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RESEARCH ARTICLE

Genital image and sexual function during pregnancy: longitudinal study

Larissa V. C. Tavares[1], Cristiane Kilian[1], Ester P. D. M. Gonçalves[1], Thuane H. da Roza[2], Mirella Dias[3], Raquel E. Wolpe[1], Soraia Cristina T. da Luz[2], Gesilani Júlia da S. Honório[2]

[1] Physiotherapist, Santa Catarina State University (UDESC), Florianópolis, Santa Catarina (SC), Brazil
[2] Department of Physiotherapy and Postgraduate Program in Physiotherapy at the Santa Catarina State University (UDESC), Florianópolis, Santa Catarina (SC), Brazil
[3] Oncology Research Center (CEPON), Florianópolis, Santa Catarina (SC), Brazil

Abstract

Introduction: Pregnancy is a period of transformations that can interfere with the pregnant woman's genital image (GI) and sexual function (SF). There may be fluctuations in GI and SF according to the gestational trimesters. However, it is still uncertain whether or not there is a decrease in these two variables throughout pregnancy. **Objective:** Compare GI and SF in the second and third trimester of pregnancy. **Methods:** The Female Genital Self-Image Scale (FGSIS) and Female Sexual Function Index (FSFI) questionnaires were applied to analyze GI and SF, respectively. Each participant answered the questionnaires in the second and third trimester of pregnancy. Quantitative variables were analyzed descriptively using simple frequencies and percentages (categorical variables), and mean and standard deviation (numeric variables). To check the normality of the data, the Shapiro-Wilk test was performed. To compare the scores obtained related to GI and SF, the Wilcoxon test was used, with a significance level of 5%. **Results:** 10 pregnant women were included in the study. Regarding the GI assessment, the average score on the FGSIS questionnaire for pregnant women was 22.0 (±3.6) and in the reassessment it was 14.4 (±4.5), where higher scores demonstrate a more positive GI. Furthermore, the participants' SF had an average of 25.5 (±6.6) in the evaluation and 19.5 (±12.4) in the reevaluation, through the total score of the FSFI questionnaire, in which lower scores represent worsening from SF. In other words, from the second to the third gestational trimester, pregnant women indicated a worsening in GI and SF, except for the desire and lubrication domains. Half of the pregnant women (n=5) showed signs of sexual disfuction in the evaluation and 80% (n=8) in the reevaluation. The domains with the worst indicators were desire and orgasm. **Conclusion:** SF and GI showed significant worsening throughout the pregnancy cycle of pregnant women participating in this study.

Keywords: Female genitalia; physiological sexual dysfunctions; pregnancy.

Corresponding author: Gesilani Júlia da Silva Honório
E-mail: gesilani.honorio@udesc.br

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BACKGROUND

The gestational period can be considered a unique situation in a woman's life, generating physiological, psychological, social, and cultural changes. Physiological changes are of fundamental importance, as they aim to provide conditions for adequate fetal growth and development in balance with the maternal body. However, some changes can significantly impact the pregnant woman's daily life, generating changes in sexual function (SF) or in the perception of genital image (GI)[1].

The hormonal changes caused by pregnancy involve the female genitalia, altering blood circulation, color, lubrication, the texture of the mucosa, and, finally, the shape of the vaginal canal[2]. Thus, during pregnancy, due to the various changes that occur, such as in body shape and weight, female GI, that is, the woman's perception of her genital organ, can also be modified[3].

GI is closely linked to SF, with women with an adverse GI tending to develop sexual dysfunction (SD), and a positive GI favors its prevention[4]. Sexuality, during this period, is commonly affected by natural changes during the pregnancy cycle, such as decreased physical energy, orthopedic discomfort, hormonal changes, adjustment to new social roles, and humoral changes[5]. Based on this context, throughout the entire pregnancy, fluctuations in the domains related to female SF can be observed[6].

