                                      | n                        | %    |  |
| Education level                      |                          |      |  |
| Primary school                       | 15                       | 5.4  |  |
| Secondary school                     | 52                       | 18.6 |  |
| High school                          | 101                      | 36.1 |  |
| University                           | 112                      | 40.0 |  |
| Spouse education level               |                          |      |  |
| Primary school                       | 10                       | 3.6  |  |
| Secondary school                     | 31                       | 11.1 |  |
| High school                          | 102                      | 36.4 |  |
| University                           | 137                      | 48.9 |  |
| Working status                       |                          |      |  |
| Working                              | 126                      | 45.0 |  |
| Not working                          | 154                      | 55.0 |  |
| Spouse working status                |                          |      |  |
| Working                              | 267                      | 95.4 |  |
| Not working                          | 13                       | 4.6  |  |
| Income level <sup>a</sup>            |                          |      |  |
| High                                 | 132                      | 47.1 |  |
| Middle                               | 132                      | 47.1 |  |
| Low                                  | 16                       | 5.7  |  |
| Family type                          |                          |      |  |
| Nuclear                              | 230                      | 82.1 |  |
| Extended                             | 50                       | 17.9 |  |
| Total                                | 280                      | 100  |  |

<sup>&</sup>lt;sup>a</sup>Assessed according to the women's own statements.

mean gestational week of women was found to be  $19.27 \pm 3.59$ . Although 48.6% of women indicated that they did not receive information about physical and mental changes during pregnancy, 54.3% of them indicated that they did not receive information about sexual health during pregnancy (Table 2).

It was determined that pregnant women had a mean score of  $22.89 \pm 6.42$  from the Pregnancy-Related Motherhood Perception sub-dimension and a mean score of  $14.51 \pm 4.63$  from the pregnancy-related body perception sub-dimension. Pregnant women's total mean score of the Female Sexual Function Index was found to be  $18.06 \pm 10.27$  (Table 3).

There was a moderately significant positive relationship between sexual functions and pregnancy-related motherhood perception

| Variables                                                                   |                          |      |  |
|-----------------------------------------------------------------------------|--------------------------|------|--|
| Gestation week (mean ± SD) (min-max)                                        | 19.27 ± 3.59 (13.0-25.0) |      |  |
|                                                                             | n                        | %    |  |
| Whether or not it was an intended pregnancy                                 |                          |      |  |
| Intended                                                                    | 254                      | 90.7 |  |
| Unintended                                                                  | 26                       | 9.3  |  |
| Getting information about physiological and mental changes during pregnancy |                          |      |  |
| I didn't get                                                                | 136                      | 48.6 |  |
| From nurse                                                                  | 14                       | 5.0  |  |
| From midwifery                                                              | 17                       | 6.1  |  |
| From physician                                                              | 14                       | 5.0  |  |
| From websites, books, etc.                                                  | 99                       | 35.4 |  |
| Getting information about sexual health during pregnancy                    |                          |      |  |
| I didn't get                                                                | 152                      | 54.3 |  |
| From nurse                                                                  | 13                       | 4.6  |  |
| From midwifery                                                              | 9                        | 3.2  |  |
| From physician                                                              | 26                       | 9.3  |  |
| From websites, books, etc.                                                  | 80                       | 28.6 |  |
| Total                                                                       | 280                      | 100  |  |

TABLE 3 Pregnant women's mean scores of the "self-perception, motherhood-body," "female sexual function" scales (n = 280)

| Scales          | Minimum | Maximum | Ort ± SS      |
|-----------------|---------|---------|---------------|
| SPPS-motherhood | 7       | 28      | 22.89 ± 6.42  |
| SPPS-body       | 5       | 20      | 14.51 ± 4.63  |
| FSFI            | 2       | 34.80   | 18.06 ± 10.27 |

Abbreviations: FSFI, Female Sexual Function Index; SPPS, Self-Perception of Pregnants Scale.

(r:0.430, p < 0.001) and a moderately significant negative relationship between pregnancy-related body perception (r: -0.376, p < 0.001) (Table 4).

As a result of multiple regression analysis, in Model 1, it was determined that there was a moderately positive significant relationship between the sexual functions of pregnant women (according to FSFI) and pregnancy-related motherhood perception  $(\beta = 0.430, p < 0.001)$  and that 18% of the factors affecting sexual functions were explained by the total score of the pregnancyrelated motherhood perception ( $R^2$ : 0.182, p < 0.001) (Table 5). In Model 2, it was determined that there was a moderately negative significant relationship between the sexual functions of women and pregnancy-related body perception ( $\beta = -0.376$ , p < 0.001) and that 14% of the factors affecting sexual function were explained by the total score of pregnancy-related body perception  $(R^2 = 0.138, p < 0.001)$  (Table 5).

**TABLE 4** The relationship between sexual functions and pregnancy-related motherhood perception and pregnancy-related body perception (n = 280)

|                                            | 1       | 2       | 3    |
|--------------------------------------------|---------|---------|------|
| 1. Sexual functions                        | 1.00    |         |      |
| 2. Pregnancy-related motherhood perception | 0.430*  | 1.00    |      |
| 3. Pregnancy-related body perception       | -0.376* | -0.228* | 1.00 |

Pearson correlation analysis p < 0.001.

# 4 | DISCUSSION

Sexual functions that can be affected by many factors can be affected more in cases of extra changes such as pregnancy. Although pregnancy is an exciting and pleasing experience for many women, some changes experienced during this period may affect women's sexual health. One of the changes experienced during pregnancy is the self-perception of pregnant women, and the results of this study showed the effect of pregnancy-related motherhood perception and pregnancy-related body perception on the sexual functions of pregnant women. In the study, three models were established by considering the correlations between the variables. The results obtained from these models and pregnant women's mean scores of the scales were discussed based on the literature.

