A Descriptive and Longitudinal Analysis of Pain During Intercourse in Pregnancy

Abstract

Background: Pain during vaginal intercourse in pregnancy has largely been ignored despite physiological and psychological components of pregnancy that may be associated with its onset and persistence.

Aims: The current study aimed to determine the prevalence and the characteristics of *clinically significant pain during intercourse* in the second (18 to 24 weeks) and third (32 to 36 weeks) trimesters of pregnancy.

Methods: Pregnant women ($N = 501$) recruited from a local women's hospital completed an online survey in the second and third trimester of their pregnancy regarding the presence, intensity, and characteristics of pain during intercourse. Women with clinically significant pain (i.e., pain greater than or equal to four out of ten on a numerical rating scale) were grouped according to whether the pain was resolved, persistent, or new onset across the two pregnancy time-points. Following guidelines outlined by the Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials (IMMPACT), we conducted a descriptive analysis assessing the intensity and characteristics (e.g., quality, onset, degree of improvement over time, and treatment strategies utilized) of clinically significant pain during intercourse.

Main Outcome Measures: The prevalence, intensity, and characteristics of clinically significant pain during intercourse.

Results: Overall, 21% (106/501) of pregnant women reported clinically significant pain during intercourse. We found that 22% ($N = 16/106$) of women who had this pain at 20 weeks reported that it had resolved at 34 weeks, 33% (40/106) reported persistent pain at both time-points, and 46% (50/106) reported new onset of pain during intercourse at 34 weeks. The majority of women across all pain groups reported that the pain began during pregnancy and remained at the same

intensity. Most women reported not using any pain management strategies to cope with their pain.

Clinical Implications: One in five women experienced clinically significant pain during intercourse in pregnancy, with the majority of women not seeking treatment.

Strengths and Limitations: This study is the first to comprehensively assess and describe the prevalence and characteristics of clinically significant pain during intercourse across two timepoints in pregnancy using IMMPACT guidelines. Small sample sizes in our pain groups may limit the generalizability of pain characteristics.

Conclusions: Findings suggest that many pregnant women in this study experienced significant pain during intercourse in pregnancy. Understanding the characteristics of this pain may improve its identification by health care providers and inform better prevention and treatment recommendations.

Keywords: pregnancy; pain during intercourse; dyspareunia; sexual function

Introduction

Chronic pain during pregnancy is a common experience for many women, with as many as 45% to 72% of women experiencing lower back and pelvic pain [1, 2]. However, pain during vaginal intercourse has largely been ignored. When pain interferes with intercourse, affected women and their partners report lower sexual, relational, and psychological health and well-being [3-6]. The onset, maintenance, and persistence of pain during intercourse within and outside of the perinatal period is often the result of a complex interaction of biological and psychosocial processes [3, 7]. There are normative physiological changes that occur in pregnancy that may contribute to the development of pain during intercourse in pregnancy, such as edema, decreases in vaginal connective tissues, increased size of muscle fibers in vaginal wall to facilitate delivery, and reduced vaginal lubrication[8-10]. Although there is limited knowledge of psychosocial predictors of this pain in pregnancy, theory and evidence from genital pain experienced outside of pregnancy suggest that there are also psychological (e.g., depression, avoidance of intercourse due to fears of harming the pregnancy) aspects of pregnancy associated with the onset of this pain and its persistence into the postpartum [11, 12]. Some of these factors may be temporary and could resolve after giving birth. However, pain during intercourse in pregnancy is a risk factor for postpartum pain [13-15] and depression [16]. The consequences of persistent postpartum pain and depression can in turn have deleterious effects on families, with substantial impacts on women's overall health, the parent-child relationship, and infant development [17-20].

Prior studies have found variable prevalence rates of pain during intercourse or vaginal discomfort in pregnancy: from 10% to 62% in the first trimester [8, 14, 21-24], 13% to 44% in the second trimester [14, 21-24], and 17% to 69% [21-25] in the third trimester. However, past

research has been limited by cross-sectional designs, small sample sizes, the use of non-validated measures, and a lack of adherence to pain assessment guidelines. Moreover, many studies have focused on overall sexual function during pregnancy, with pain during intercourse being only one component [8, 10, 11, 21, 23, 24, 26-28]. Longitudinal designs are crucial to establish how this pain may change over time in pregnancy. Moreover, the use of pain assessment guidelines facilitates identification of multidimensional characteristics of pain during intercourse, in both its presentation and functional impacts (e.g., interference with other sexual activities).

