

## ORIGINAL RESEARCH

## Does Pregnancy Play a Role? Association of Body Dissatisfaction, Body Appearance Cognitive Distraction, and Sexual Distress

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### ABSTRACT

**Introduction:** Pregnancy is characterized by physical, hormonal, and psychological changes that can affect women's sexuality, and, for those who are in a dyadic relationship, it also affects the couple's sexual relationship. On the other hand, the pregnancy state can function as a protective factor for body dissatisfaction as women embrace a new phase of the life cycle when body changes, namely more body volume, are expected.

**Aim:** To examine whether the effect of body dissatisfaction on sexual distress is mediated by cognitive distraction with the appearance of the body and to test a moderated mediation model of the impact of body dissatisfaction on sexual distress, with pregnancy used as the moderating factor.

**Methods:** In this cross-sectional study, 87 cisgender heterosexual women (50.6% pregnant;  $n = 44$ ), aged between 25 and 40 years old (mean = 31.93; SD = 3.46) involved in an exclusive and committed dyadic relationship completed a web-based questionnaire.

**Main Outcome Measures:** Validated measures consisted of a validated general measure of body dissatisfaction (global body dissatisfaction scale), sexual distress (adapted from the National Survey of Sexual Attitudes and Lifestyles), and cognitive distraction based on body appearance during sexual activity (body appearance cognitive distraction scale).

**Results:** Results indicated that body dissatisfaction and sexual distress are related, but they are fully mediated by cognitive distraction. The mediation effect of cognitive distraction did not differ significantly by pregnancy status, after controlling for the trimester of pregnancy.

**Clinical Implications:** This study advances our understanding of sexuality during pregnancy by evaluating sexual distress and establishing that it is a clinically relevant variable related to body dissatisfaction that deserves attention from healthcare providers.

**Strength & Limitations:** This preliminary study uses a robust method of data analysis to test a theory-based cognitive model of sexual distress in pregnant women; however, no causality can be established.

**Conclusion:** The data highlights that pregnancy may not be a protective factor for the impact of body dissatisfaction on sexual distress. **Pascoal PM, Rosa PJ, Coelho S. Does Pregnancy Play a Role? Association of Body Dissatisfaction, Body Appearance Cognitive Distraction, and Sexual Distress. J Sex Med 2019;XX:XXX–XXX.**

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**Key Words:** Sexual Distress; Body Dissatisfaction; Pregnancy; Cognitive Distraction; Moderated Mediation

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### INTRODUCTION

Body image is a multidimensional component of people's lives, and its dimensions, specifically body dissatisfaction and body appearance beliefs, are strongly related to women's sexuality, namely with sexual functioning and distress.<sup>1,2</sup> In line with current cognitive models of sexual response, this impact is partially explained by the mediating role of the cognitive process of body appearance cognitive distraction during sexual activity. The extent to which a mediation model that links body image dimensions (namely body dissatisfaction) to sexual outcomes (namely sexual distress about sexual functioning) is applicable to specific

populations whose image change, such as pregnant women, is yet to be examined. This article aims to fulfil this gap in the existing research.

## Body Image and Sexuality

Body image is a multidimensional construct, involving emotional, cognitive, and behavioral components.<sup>3</sup> Being satisfied with one's body image is associated with a more pleasurable and satisfying sex life.<sup>4</sup> On the other hand, in a systematic review by Woertman and van den Brink,<sup>5</sup> of the various studies on body image and sexual functioning of women, the findings indicate that negative body image may negatively affect several domains of female sexual functioning (eg, arousal, orgasm, pleasure), establishing that concerns about body image have a negative impact on sexual response.