The changes throughout pregnancy are among the most pronounced that the female body can undergo. Therefore, perceptions related to GI and SF must be shared and known by health professionals from the beginning until the last trimester of pregnancy. Gestation[7]. Research on this topic will help women, family members, and professionals to understand this process and assist in monitoring it during all stages of pregnancy. Therefore, the present study aimed to compare GI and SF in pregnancy's second and third trimester.

METHODS

This is a longitudinal study, with a quantitative approach, being carried out after approval by the Ethics Committee on Research with Human Beings of the Santa Catarina State Universtity (UDESC), approval under opinion nº 4.665.181, CAAE 44056721.0.0000.0118.

The sample consisted of 10 pregnant women. The following inclusion criteria were adopted: age between 18 and 50, up to two previous births, and being in the second trimester of pregnancy. Pregnant women with self-reported high-risk pregnancies were adopted as an exclusion criterion.

Due to the COVID-19 pandemic, participants were recruited via social media through a network of friends in Whatsapp®, Instagram® and Facebook® groups. The research was disseminated through a digital folder containing a description of the target population, research objectives, and researchers' contact details.

Upon contact, the research objectives were explained to the participant, and the link to the Free and Informed Consent Form was provided via email or Whatsapp®, whichever the participant preferred. Only after the participant's consent and acceptance were the following questionnaires released: sociodemographic, Female Genital Self-Image Scale (FGSIS), and Female Sexual Function Index (FSFI). The instruments were sent in the second (evaluation) and third (reevaluation) gestational trimesters. The assessments took around 10 minutes to complete.

The sociodemographic questionnaire aimed to collect personal data covering characteristics such as age, self-reported skin color, gestational age, number of pregnancies, number of vaginal and cesarean births, number of abortions, marital status, whether they were in an affective relationship, orientation, gender, education level, and economic classification. The authors themselves constructed this instrument.

The FGSIS questionnaire was applied regarding GI, which evaluates the domains of odor, appearance, and genital function. This questionnaire consists of seven statements with four answer options scored from 4 to 1 - in descending order (strongly agree, agree, disagree, strongly disagree). The total score ranges from 7 to 28, where higher scores demonstrate a more positive GI[8-10].

To assess SF, the FSFI questionnaire was used, which proposes to evaluate female sexual response in six domains: desire, excitement, lubrication, orgasm, satisfaction, and pain. To do this, 19 questions evaluate SF in the last four weeks. For each question, there is an answer pattern whose options receive scores from 0 to 5, increasing the presence of the function questioned. Only in questions about the pain is the score defined as inverted. The total score is the result of the sum of the scores for each domain multiplied by a factor that homogenizes the influence of each domain on the total score. The cutoff point for the total score is 26.55, and for the domains, the cutoff points are desire: 4.28; excitement 5.08; lubrication 5.45; orgasm: 5.05; satisfaction: 5.04; and pain: 5.51, with values equal to or below this point indicating SD[11].

The evaluation results were transcribed into a table in Microsoft Excel, and each participant was registered according to a coding number. The IBM SPSS program, version 20.0, was used to analyze the data. Quantitative variables were analyzed descriptively using simple frequencies and percentages (categorical variables) and mean and standard deviation (numeric variables). The Shapiro-Wilk test was performed to check the data distribution (normality). To compare the values of the scores obtained related to GI and SF, the Wilcoxon test was used, with a significance level of 5%.

RESULTS

Data were collected from 10 pregnant women who answered the questionnaires at two stages, in the second and third trimester of pregnancy. They had a mean age of 32.5 (±6.81) years, with a gestational age of 18.5 (±4.08) weeks at assessment and 32.5 (±3.83) at reassessment.

According to sociodemographic data, the majority of women were multiparous, and all declared themselves white. Furthermore, most participants were single, all of whom had a romantic relationship and were heterosexual. Regarding socioeconomic strata, pregnant women fell more into class D, and more than half had completed higher education (Table 1).

