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ORIGINAL ARTICLE

Fear-based reasons for not engaging in sexual activity during pregnancy: associations with sexual and relationship well-being

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ABSTRACT

Objective: Pregnant women consistently report fears that sexual activity could harm their pregnancy. Little is known, however, about the degree to which women report these fears as reasons for not having sex during pregnancy and whether these fears relate to women's well-being. The aims of this study were to assess the importance of women's fears of sexual activity harming the pregnancy in their decision not to engage in sex during pregnancy, and the associations between these fears and sexual and relationship well-being.

Methods: Pregnant women ($N = 261$) were recruited online to complete a survey that included a novel scale of fear-based reasons for not engaging in sexual activity during pregnancy and validated measures of sexual functioning, sexual satisfaction, sexual distress and relationship satisfaction.

Results: Over half of the women (58.6%) reported at least one fear as a reason for not engaging in sexual activity while pregnant, though total fear scores were low. Greater fear-based reasons for not having sex were associated with greater sexual distress but were unrelated to sexual functioning, sexual satisfaction and relationship satisfaction.

Conclusions: Women who reported higher rates of refraining from sex due to fear that it could harm their pregnancy reported greater sexual distress, but not lower sexual functioning or sexual and relationship satisfaction. Results suggest that interventions focused on minimizing fears of sexual activity during pregnancy may not be essential for promoting women's broader sexual and relationship well-being in pregnancy, but may help to reduce women's global feelings of worry and anxiety about their sexual relationship.

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Introduction

Many women experience significant changes to their sexuality and sexual relationship during pregnancy, including reduced sexual frequency, sexual functioning and sexual satisfaction [1–4]. Throughout pregnancy, up to 73% of women report difficulties with sexual functioning [2–4], up to 55% report decreased sexual satisfaction from prepregnancy [5,6], and as many as 42% report sexual distress (i.e. negative emotions relating to sexuality) [7]. Prenatal sexual declines may set the stage for postpartum sexual and relationship difficulties, which can be common, with 21–46% of parents reporting postpartum sexual and/or relationship problems or discontentment [8–10]. These difficulties may have negative consequences for the parent–child relationship and the child's socio-emotional development [11,12]. As such, it is important to understand the factors that contribute to sexual difficulties in pregnancy. Previous research has attributed decreases in sexual function and satisfaction to the physical and hormonal changes that women experience during this period (e.g. changes in physical appearance, nausea, fatigue) [2,4,13,14]. However, the beliefs that women hold regarding sex during pregnancy, and the changes they may make to their sexual behaviors as a result of these beliefs, may also play a role. The present study examined one common set of beliefs in pregnancy: not engaging in sexual activity due to fear that it could harm the pregnancy.

Fears that sexual activity could harm the pregnancy appear to be common. Although some studies [15,16] have found that up to 83% of women report such fears, the majority of studies, spanning several countries, find that approximately half (46–53%) of women report fears that sexual activity could harm the fetus

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or cause complications, such as bleeding, infection, miscarriage or preterm labor [4,5,17,18]. For most women, however, these fears are unwarranted, as sexual activity is safe in low-risk pregnancies (i.e. pregnancies without complications such as lower genital tract infection, bacterial vaginosis or placenta previa) [19–23]. Despite sexual activity being safe for the majority of pregnant women, many continue to report fears of harming the pregnancy as a reason for refraining from sex [2,24–28].

Prior studies examining women's fears of sexual activity harming the pregnancy are limited. Many studies include only a single question about women's concerns [15,17,28] and force a yes or no response [2,4,5,24]. Such studies may not accurately capture the importance of fears as a driving force behind women's sexual behaviors. For example, a woman who avoids sex once or twice due to a slight concern of harming her pregnancy would respond to a binary item the same way as a woman who completely abstains from sex due to an overwhelming fear of sex harming her pregnancy. Further, no studies have examined how fear-based reasons for not engaging in sexual activity relate to women's sexual and relationship well-being during pregnancy.

Women who limit sexual activity during pregnancy may be motivated by avoidance goals. Avoidance goals are motives that direct behavior away from a negative or undesirable event or end-state [29–31]. Fear-based reasons for not engaging in sexual activity are thus a type of avoidance goal as women are trying to prevent harm to their pregnancy. Avoidance goals are sensitive to situations that an individual is trying to control [31]. As such, avoidance goals may be particularly salient during pregnancy as it is a period when many women change their behavior to control and avoid risks to the pregnancy [2,24–28]. Stronger avoidance goals are related to negative outcomes across many domains including interpersonal relationships [31–33]. For example, in dating relationships, holding stronger avoidance goals for sex (e.g. pursuing sexual activity to avoid conflict with a partner) is associated with lower sexual functioning, sexual satisfaction and relationship satisfaction [34–36]. Although prior research has focused on avoidance goals for engaging in sexual activity, similar associations are expected for those who choose not to engage in sex for avoidance-based reasons, such as fear of harming the pregnancy.