Our review of the literature shows that research on body dissatisfaction has neglected an important component to the understanding of sexual functioning and dysfunction: sexual distress. Sexual distress is a core aspect of sexual health and, more precisely, a necessary condition for the diagnosis of a sexual dysfunction. Therefore, a complete clinical understanding of the role of body dissatisfaction as a predictor of sexual dysfunction necessarily needs to consider the amount of sexual distress experienced and associated with the different complaints related to sexual functioning.<sup>6</sup>

## Body Image During Pregnancy

Pregnancy is characterized by physical, hormonal, and psychological changes that can affect women's sexuality. During pregnancy, women experience significant fluctuations in their appearance, such as increased body volume, increased breast and hip size, and changes in skin condition, hair, and nails.<sup>7</sup>

Whereas body changes are to be expected during pregnancy, the extent to which women adapt to them positively, or alternatively become dissatisfied and concerned about these body changes, is not yet clear in the literature and remains an area to be explored.<sup>8,9</sup> Given that many young women have body image concerns, it is possible that pregnancy might trigger additional body image concerns.<sup>8</sup> More precisely, a study by Skouteris et al<sup>10</sup> reported that the end of pregnancy was associated with greater dissatisfaction with body image. However, many pregnant women embrace the physical changes that occur as part of the process of becoming mothers, taking the opportunity to break free of the beauty standards, recognizing that changes in their size and body weight positively reflect the baby's intra-uterine development.<sup>11</sup> Duncombe and colleagues<sup>8</sup> reported that satisfaction with body image was generally stable during the course of pregnancy and, although participants in late pregnancy would rather have a smaller stomach, they did not feel as fat as in early pregnancy. These contradictory results suggest that women may experience either dissatisfaction or positive emotions about their body image during the perinatal period, an aspect that needs clarification.

In terms of sexual functioning, recent studies point out that there are changes in sexual function, but not sexual satisfaction, throughout pregnancy, raising the possibility that the changes in sexual function may not translate into clinical significance.<sup>12</sup> This possibility is contradictory with other research that has highlighted that sexual distress is common during pregnancy and is associated with lower sexual and relationship satisfaction.<sup>13</sup> This disparity in results may be explained by the lack of longitudinal studies that compare paired samples of pregnant and non-pregnant women in the variables of interest and by the difference in the measures used.

## Cognitive Distraction During Sexual Activity

One of the first areas of investigation of the role of cognitive variables on sexual response were the studies into the role of cognitive distraction in sexual functioning based on cognitive psychology.<sup>14</sup> The concept of cognitive distraction during sexual activity goes back to the studies performed by Masters and Johnson's construct of *spectatoring*. By observing and monitoring one's behavior during sexual activity, one distracts oneself from the sexual sensations and cues.<sup>15,16</sup> Concerns about body appearance have consistently been found to be a source of cognitive distraction.<sup>10</sup>

2 recent studies indicate that overall body dissatisfaction and dissatisfaction with specific body parts (eg, belly) are strong predictors of cognitive distraction with body appearance during sexual activity both in the general community and in clinical samples of men and women diagnosed with a sexual dysfunction.<sup>17,18</sup> These results have been complemented by research using mediation models that have clearly established that the link between body image dimensions and sexual functioning, along with distress, are explained by body appearance cognitive distraction during sexual activity.<sup>1,2</sup> Considering the strong focus that is placed on women's bodies during pregnancy, it is expected that pregnant women are more prone to focus on their image during sexual activity. This focus may make pregnant women more vulnerable to the development of sexual distress.

## Aim of the Current Study

A recent review of the research in this field has called for more complex studies to better determine the factors that influence the link between pregnancy and sexual health.<sup>19</sup> We believe the current study may help to achieve this goal by examining a mediation model, based on existing findings anchored in the cognitive theory of sexual dysfunction previously discussed, that explains sexual distress by focusing on body dissatisfaction in pregnant and non-pregnant women.

Considering the existing gaps and flaws in the previous research concerning body dissatisfaction, body appearance cognitive distraction, and sexual distress in pregnant women, we aimed to compare a sample of pregnant and non-pregnant women to establish whether pregnant women have lower, equal, or higher levels of body dissatisfaction, body appearance cognitive distraction during sexual activity, and sexual distress about their sexual function compared with non-pregnant women.

Furthermore, in the present study, we intended to investigate to what extent the existing mediation models that explain the link between body dissatisfaction and sexual distress apply to pregnant and non-pregnant women and to what extent the pregnancy could moderate the indirect effect of body dissatisfaction on sexual distress through cognitive distraction based on body appearance. In line with our review of the literature, the following research questions and hypotheses were proposed:

## Research Question

### RQ1

Do Body Dissatisfaction, Cognitive Distraction, And Sexual Distress Scores Differ Between Non-Pregnant And Pregnant Women?