The characteristics of this pain—including the quality, onset, degree of improvement over time, and treatment strategies utilized— have not been comprehensively described in pregnancy. Past research with women experiencing pain during intercourse in the postpartum and outside the perinatal context suggests that women select terms such as “tender”, “aching”, or “sharp” to describe the affective and sensory qualities of their pain [29, 30], but it is unclear whether these qualities generalize to the pain in pregnancy. The onset of this pain (i.e. before or during pregnancy) is important to establish since pain during intercourse prior to pregnancy may be a risk factor for continued pain [14, 15]. Importantly, information about the pain management strategies that women are using to manage their pain is currently lacking, but can inform intervention efforts. Although women with pain during intercourse in the postpartum period often rate their pain as mild to moderate in intensity on pain rating scales [31, 32], it can interfere with a number of activities that may exacerbate women’s distress [32]. Establishing the descriptive characteristics of pain during intercourse in pregnancy may be even more pertinent for women with clinically significant pain because they are most likely to experience distress and further impairment (e.g., sexual dysfunction) [33]. Experts have established pain intensity cut-

offs (e.g., pain rating greater than or equal to four on a scale of 0 to 10) that reflect *clinically significant* pain across various pain conditions that are useful for identifying this group [34, 35].

Understanding the features of clinically significant pain during intercourse in pregnancy is crucial for early identification of women who are more likely to require intervention and may be at risk for persistent pain (relative to those whose pain might resolve). Early identification can inform prevention and treatment recommendations [4, 36] and help to mitigate adverse impacts for women and their families. For example, if the characteristics of clinically significant pain during intercourse are consistent with pain characteristics within and outside of the perinatal context, this finding would suggest that similar interventions can be employed [4, 36]. Although a common and potentially temporary condition, pain during intercourse in pregnancy is associated with significant distress and impairment for many women [37]. By increasing our understanding of the prevalence and characteristics of pain during intercourse in pregnancy, we can better communicate to health care providers the extent and severity of this pain. Pregnant women deserve access to treatment for pain during intercourse; a descriptive classification is the first step toward improving treatments options that may ultimately enhance women's sexual well-being during pregnancy.

Studies of chronic pain in pregnancy have called for the examination of genital pain [38]. To fill this gap in knowledge and address the limitations of past research, the current study aimed to provide a comprehensive descriptive classification of clinically significant pain during intercourse using a longitudinal design with two time points in pregnancy, and by following guidelines outlined by the Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials (IMMPACT) [39, 40]. The first objective was to determine the prevalence of clinically significant pain during intercourse in the second (18 to 24 weeks gestation) and third (32 to 36

weeks gestation) trimesters of pregnancy. The second objective was to describe the characteristics (e.g., intensity, onset, quality, degree of improvement over time, interference, and pain management strategies) of pain during intercourse across three groups: women who experience transient pain (i.e., reported at only one of the two time points) versus women who experience persistent pain (i.e., reported at both time points).

Methods

Participants

Participants were recruited as a part of a larger longitudinal study examining women's pain and sexuality across pregnancy and the postpartum period, from December 2015 to August 2017. Participants were recruited at their 18 to 20-week obstetrical ultrasound appointment from a (*blinded*) hospital in a mid-sized city within a publicly funded health care system. The inclusion criteria were: healthy women 18 to 24-weeks pregnant with a singleton fetus which would be their first delivery; aged 18 years of age or older; and fluent in English. Figure 1 illustrates the flow of participants from recruitment through participation in the current study. The measures assessing the detailed characteristics of pain during intercourse were added into the study four months later to obtain a more comprehensive description of clinically significant pain. Of the women sent the surveys at each time point, 75% at 20 weeks and 83% at 34 weeks received the version of the survey with the comprehensive pain questions. The final sample size consisted of 501 participants who completed both time-points. Only those women reporting clinically significant pain during intercourse (described below) received the additional questions about pain characteristics, resulting in samples of 45 and 74 women at 20 and 34 weeks, respectively. Demographics for the full sample are displayed in Table 1.