The aims of the present study were to (1) describe the importance of fears that sexual activity could harm the pregnancy in women's decision not to have sex during pregnancy and (2) examine how fear-based reasons for not engaging in sexual activity relate to women's sexual functioning, sexual satisfaction, sexual distress and relationship satisfaction. We hypothesized that higher fear-based reasons for not engaging in sexual activity in pregnancy would be associated with lower sexual functioning, sexual satisfaction, and relationship satisfaction and higher sexual distress.

Method

Participants

In total, 261 women were included in the study. Eligible women were pregnant, aged eighteen or older, involved in a romantic relationship, residing in Canada or the United States, and fluent in English. Overall, 411 women provided consent to participate in the study. Of these, 111 withdrew before completing the survey and 39 were excluded for the following reasons: answered an "attention check" question incorrectly ($n = 20$), missed or inconsistently reported their due date ($n = 10$), described their data as "inaccurate" or "somewhat inaccurate" ($n = 5$), skipped more than 20% of a measure ($n = 2$) or showed a duplicate IP address ($n = 2$). Excluded participants did not differ from included participants on demographic variables. Participant characteristics are presented in Table 1. The majority of participants were Caucasian/White, heterosexual, married, residing in the United States and well-educated. The sample included nulliparous (51.3%) and primiparous/multiparous (48.7%) women in their first (16.5%), second (47.1%) and third (36.4%) trimesters.

Procedure

Participants were recruited through advertisements for a study on "sexuality and romantic relationships during pregnancy" placed in the community and on Facebook, Twitter, Reddit, and Kijiji. Women were screened for eligibility using a web-based form. Eligible participants completed a one-time survey. They provided consent and completed the measures described below. Upon completion, participants received resources on sexual health and pregnancy and were entered in a draw for one of five $25 gift cards. The study was approved by our institutional research ethics board as part of a larger study on sexuality in pregnancy.

Measures

Sociodemographics

Information on participants' sociodemographic characteristics (age, sexual orientation, education, income,

race/ethnicity), romantic relationship (status, length), sexual relationship (frequency of sexual intercourse), and pregnancy (gestation week, parity) were collected.

Fear-based reasons for not engaging in sexual activity during pregnancy

The Reasons For Not Engaging in Sexual Activity During Pregnancy (RFNS) scale was developed for the present study. Scale development was informed by previous studies [2,4,5,17,24] that reported on women's concerns or fears about sexual activity during pregnancy and/or their pregnancy-related reasons for refraining from sexual activity. Two experts in the field of perinatal sexuality and several junior scholars with expertise in sexuality provided feedback on potential items to ensure that the scale was comprehensive and easy to use. Pregnant women were asked to reflect on times when they decided not to engage in sexual activity (i.e. genital stimulation, oral sex, vaginal intercourse, anal intercourse) in the last four weeks, and to rate how important 10 fear-based reasons were in making that decision (Table 2). Items were rated on a seven-point Likert scale from 1 (*not at all important*) to 7 (*extremely important*). Scores could range from 10 to 70 with higher scores reflecting greater fear-based reasons for not engaging in sexual activity. An exploratory factor analysis confirmed a one-factor solution of the RFNS (Table 2). All 10 items loaded onto one factor at a value of 0.40 or greater, Bartlett's test of sphericity was significant ($p < 0.001$), and the Kaiser–Meyer–Olkin measure of sampling adequacy exhibited a high score (KMO = 0.84) [37–40]. A parallel analysis further confirmed the one factor solution, by comparing the observed eigenvalue (5.55) to a critical mean eigenvalue (1.34) and 95th percentile eigenvalue (1.43). These results provided evidence that it was appropriate to use the 10 fear-based reasons as a measure of women's total fear scores in the subsequent analyses. The RFNS scale demonstrated high internal consistency ($\alpha = 0.91$).

Table 1. Sample characteristics ($N = 261$).