## Hypothesis

### H1

Body Dissatisfaction, Cognitive Distraction, And Sexual Distress Are Positively Associated.

### H2

The Effect Of Body Dissatisfaction On Sexual Distress Is Mediated By Cognitive Distraction.

### H3

The Mediation Effect Between Body Dissatisfaction And Sexual Distress Through Cognitive Distraction Is Moderated By Pregnancy Status (Existent vs Non-Existent).

The proposed mediation model was grounded on the existing knowledge derived from the cognitive models of sexual dysfunction previously described. The results will help to guide clinicians to assess and intervene in body dissatisfaction and sexual distress in pregnant women.

## METHOD

### Participants

Participants included 87 women from the general Portuguese population (50.6% non-pregnant [ $n = 44$ ] and 49.4% pregnant [ $n = 43$ ]). Ages ranged from 25–40 years (mean = 31.93, SD = 3.45). All were heterosexual and were involved in an exclusive and committed dyadic relationship (55.2% married [ $n = 48$ ] and 44.8% living together [ $n = 39$ ]). In terms of education, most participants reported a bachelor's/master's degree (90.8%;  $n = 79$ ), 5.9% reported a doctorate degree ( $n = 5$ ), and only 3% reported that the highest degree that they completed was high school ( $n = 3$ ).

### Measures/Instruments

Predictor: Global Body Dissatisfaction Scale (GBDS)

The GBDS is a general measure of body dissatisfaction, a subscale of the Body Attitudes Test, that assesses the frequency of negative

perceptions, behaviors, and feelings that subjects rate on a 6-point Likert scale (ranging from 1 = never–6 = always). Total scores range from 4–24 points, meaning the higher scores indicate higher levels of body dissatisfaction. In a Portuguese sample, this measure showed high reliability and validity with  $\alpha = .82$ .<sup>18</sup> In the current study, the GBDS showed reasonable reliability ( $\alpha = .82$  in the non-pregnant sample, and  $\alpha = .73$  in the pregnant sample).

### Mediator

Body Appearance Cognitive Distraction Scale (BACDS)

The BACDS is a subscale of the Cognitive Distraction Scale developed by Dove and Wiederman,<sup>20</sup> consisting of 10 items that evaluate the frequency of cognitive distraction based on body appearance during sexual activity (eg, “During sexual activity, I am worried about how my body looks to my partner.”). Participants rate their responses on a 6-point Likert scale (varies from 1 = never–6 = always). Total scores range from 10–60, with higher scores indicating higher levels of cognitive distraction centered on body appearance during sexual involvement. The original study of the BACDS presented excellent reliability (Cronbach's  $\alpha = .95$ ), and it has shown good reliability in different Portuguese studies (Cronbach's  $\alpha > .80$ ).<sup>17,21</sup> In this study, the scale showed good reliability (Cronbach's  $\alpha = .92$ ) for both pregnant and non-pregnant women.

### Outcome

Sexual Distress

We measured sexual distress with a set of questions based on 8 items used previously in the National Survey of Sexual Attitudes and Lifestyles<sup>22</sup> to assess the presence of sexual problems. Participants were asked how distressed they were with each of the following problems lasting  $\geq 3$  months: (1) lack of interest in sex, (2) lack of enjoyment in sex, (3) anxiety during sex, (4) physical pain as a result of sex, (5) no excitement or arousal during sex, (6) did not reach a climax (experience an orgasm) or took a long time to reach a climax despite feeling excited/aroused, (7) reached a climax (experienced an orgasm) more quickly than you would like, and (8) had an uncomfortably dry vagina on a 6-point Likert scale (0 = Not having any sexual difficulty/ no distress; 1 = Slightly distressful; 2 = Mildly distressful; 3 = Moderately distressful; 4 = “Quite distressful; 5 = Extremely distressful). Scores ranged between 0–40, with higher scores indicating higher sexual distress. In the current study, the set of items considered together presented acceptable reliability (Cronbach's  $\alpha = .71$  for pregnant women and Cronbach's  $\alpha = .76$  for non-pregnant women). In the present sample, 52.9% of women ( $n = 46$ ) reported some level of distress with  $\geq 1$  of the problems listed in the current study.