In the study, the total mean score of the FSFI of pregnant women was found to be  $18.06 \pm 10.27$  and the rate of pregnant women with

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**TABLE 5** Prediction of pregnant women's sexual functions by pregnancy-related motherhood perception and pregnancy-related body perception (n = 280)

| Variables                               | Model 1<br>β | Model 2<br>β |
|-----------------------------------------|--------------|--------------|
| Pregnancy-related motherhood perception | 09.430*      |              |
| Pregnancy-related body perception       |              | -0.376*      |
| $R^2$                                   | 0.182        | 0.138        |
| F                                       | 62.992       | 45.759       |
| Р                                       | <0.001       | <0.001       |
| DW                                      | 1.967        | 1.854        |

Multiple regression analysis \*p < 0.001.

sexual dysfunction was 21.13%. These results are supported by previous reports (Daud et al., 2019; Erbil, 2018; Gałązka et al., 2015; Güleroğlu & Beşer, 2014; Küçükdurmaz et al., 2016). Pregnant women's mean score of the motherhood perception sub-dimension of the selfperception scale was close to the highest value that can be obtained from the scale. This result showed that pregnant women had a positive perception of motherhood (Table 3). This finding is supported by previous reports (Coskun et al., 2020; Dikmen & Şanlı, 2019).

In Model 1, it was determined that women with a positive pregnancy-related motherhood perception had low sexual dysfunctions. It has been indicated that there may be a decrease in the sexual desire of pregnant women due to experiencing ambivalent feelings and sometimes being in a depressive mood during pregnancy (Cetin & Aslan, 2015). In this study, it was observed that women who adapted to the motherhood role had lower sexual dysfunctions. No other study revealing motherhood role and sexual dysfunction was found in the literature. Therefore, this result, which indicates that pregnancy-related motherhood perception has an important place among the factors affecting sexual dysfunction (18%), is very important for the literature.

When the lowest and highest values that can be obtained from the scale are considered, it is observed that pregnant women's mean score of the pregnancy-related body perception was above the mean value. This result indicated that the body perception of pregnant women was negative (Table 3). Studies support our results (Alkin & Beydağ, 2020; Küçükkaya et al., 2020). Pregnancy is one of the most important periods in which the woman focuses on her body and body perception come to the forefront, and the changes in the body image developed as pregnancy progresses. These changes have a significant effect on the pregnant woman's perception of sexuality. In our results, it was determined that women with a positive pregnancy-related body perception in Model 2 had low sexual dysfunctions. In other words, our results showed that pregnancy-related body perception had an important place among the factors that negatively affect sexual dysfunction (14%). Similar to our results, Paul et al. examined the effect of pregnancy on body image and sexual functions in their study, and the associated low sexual functions of pregnant women with impaired body image (Pauls et al., 2008). In their study, Pascoal et al. examined the relationship between body dissatisfaction and sexual distress and determined that

body perception and sexual distress were associated (Pascoal et al., 2019). In their study, Gumusay and Erbil determined that the positive body perception of pregnant women positively affected the sexual function of couples (Gumusay et al., 2021). The most common physical change that affects body image during pregnancy is weight gain. In a study conducted with obese women, it was determined that as the body mass index increased, the quality of sexual life decreased and sexual dysfunctions increased (Türkben & Kaplan, 2020). Similar results were found in the studies conducted with pregnant women. In the study of Arslan et al., it was determined that women who thought they were obese during pregnancy had a negative body image (Arslan et al., 2019). In a similar study, it was determined that as the weight gain increased, body image was negatively affected (Küçükkaya et al., 2020).

#### CONCLUSION

Although pregnant women have a positive motherhood perception. their body perception is at a level that is negative. Pregnancy-related motherhood perception and body perception have an important place among the factors affecting sexual dysfunction. How pregnant women perceive themselves during pregnancy should absolutely be considered while evaluating their sexual health.

In light of these findings, it may be recommended that:

All healthcare professionals should be trained about sexual health both through vocational education at the schools and on-thejob training after graduation.

• Before the interventions for the sexual health of pregnant women. it is necessary to determine how pregnant women perceive themselves during pregnancy. It is necessary to perform supportive interventions so that pregnancy-related motherhood perception and body perception would be positive.

#### Strength and limitations

The strength of this study is evaluating the sexual function with validated questionnaires. It was determined that the power of the study was very high (99%). There is no potential bias in the study. The results of the study relate only to the study group and cannot be generalized to the whole society. The fact that the marital satisfaction and body mass indexes of pregnant women were not evaluated is one of the limitations of the study.

# 6 | IMPLICATIONS FOR PSYCHIATRIC **NURSING PRACTICE**

Psychiatric nurses, women's health nurses, and midwives have important roles while giving care to pregnant women. Pregnancy is a period in which many physical and psychological changes are experienced and therefore sexual health is affected. Sexual health is a multidimensional concept and is affected by psychological factors such as self-perception. For this reason, healthcare professionals who consider all aspects of pregnant women's health should know what is the motherhood and body perceptions of pregnant women, while evaluating sexual health and making interventions to improve it.

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#### CONFLICT OF INTERESTS

The authors declare no conflict of interest.

#### ETHICS STATEMENT

Approval for the study was obtained from the ethics committee of the university (2017-KAEK-189\_2019.07.24\_02) and the hospital where the study was conducted. People who were considered appropriate for the study sample were given information about the study, and their verbal and written consent was obtained.

#### **AUTHOR CONTRIBUTIONS**

All authors have contributed equally with the ideas and preparation of the manuscript.

#### DATA AVAILABILITY STATEMENT

Data are available on request from the authors.

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