Participant characteristics	*M* (*SD; range*)	*n* (%)
Age (years)	28.64 (4.74; 19–41)	
Education (years)	16.00 (3.16; 10–28)	
Relationship length (years)	6.78 (3.81; .25–21.50)	
Pregnancy length (weeks)	23.35 (9.09; 4–40)	
Freq. of sexual intercourse	3.72 (1.48; 1–8)	
Race/ethnicity		
Caucasian/White		219 (83.9)
Biracial/Multiracial		14 (5.4)
Other		28 (10.8)
Sexual orientation		
Straight		217 (83.1)
Bisexual		21 (8.0)
Lesbian		4 (1.5)
Other		19 (7.3)
Income		
$0–$29,999		31 (11.9)
$30,000–$59,999		78 (30.0)
$60,000–89,999		66 (25.4)
$90,000 and over		85 (32.7)
Relationship status		
Married		206 (78.9)
Engaged		14 (5.4)
Living together		36 (13.7)
Dating		4 (1.5)
Pregnancy type		
Single		245 (93.9)
Twins		11 (4.2)
Other		5 (1.9)

Frequency of sexual intercourse was measured on an eight-point Likert scale from 1 (not at all) to 8 (more than once a day). "Other" race/ethnicity includes Aboriginal/Native American, African American/Black, Asian American/Asian, East Indian, Hispanic/Latino, Middle Eastern/Central Asian, Native Hawaiian/Other Pacific Islander, and other. "Other" sexual orientations include asexual, pansexual, queer and unspecified.

Sexual functioning

The well-validated Female Sexual Function Index (FSFI) was used to measure women's sexual functioning across six domains (desire, arousal, lubrication, orgasm, satisfaction and pain) [41]. Total scores were calculated by summing the domain scores and could range from 2 to 36, with higher scores indicating higher levels of sexual function. Based on recommendations by Meyer–Bahlburg and Dolezal [42], participants who reported no sexual activity ($n = 31$) did not receive a sexual functioning score. The FSFI demonstrated high internal consistency ($\alpha = 0.94$) in the present study.

Table 2. Exploratory factor analysis loading of the RFNS scale.

Scale item	Factor loading	*M* (*SD*)	%
I felt that my partner was concerned about complications to the pregnancy, such as preterm labor	0.812	1.69 (1.49)	23.8
I felt that my partner was concerned about complications to the pregnancy, such as bleeding	0.800	1.95 (1.80)	28.4
I was concerned about complications to the pregnancy, such as preterm labor	0.776	1.73 (1.60)	24.1
I felt that my partner was concerned about complications to the pregnancy, such as infection	0.773	1.59 (1.45)	19.5
I was concerned about complications to the pregnancy, such as infection	0.755	1.80 (1.64)	27.2
I was concerned about complications to the pregnancy, such as bleeding	0.745	2.13 (1.97)	32.2
I was afraid of causing harm or injury to the baby	0.684	1.61 (1.43)	23.0
I felt that my partner was afraid of causing harm or injury to the baby	0.669	1.79 (1.59)	26.8
My doctor/midwife advised against having sexual intercourse	0.560	1.48 (1.46)	11.9
Previous sexual intercourse had caused false (Braxton Hicks) contractions, so I wanted to avoid this occurring again	0.551	1.53 (1.26)	21.8

% indicates percentage of women who rated this item above 1 (not at all important).

Table 3. Bivariate correlations among study variables ($N = 261$).

Variables	1	2	3	4	5	6	7	8	9	10	11	*M* (*SD*)
1. Age	–	0.33[c]	0.39[c]	0.08	0.20[c]	−0.26[c]	−0.04	0.06	−0.05	−0.08	0.09	
2. Education		–	0.07	0.05	−0.18[c]	−0.09	0.05	−0.11	−0.10	0.13[b]	0.03	
3. Relationship length			–	.07	0.38[c]	−0.18[c]	−0.04	0.02	0.03	−0.01	0.13[b]	
4. Pregnancy length				–	−0.05	−0.15[b]	0.07	−0.19[c]	−0.06	0.10	0.05	
5. Parity					–	0.11	−0.10	0.08	0.02	−0.05	−0.05	
6. Freq. of sexual intercourse						–	−0.08	0.40[c]	0.51[c]	−0.33[c]	0.13[b]	
7. FRNS							–	−0.07	0.02	0.15[b]	0.03	17.31 (11.69)
8. Sexual functioning[a]								–	0.61[c]	−0.63[c]	0.26[c]	27.23 (5.94)
9. Sexual satisfaction									–	−0.55[c]	0.48[c]	25.04 (8.18)
10. Sexual distress										–	−0.29[c]	17.01 (13.53)
11. Relationship satisfaction											–	29.81 (6.70)

FRNS: fear-based reasons for not engaging in sexual activity during pregnancy.
[a]$n = 230$ as participants that did not engage in sexual activity were excluded.
[b]$p < 0.05$.
[c]$p < 0.01$.