### Procedure

The current article uses data collected within a larger project aimed to assess correlates of sexual outcomes of partnered, cis-gender, heterosexual people involved in a committed exclusive relationship. The study received deontological positive appraisal

by the institution's institutional review board. The survey was set up by a software engineer and installed in a secure server hosted by the department, and it was launched online and advertised through social networks, stating that participants had to meet the following criteria: above the age of consent (ie, 18 years old); involved in a relationship; having no illness/medical condition (eg, diabetes); not be taking any medication (eg, pill); not having any perception or diagnosis of a psychological or emotional problem (eg, anxiety, depression/sadness); involved in a dyadic heterosexual relationship; and a native speaker of Portuguese. Participants read the informed consent (with information concerning anonymity, research team members, lack of financial compensation, and funding) before completing the questionnaire. There were no mandatory questions, except for age, and the questionnaire was available for 4 months. On average, participants took 30 minutes to complete the survey, and the drop-out rate, defined as the amount of people who gave informed consent but did not finish the questionnaire, was about 40%.

## Data Analysis

Before studying the research question and testing our hypotheses, we examined the central tendency and dispersion measures concerning the main variables of interest. Regarding our research question, independent sample *t*-tests were performed to examine potential differences in body dissatisfaction, cognitive distraction, and sexual distress scale scores between pregnant and non-pregnant women. We also assessed the number of previous children the participants had and the trimester of pregnancy as potential confounding variables. Second, the Pearson product moment correlation coefficient was used to determine how body dissatisfaction, cognitive distraction, and sexual distress were related. We also examined the correlation index of the outcome variable and a potential confounder—the trimester of pregnancy. Next, a mediation model was used to determine whether the effect of body dissatisfaction on sexual distress is mediated by cognitive distraction with the appearance of the body, using the total sample (pregnant and non-pregnant women). The size of the indirect effect was assessed following the criteria of Preacher and Kelley<sup>23</sup>: small (0.01), medium (0.09), and large (0.25). Subsequently, to examine the moderating role of pregnancy state (ie, non-pregnant vs pregnant) on the mediational pathway from body dissatisfaction on sexual distress through cognitive distraction based on body appearance, a moderated mediation model was tested. The index of moderated mediation (IMM) was used to test the equality of the conditional indirect effects between pregnant and non-pregnant women.<sup>24</sup> The trimester of pregnancy was included in the mediation model and in the moderated mediation model as a covariate. The simple mediation analysis and moderated mediation analysis were conducted with model 4 and model 59 in PROCESS Macro (version 2.16) developed by Hayes,<sup>24</sup> respectively. The HC1 estimator, using heteroscedasticity-consistent standard error estimators, was applied because it improves estimation performance due to the correction for high leverage points in small samples.<sup>24</sup> In mediational analyses, the indirect effect (simple mediation) and

**Table 1.** Descriptive statistics for main variables of interest

Body dissatisfaction (n = 87), median (IQR)	13.0 (6.0)
Cognitive distraction (n = 87), median(IQR)	6.0 (4.0)
Sexual distress (n = 87), median (IQR)	2.0 (6.0)
Number of previous children (n = 87)	
0	50 (58.1%)
1	28 (32.6%)
2	8 (9.3%)
Pregnancy trimester (n = 39)	
First	9 (23.1%)
Second	20 (51.3%)
Third	10 (25.6%)

IQR = interquartile range.

the conditional indirect effects (moderated mediation) were calculated using a bias-corrected (BC) 95% CI with 10,000 bootstrap samples. The bootstrap method was chosen because it is considered a more accurate method of estimating standard errors and CIs.<sup>25</sup> Since 10,000 samples were generated, it is very unlikely that it will have statistical power issues as referred to by Preacher et al.<sup>26</sup> Prior to simple mediation and moderated mediation analyses, all scale scores were Z-transformed to report standardized beta coefficients. All CIs that excluded 0 were considered significant.<sup>24</sup> To test all the hypotheses, a level of significance of  $P = .05$  was applied. The statistical analysis was performed in SPSS v.23 (SPSS Inc, Chicago, IL, USA).