Table 1. Descriptive values related to sociodemographic and gestational variables

Variables	**Average**	**(± sd)**
Age (Years)	32,5	6,81
Gestational age (weeks) - ASSESSMENT	18,5	4,08
Gestational age (weeks) - REASSESSMENT	32,5	3,83
Variables	**n = 10**	
Number of pregnancies (n)		
First	4	
Second	6	
Number of previous cesarean deliveries (n)		
None	7	
A previous cesarean birth	3	

Number of previous vaginal births (n)	
None	8
A previous normal birth	2
Skin color (n)	
White	10
Number of abortions (n)	
None	9
Abortion	1
Maritals (n)	
Married	1
Single	9
Have an affective relationship (n)	
Yes	10
No	0
Sexual orientation (n)	
Heterosexual	10
Education (n)	
Incomplete high school	0
Complete high school	3
Incomplete higher education	1
Complete higher education	6
Economic classification (n)	
Up to 4 minimum wages	6
In addition to 4 minimum wages	4

Notes*: sd = standard deviation; n = absolute number.

Table 2 shows the sample's GI and SF scores. Regarding the GI assessment, the average score on the FGSIS questionnaire for pregnant women was 22 (±3.6), and in the reassessment, it was 14.4 (±4.5), where higher scores demonstrate a more positive GI. Furthermore, regarding SF, the participants had an average of 25.5 (±6.6) in the evaluation and 19.5 (±12.4) in the reevaluation of the total score of the FSFI questionnaire.

In comparisons between the different gestational trimesters, there were significant results on the FGSIS and FSFI scales; that is, from the second to the third gestational trimester, pregnant women indicated a worsening of GI and SF, except for the desire and lubrication domains.

Table 2. Comparison of GI and FS assessment and reassessment scores

Scale (n=10)	**Average (± sd) EVALUATION**	**Average (± sd) REVALUATION**	***P***
FGSIS	22 (±3,6)	14,4 (±4,5)	0,005*
Total FSFI	25,5 (±6,62)	19,5 (±12,4)	0,027*
FSFI Desire Domain	3,1 (±1,4)	2,8 (±1,5)	0,197
FSFI Excitement Domain	4,0 (±1,7)	2,7 (±2,2)	0,050*
FSFI Lubrication Domain	4,7 (±1,2)	3,5 (±2,6)	0,110
FSFI Orgasm Domain	4,2 (±0,8)	2,6 (±2,0)	0,016*
FSFI Satisfaction Domain	4,7 (±1,3)	2,8 (±2,4)	0,004*
FSFI Pain Domain	5,1 (±1,5)	3,6 (±2,6)	0,031*

Notes*: sd = standard deviation; sd = standard deviation; * Wilcoxon test ($p \leqslant 0.05$).

Table 3 shows the number of women who presented signs of SD by domain and according to the total FSFI score. Regarding reassessment, an increase in the number of women with signs of SD was highlighted in all domains and according to the total score.

Table 3. Sexual disfunction by domain and total in the assessment and reassessment

Scale (n=10)	**Women with SD indicator (n) EVALUATION**	**Women with SD indicator (n) REVALUATION**
FSFI Total	5	8
FSFI Desire Domain	8	9
FSFI Excitement Domain	5	8
FSFI Lubrication Domain	6	7
FSFI Orgasm Domain	8	9
FSFI Satisfaction Domain	5	8
FSFI Pain Domain	3	6

Notes*: FSFI = Female Sexual Function Index.

DISCUSION

The central premise of the present study was to compare the GI and SF of pregnant women in the second and third trimesters of pregnancy. It was observed that there was a worsening of GI during the third trimester of pregnancy when compared to the second, as well as a more significant impairment of SF, specifically in the domains of excitement, orgasm, satisfaction, and pain.

Regarding SF, there were significant reductions in all domains except desire and lubrication. It can be considered that pregnancy is a phase in which significant physiological and physical changes occur, such as increased body weight and of the breasts, skin hyperpigmentation, postural changes, and the appearance of varicose veins and stretch marks[12].