Sexual satisfaction

The well-validated Global Measure of Sexual Satisfaction (GMSEX) was administered to assess women's subjective evaluation of their sexual relationship [43]. Scores were summed and could range from 5 to 35, with higher scores indicating greater sexual satisfaction. The GMSEX demonstrated high internal consistency ($\alpha = 0.95$) in the present study.

Sexual distress

The Female Sexual Distress Scale-Revised (FSDS-R) has been validated and was administered to assess negative emotions about sexuality and/or the sexual relationship [44]. Scores were summed and could range from 0 to 52, with higher scores indicating more sexually related distress. The FSDS-R demonstrated high internal consistency ($\alpha = 0.94$) in the present study.

Relationship satisfaction

The well-validated Global Measure of Romantic Satisfaction (GMREL) was administered to assess relationship satisfaction [43]. Scores were summed and could range from 5 to 35, with higher scores indicating greater relationship satisfaction. The GMREL demonstrated high internal consistency ($\alpha = 0.97$) in the present study.

Statistical analyses

Data were cleaned and analyzed using the Statistical Package for Social Sciences (SPSS) statistics software package (v. 22) (Armonk, NY). Mean substitution was used to replace missing values, as there was less than 1% missing data [37]. Bivariate correlations examining age, education, relationship length, pregnancy length, parity and frequency of sexual intercourse were conducted to identify covariate variables. If relevant covariates were identified ($p < 0.05$ and $r > 0.30$), hierarchical regressions were used to measure the associations between fear-based reasons for not engaging in sexual activity and the outcome variables, with covariates entered into the first step and total fear scores entered into the second step. If no relevant covariates were identified, bivariate correlations were conducted.

Results

Prevalence and importance of fears related to sexual activity during pregnancy

Descriptive statistics of the RFNS items are presented in Table 2. Overall, 153 women (58.6%) endorsed at least one fear-based item as a reason for not engaging in sexual activity in the last four weeks (i.e. rated the item above 1 (not at all important)). However, total fear scores were low ($M = 17.31$, $SD = 11.69$), as were scores on the individual items (ranging from $M = 1.48$, $SD = 1.46$ to $M = 2.13$, $SD = 1.97$). The most widely endorsed items included concerns about bleeding and infection and feeling that their partner was concerned about bleeding. The least endorsed item was receiving advice from a doctor or midwife to avoid sexual intercourse.

Associations between fears and sexual and relationship well-being

Correlations between potential covariates, total fear scores and outcome variables are presented in Table 3. Frequency of sexual intercourse was significantly positively related to sexual functioning and sexual satisfaction and negatively related to sexual distress at $r > 0.30$ and was therefore included as a covariate for these outcomes. Age, education, relationship length, pregnancy length and parity did not meet the covariate criteria and as such were not included in

the subsequent analyzes. Fear-based reasons for not engaging in sexual activity were associated with sexual distress ($\beta = 0.13$, $p < 0.05$), such that women who reported greater fear-based reasons reported higher sexual distress than women who reported fewer fear-based reasons. Fear-based reasons for not engaging in sexual activity were not significantly associated with sexual functioning ($\beta = -0.04$, $p = 0.53$), sexual satisfaction ($\beta = 0.06$, $p = 0.26$) or relationship satisfaction ($r = 0.03$, $p = 0.67$).

Discussion

Over half of the women in the present study reported at least one fear-based reason for not engaging in sexual activity during pregnancy. This finding is consistent with prior research where 41–49% of women reported refraining from sex due to fears of harming their pregnancy [2,24,25,27,28]. The present study extended this research by using a more comprehensive measure to allow women to rate the importance of these fears in their decision not to engage in sex and by examining how fear-based reasons relate to sexual and relationship well-being.

Overall, 41% of women did not endorse any fear-based reasons for refraining from sexual activity during pregnancy. Of the remaining women, fears were of relatively low importance in their decision not to have sex and were unrelated to sexual functioning, sexual satisfaction and relationship satisfaction. Together, these results suggest that fears of sex harming the pregnancy are not a strong predictor of women's sexual and relationship satisfaction and functioning in pregnancy. Pregnant women's sexual and relationship well-being may be more related to their physical and hormonal well-being, as suggested by research linking prenatal declines in sexual functioning and satisfaction to pregnancy-related changes in physical appearance, nausea and fatigue [2,4,13,14]. The effects of these changes may extend to women's relationship satisfaction, as relationship satisfaction and sexual satisfaction are closely associated [1,45,46]. Other reasons for not wanting to have sex, such as wanting to get more sleep, feeling unattractive or experiencing pain, may be more important during pregnancy than concerns about sex harming the pregnancy.