## RESULTS

Descriptive statistics for quantitative variables (medians and interquartile ranges), and qualitative variables (frequency and percentage) are presented in [Table 1](#). Our research question enquired about differences in the scores of body dissatisfaction, cognitive distraction, and sexual distress between pregnant and non-pregnant women. As shown in [Table 2](#), *t*-tests indicated statistically non-significant results. As a potential covariate, the number of previous children did not differ between pregnant and non-pregnant women; thus, it was not included in the mediation and moderated mediation statistical models.

In hypothesis 1, it was expected that there would be positive associations between body dissatisfaction, cognitive distraction, and sexual distress. The results support this hypothesis as shown

**Table 2.** Mean, SD, and *t*-tests between non-pregnant and pregnant for the main variables

	Non-pregnant		Pregnant		<i>t</i> -test	<i>P</i> value
	Mean	SD	Mean	SD		
Body dissatisfaction	6.2	3.1	6.1	2.8	0.25	.54
Cognitive distraction	14.2	4.9	15.4	6.6	-0.98	.80
Sexual distress	3.6	5.6	4.4	6.1	-0.62	.33
No. of previous children	0.4	0.6	0.6	0.7	-1.47	.14

**Table 3.** Pearson correlation coefficients between main variables

	Total sample (N = 87)	Pregnant state		First trimester (n = 9)	Second trimester (n = 20)	Third trimester (n = 10)
		No (n =44)	Yes (n = 43)			
BD - CD	0.45*	0.41 <sup>†</sup>	0.50 <sup>†</sup>	0.52	0.52 <sup>‡</sup>	0.51
BD - SD	0.45*	0.20	0.59*	0.53	0.59 <sup>†</sup>	0.35
CD - SD	0.25 <sup>‡</sup>	0.14	0.36 <sup>‡</sup>	0.40	0.29	0.37

BD = body dissatisfaction; CD = cognitive distraction; SD = sexual distress.

\* $P < .001$ .

<sup>†</sup> $P < .01$ .

<sup>‡</sup> $P < .05$ .

in Table 3. In pregnant women, the main variables showed a similar correlation pattern to the total sample.

However, in non-pregnant women, only body dissatisfaction is significantly associated with cognitive distraction, suggesting a potential moderating role of pregnancy status. Furthermore, when analyzing the correlation patterns between variables of interest as a function of the trimester of pregnancy, the strength of associations and its statistical significance differ across trimesters. Based on this finding, to avoid confounding effects, the trimester of pregnancy was included in the moderated mediation statistical model as a covariate.

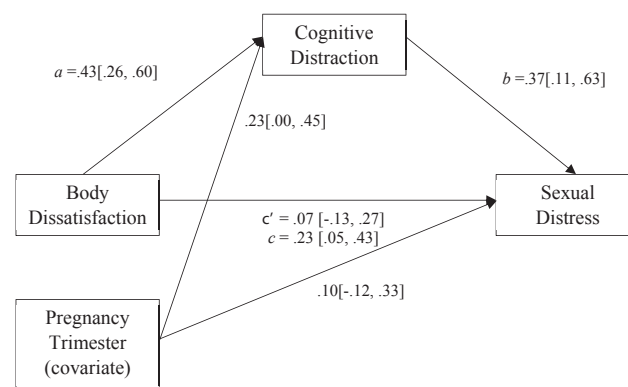
Regarding our second hypothesis, the results with the whole sample (pregnant and non-pregnant women) revealed a positive significant total effect ( $c$ ) of body dissatisfaction on sexual distress ( $c = 0.23$  [0.05, 0.43]) when the effect of trimester of pregnancy was controlled. A non-significant direct effect ( $c'$ ) of body dissatisfaction on sexual functioning was found ( $c' = 0.07$ ; 95% CI [-0.13, 0.27]) after controlling for the effect of trimester of pregnancy, revealing a full mediation effect for body dissatisfaction on sexual distress via cognitive distraction. ( $ab = 0.16$ ; 95% CI [0.02, 0.31]). The BC 95% IC did not contain 0, indicating a significant indirect effect ( $ab$ ) of body dissatisfaction on sexual distress by cognitive distraction, thus supporting our hypothesis. The size of the indirect effect was medium (Figure 1).