Measures

Sociodemographics. Participants completed questions about their age, week of gestation, education level, cultural background, relationship status and duration, sexual orientation, and annual household income.

Intensity of pain during intercourse. The intensity of pain during intercourse was assessed using a Numerical Rating Scale (NRS) in relation to their pain during intercourse in the last four weeks. The NRS is an IMMPACT recommended tool for assessing clinical pain intensity [39, 41] and evaluates average pain intensity on a scale from 0 (*no pain at all*) to 10 (*worst pain ever*). It has been validated in women with chronic genital pain [42, 43], including postpartum genito-pelvic pain [13]. Past research has determined thresholds on the NRS to evaluate the severity, or clinical significance of pain [34, 35, 44, 45]. These cut-offs were developed by correlating pain intensity to the reported level of interference with daily functioning. Thus, in order to capture women for whom their pain during intercourse may be linked to significant interference and who are more likely to require intervention, we grouped women based on the identified cut-off for moderate pain and above. Consistent with recommendations for assessing clinically significant pain, including in women with pain during intercourse [34, 35, 44-46], participants who indicated pain greater than or equal to four out of ten were included in clinically significant pain during intercourse groupings and descriptions.

Pain characteristics. Women with clinically-significant pain responded to questions regarding the onset (i.e., during pregnancy or not), degree of improvement since the pain first began (i.e., ranging from a lot better to a lot worse), interference with other sexual activities, and pain management strategies currently being used (i.e., an open-ended question about any treatment or pain medications used to target their pain; see [13, 32] for similar assessments of

genital pain). The qualitative aspects of women's pain during intercourse were assessed with the McGill Pain Questionnaire – Short Form (SF-MPQ) [47], used previously in reference to pain during intercourse [48, 49]. The SF-MPQ is an IMMPACT recommended measure of the sensory and affective aspects of pain [39]. The measure consists of 15 pain descriptors, which are each rated on a scale of 0 (*none*) to 3 (*severe*).

Procedure

Upon checking in for their ultrasound appointment, those interested in participating underwent an eligibility screening (on-site or later by telephone) with a trained research assistant. Eligible women were emailed a secure survey link and asked to complete the measures before the end of their 24th (or 36th) week of pregnancy. Participants completed measures of sociodemographic variables and intensity of pain during intercourse, in addition to measures relevant to the larger study. Women reporting clinically significant pain during intercourse (i.e. $\geq$ 4 out of 10) completed additional questions including the onset, qualities, degree of improvement, interference with other sexual activities, and management strategies for this pain. The second survey was emailed on the first day of their 32nd week of pregnancy, which included the same measures. Participants received a phone call and email one-week prior to survey administration to notify them about the second survey. If they had not yet completed the survey, participants received: (1) a phone call 48 to 72 hours after the survey was sent, (2) an email reminder at one week, (3) a phone call at two weeks, and (4) a final email reminder at three weeks. Women received a $5.00 (CDN) gift card to amazon.ca after each survey. The study protocol was approved by our Institutional Research Ethics Board.

Data Analyses

Our first objective was to examine the prevalence of clinically significant pain during intercourse in women 18 to 24 and 32 to 36 weeks pregnant (reported as a percentage). For ease of reporting, we refer to the two groups as 20 weeks and 34 weeks. We then evaluated the proportion of women whose pain during intercourse had: (1) resolved (20 weeks only), (2) persisted (both time-points), or (3) was a new onset (34 weeks only). In adherence with IMMPACT guidelines regarding clinically significant changes in pain intensity, pain groupings were based on point differences of two on the NRS, with a rating of four as the reference point [40].