Endorsing more fear-based reasons for refraining from sexual activity during pregnancy was related to greater sexual distress. This finding is consistent with a study that linked women's more negative attitudes toward sex in pregnancy with greater tension, discomfort, and anxiety [47]. As fear-based reasons for not engaging in sexual activity are driven by a desire to prevent harm to a pregnancy, we conceptualized these reasons as a type of avoidance goal. Individuals with stronger avoidance goals are thought to focus more on negative than positive events and thus experience more negative emotions than individuals with lower avoidance goals [30,31]. It may be that women who are concerned about sex harming their pregnancy are hypervigilant to negative changes to their sexuality at this time (e.g. reduced desire, changes in body image) and have greater concerns about their sexual relationship as a result. For example, a woman who declines her partner's initiation of sexual activity due to fears of harming the pregnancy may focus on feelings of guilt over rejecting her partner, leading her to be more worried and upset about their sexual relationship.

A key strength of this study was the use of a novel, comprehensive scale for measuring women's fear-based reasons for not engaging in sexual activity during pregnancy. The RFNS scale included 10 empirically-based items that loaded onto a single underlying factor representing the importance of women's fears of sexual activity harming the pregnancy in their decision not to engage in sex. Thus, this study provided a more accurate depiction of the severity of pregnant women's fears than previous descriptive studies that typically provided participants with only a binary (yes/no) response option [2,4,5,24].

This study was cross sectional and we cannot conclude that not having sex due to fears of harming the pregnancy led women to experience greater sexual distress. Longitudinal research is needed to address this question. Further, we did not include questions about previous miscarriages, low fertility or obstetrical difficulties (e.g. premature contractions, bleeding). Women who have experienced these challenges may report more anxiety and more negative attitudes toward sex during pregnancy [47–51]. Future research should examine the role of these factors in women's experience of fears and sexual distress. The present study found strong psychometric support for the RFNS scale, but further research is needed to confirm its factor structure and establish further evidence of reliability and validity. Finally, although web-based surveys are comparable to paper-and-pencil surveys in terms of validity and representativeness [52–54] and can be more effective in recruiting hard-to-reach populations [55,56] such as pregnant women [57,58], it is possible that our sample may not be generalizable due to self-selection bias. Possible reasons for not participating in or not completing the current study may be the sensitive nature of the questions, the use of a prize draw as compensation or the time required to complete the survey.

Conclusions

Researchers and healthcare providers have attempted to dispel myths that sexual activity is harmful to low-risk pregnancies [17,25,27]. It seems that this reassurance has permeated the mainstream such that the majority of women in our study were not overly concerned about sex harming their pregnancy. As such, interventions focused specifically on women's fears of sexual activity may not be necessary for the majority of women and may not be essential for promoting sexual and relationship well-being in pregnancy. Interventions that focus on other areas of women's sexuality and relationship, such as normalizing changes in women's sexual functioning or finding alternative sexual positions, may be more beneficial for women's general sexual functioning and sexual and relationship satisfaction [13]. Still, interventions focused on minimizing fears related to sexual activity may help to reduce women's global feelings of worry and anxiety about their sexual relationship during pregnancy. In fact, expressing feelings of sexual distress at prenatal appointments (e.g. in response to a simple, validated question [59]) might be a good cue for healthcare providers to query possible myths about sex in pregnancy and provide accurate education and reassurance.

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➤ Current knowledge on the subject.

- Fears that sexual activity could harm the pregnancy are reported by women cross culturally.
- These fears may be a reason women refrain from sex during pregnancy.
- For the majority of women, these fears are unnecessary as sexual activity is safe in low-risk pregnancies.

➤ What this study adds.

- Fears of sexual activity harming the pregnancy were endorsed by over half of women but were of low importance in women's decision not to engage in sex.
- Fear-based reasons for not engaging in sexual activity were associated with women's greater sexual distress but were unrelated to women's broader sexual and relationship well-being.
- Interventions focused on fears of sexual activity may help to reduce women's feelings of anxiety about their sexual relationship though may not be essential for promoting broader sexual and relationship well-being during pregnancy.