Concerning the potential moderating role of the pregnancy state, the results showed that there were no interactions of pregnancy status at the  $a$ - and  $b$ -paths in the model ([ $a$ ] body dissatisfaction on sexual distress; [ $b$ ] cognitive distraction on sexual distress), as shown in Table 4. The conditional indirect effect of cognitive distraction was significant for pregnant women ( $\beta = 0.22$ , Boot standard error [SE] = 0.11, BC 95% CI [0.01, 0.42]); however, it was non-significant for non-pregnant women ( $\beta = 0.07$ , Boot SE = 0.09, BC 95% CI [-0.12, 0.25]). The IMM indicated equivalent conditional indirect effects between pregnant and non-pregnant women, after controlling for the effect of the trimester of pregnancy (IMM = 0.15, Boot SE = 0.14, BC 95% CI [-0.13, 0.42]).

## DISCUSSION

The current study set out to test an existing mediation model that explains the effect of body dissatisfaction on sexual distress

through body appearance cognitive distraction in a sample of pregnant and non-pregnant women. The comparison of the 2 groups of women revealed that there were no differences regarding body dissatisfaction and body appearance cognitive distraction during sexual activity. This result is consistent with previous research by Duncombe and colleagues<sup>8</sup> that reported that satisfaction with body image was generally stable during the course of pregnancy and with researchers who have argued that many pregnant women embrace the physical changes that occur as part of the process of becoming mothers, seizing the opportunity to break free of the patterns of beauty, recognizing that changes in size and body weight positively reflect the baby's development.<sup>11</sup> Furthermore, our results also demonstrate that the group of pregnant and non-pregnant women do not differ in terms of sexual distress. This result seems to indicate that pregnancy does not soften or neutralize sexual problems, and these are equally expressive in pregnant and non-pregnant women. Our result seems to be in line with other research<sup>13</sup> that has shown that sexual distress is common during pregnancy and that 42% of pregnant and 40% of non-pregnant women met the clinical cutoff score for sexual distress based on the female sexual distress scale.



**Figure 1.** Standardized regression coefficients and 95% CI for regression coefficients for the relationship body dissatisfaction and sexual distress as mediated by cognitive distraction after controlling the effect of semester of pregnancy.  $c$  = the total effect of body dissatisfaction on sexual distress [ie, direct effect ( $c'$ ) + indirect effect ( $ab$ )].

**Table 4.** Results from the moderated mediation analysis controlling the effect of the trimester of pregnancy

	Mediation model (cognitive distraction)		Dependent model (sexual distress)	
	$\beta$	SE	$\beta$	SE
Constant	-0.38 [-0.65, -0.11]	0.14	-0.21 [-0.56, 0.14]	0.18
Cognitive distraction	—	—	0.31 [0.03, 0.60]	0.35
Body dissatisfaction	0.41 [0.25, 0.58]	0.08	0.07 [-0.13, 0.27]	0.10
Pregnancy status	-.54 [-1.07, 0.01]	0.27	-.32 [-1.03, 0.38]	.35
Trimester of pregnancy	0.42 [0.08, 0.76]	0.17	0.21 [-0.21, 0.63]	.21
Body dissatisfaction $\times$ Pregnancy status	0.17 [-0.16, 0.50]	0.17	0.02 [-0.39, 0.42]	0.20
Cognitive distraction $\times$ Pregnancy status	—	—	0.24 [-0.33, 0.80]	0.28
$R^2$	.55		.48	

Values in brackets refer to lower and upper limits of the 95% CI.