In addition to these bodily changes, the female genitalia can change, such as local blood circulation due to stagnation, hyper coloration of the region, decreased lubrication, edema, and, finally, granulation of the mucosa's texture, which can influence in the SF condition[13].

The indisposition and drowsiness that pregnant women experience at the beginning of pregnancy, intensifying throughout the trimesters, can reduce arousal, consequently influencing the decrease in other domains related to SF[14]. For women, affection, care, and mutual respect influence sexual relations[6]. During pregnancy, women become emotionally labile and even more eager for affection, support, and understanding, especially as they approach the end of pregnancy. In addition, the more pronounced bodily changes in the third trimester and anxiety about childbirth and motherhood can influence the female sexual response, which may justify the significant reduction in SF related to the domains of excitement, satisfaction, and orgasm[15].

About the pain domain, the reduction in the score in the third trimester of pregnancy, indicating a worsening of this condition, can be explained by the fact that in this period, women are more vulnerable, presenting more significant irritability resulting from preparatory uterine contractions, discomfort in positions sexual relations, subjective perception of lack of physical attractiveness or, even, the perception of decreased satisfaction on the part of the partner[16].

In the present study, it was noticed that there was a significant reduction in SF in the third trimester, which was concomitant with a substantial decrease in the score related to GI, indicating a more negative perception in this trimester. A possible justification could be about the period in which they were evaluated. In the second trimester, where physical and emotional changes are not yet as pronounced, women may appear more confident and secure in their feelings, understanding the changes that occur. , so far, about your body and your genitals, which influences your sexual experiences, as well as a more positive perception[17].

According to the FSFI cutoff point for SD, 50% of the participants showed signs of SD in the assessment, with an increase in the signs of SD for 80% of participants in the third trimester. SF is understood as multifactorial, and the physical transformations brought about by pregnancy, more pronounced in the last trimester, must be considered, as well as the increase in anxiety and intense emotional involvement with the baby, which is reflected in concerns regarding their well-being. During childbirth and postpartum[18].

In addition to the increase in the frequency of women indicating SD according to the total score, this indication increased in all domains, mainly in the domains of excitement, satisfaction, and pain.

The high prevalence of SD in the third trimester of pregnancy can be explained by the physical and emotional changes typical of this gestational period, which can make it difficult to stimulate erogenous zones adequately, as well as being associated with marital conflicts, lack of attraction for the partner, anxiety about the well-being being fetal and fatigue. General emotional well-being and the feeling of closeness to the partner during pregnancy appear to be predictors of sexual problems during this phase of the female sexual cycle[19,20].

SD can negatively affect a pregnant woman's health and quality of life, which can result in personal suffering for the couple and the family. Therefore, it is up to health professionals to develop an open approach to sexuality during pregnancy through health education, individually and collectively. In this sense, groups of pregnant women become spaces for prevention and health promotion, as they allow women to be actively included in the process of exchanging experiences and different knowledge with the other members of the group and with the healthcare professional heath.

As a limitation of the study, it can be noted that the data were based on self-administered and online questionnaires, and there may be memory bias and exhaustion in filling out forms that occurred in the context of the Covid-19 pandemic. This issue may also be the reason for the small number of participants.

CONCLUSION

Based on the study's objective, it was identified that SF and GI showed significant worsening throughout the pregnancy cycle of pregnant women participating in this study. Concerning domains, the majority, with the except desire and lubrification domain, showed a substantial reduction in the third trimester. Half of the pregnant women had an indication of SD in the evaluation and the majority of participants in the reevaluation. The domains that showed the most significant increase in the indication of SD were excitement, satisfaction, and pain. Given this, it is suggested that health professionals and the scientific community explore these variables in clinical practice to deepen concepts related to health education, helping women's self-knowledge and well-being. It is also suggested that more longitudinal studies be carried out, with a more significant number of assessments throughout pregnancy, to verify changes in satisfaction with GI and SF as the pregnancy progresses. Furthermore, more research in the area of sexual health related to female GI and other variables offers health professionals relevant knowledge for clinical investigation.

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