The relationship among the variables in the group of pregnant women clearly demonstrates that the variables are positively associated. However, the magnitude of this association is stronger between the mediator (ie, body appearance cognitive distraction) and the outcome variable (ie, sexual distress). This result is consistent and supportive of cognitive models of sexual dysfunction, such as Nobre's cognitive-emotional model,<sup>27–31</sup> namely by demonstrating the association between cognitive distraction and distress. The association is strong between body dissatisfaction and cognitive distraction, a result consistent with results found in both community<sup>18</sup> and clinical samples.<sup>17</sup> The weaker magnitude found in the association of body dissatisfaction with sexual distress may be explained by the fact that sexual distress is determined by a multitude of different factors, such as psychological factors (eg, psychopathology), and relational variables (relationship well-being),<sup>32</sup> and, therefore, body dissatisfaction in itself plays less of a role in comparison with other factors. When comparing both path analysis models, we confirmed our hypothesis that appearance-based cognitive distraction mediated the effects of body dissatisfaction on distressing sexual difficulties in women, which is in line with other authors<sup>1,33</sup> who have previously stated that body appearance during sexual activity may substantially influence sexual function and distress among women.

Finally, our study established that the existing mediation model<sup>1,2</sup> that explains the link between body image variables and sexual dysfunction is also valuable for explaining pregnant women's sexual distress, even when controlling for the trimester. These preliminary results expand on the existing knowledge on cognitive models, showing its suitability for clinical work with pregnant women, for example, when assessing body concerns and sexual distress. Furthermore, the results seem to indicate that pregnancy state does not significantly moderate the indirect effect of body dissatisfaction on sexual distress through cognitive distraction based on body appearance, which is in line with the results found by other researchers.<sup>8,11,13</sup> This may be explained by the change in sexual practices during pregnancy (ie, women and their partners adopt new patterns of sexual behavior to encompass

the possible fluctuations in their sexual functioning) and the changes in the women's body appearance.<sup>34</sup> Further research into compensatory behaviors could help to clarify this hypothesis.

The current study presents several limitations, so the results have to be interpreted with caution. This is a cross-sectional study; therefore, we cannot establish causality. Nevertheless, it is based on an important frame for future longitudinal research in line with Salthouse's claim that "we should (...) resist universal rejection of analytical procedures that can be informative when their limitations are recognized."<sup>35</sup> Even though there was no violation of the assumptions for the analysis developed, this is a very small, non-representative sample of women, which seriously compromises the generalization of the results. Second, we did not assess women throughout pregnancy; therefore, the direction of the associations that were found was established theoretically, not methodologically. Furthermore, we did not control for important covariates, such as relationship satisfaction. The mean level of distress presented in our sample is low, which may be explained by the non-clinical nature of our sample and different findings could be achieved with a clinical sample. Finally, the measures used to assess body-related dimensions were designed for non-pregnant women, and we do not know whether more specific measures that grasp specificities of pregnant women's body dissatisfaction would yield different results. Future studies should overcome these limitations to better establish the role that body dissatisfaction has on explaining pregnant women's sexual distress across pregnancy.

Despite its limitations, this study is innovative, because it is the first to test a theory-based mediation model to explain pregnant women's sexual distress. The current results support that, even though bodily appearance changes throughout pregnancy do not translate into higher levels of body dissatisfaction, pregnancy does not protect women from the experience of body dissatisfaction, body appearance cognitive distraction, or from the experience of sexual distress. Furthermore, the study underscores the need for health professionals who interact with pregnant women not to dismiss the ongoing impact of body dissatisfaction on women's sexuality.

## CONCLUSION

The current results suggest that healthcare providers should ask pregnant women about feelings of sexual distress in the context of broader discussions of sexuality during pregnancy. Identifying women who experience sexual distress during pregnancy and referring them to appropriate resources may help to minimize sexual and relationship problems during pregnancy and the postpartum period. Furthermore, considering the role that body dissatisfaction has on sexual activity, namely on cognitive distraction during sexual activity, sex therapy that incorporates cognitive-behavioral techniques aimed at diminishing distraction and increasing the focus on erotic clues can reduce sexual distress among women with sexual dysfunction and may also be valuable for women experiencing sexual distress or other problems during pregnancy.<sup>36</sup>

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