Our second objective was to describe the intensity, onset, quality, improvement since onset, interference, and pain management strategies of clinically-significant pain during intercourse at both time points based on these pain groupings. Pain qualities from the SF-MPQ were deemed to be common when they were endorsed by over 50% of the sample [30, 50]. Pain characteristics are only described in-text if they were reported by the majority of women (i.e., over 50% in that group). All pain characteristic frequency data (including those endorsed by only a few or no women) is presented in each pain groupings' respective table.

All results are presented descriptively as averages and frequencies across the pain groupings with one exception: to determine if there were group differences in pain intensity (i.e. whether women in the persistent pain group reported a greater intensity of pain at one time-point compared to another), we conducted paired samples t-tests. No other statistical analyses were conducted. The de-identified data and syntax for all analyses are available here: https://osf.io/ba9nf/?view_only=9e996c8088284437a6439c6fc5cca7c0.

Results

Overall, 21% (106/501) of our sample reported clinically significant pain during intercourse. Of these women, 12% (64/501) at 20 weeks and 17% (89/501) at 34 weeks reported clinically significant pain during intercourse. Women indicated an average pain intensity of 5.47 (range 4-8.80; *SD* = 1.37) at 20 weeks and 5.56 (range: 4-8.90; *SD* = 1.29) at 34 weeks.

Resolved Pain. Table 2 reports all of the resolved pain group characteristics. Our results showed that 15% (16/106) of women reported resolved pain during intercourse at 34 weeks (i.e., pain that was ≥ 4/10 at 20 weeks and then reduced to < 4/10 or more than two points on the NRS at 34 weeks). There were an additional eight women who reported pain at 20 weeks, but at 34 weeks, they did not answer the pain intensity question or reported that they had not engaged in intercourse in the last 4 weeks. As such, it is unclear whether their pain resolved or persisted because they may have been avoiding intercourse due to pain. Women with resolved pain reported an average pain intensity at 20 weeks of 5.86 (range: 4-8.50; *SD* = 1.47) and 2.11 (range: .60-3.50; *SD* = .94) at 34 weeks. A paired samples t-test indicated that the intensity of women's pain was significantly different between 20 weeks and 34 weeks, $t(14) = 10.94$, $p < .001$. Of these women, nine completed the pain characteristics. The majority of women reported that the pain began in pregnancy and continued at the same intensity. They most often described the pain as tender, throbbing, sharp, hot-burning, fearful, and aching. In addition to intercourse, the majority of women reported that they experienced this pain when they urinated after the painful intercourse event and when they were penetrated by a finger or sex toy. While most women reported not using any pain management strategies, one woman reported using lubricant.

Persistent Pain. Table 3 provides all characteristics for women with persistent pain. Results indicated that 38% (40/106) of women reported persistent pain during intercourse (i.e.,

pain that was ≥4/10 at 20 weeks and remained ≥4/10, or was reduced by less than two points on the NRS, at 34 weeks). These women reported an average intensity of pain at 20 weeks to be 5.27 (range: 4-8.80; *SD* = 1.32) and 5.39 (range: 2.60-8.90; *SD* = 1.59) at 34 weeks. A paired samples t-test indicated that the intensity of women's pain was not significantly different between 20 weeks and 34 weeks, $t(39) = .49$, $p > .05$. In the persistent pain group, 29 women received the pain characteristics measure. Over half of these women (55%; 16/29) indicated that their pain began in pregnancy, while 49% (13/29) reported that their pain predated pregnancy. Most women at 20 weeks indicated that the pain remained at the same intensity as when it first began. At 34 weeks, women mainly endorsed that the pain was about the same or a little worse. At 20 weeks, tender, throbbing, cramping, and aching were the most highly endorsed pain qualities. The most commonly endorsed qualities at 34 weeks were tender, throbbing, aching, and sharp. Although the majority of women at both 20 and 34 weeks reported that this pain did not affect other penetrative sexual activities, a sizeable minority indicated that urinating after intercourse, manual partner stimulation, and finger or sex toy insertion elicited this pain. At 20 weeks, most women indicated not using any pain management methods, but some reported ice and lubricant. At 34 weeks, some women reported using lubricants, topical steroid and antifungal cream, and a pelvic floor physiotherapist, but most endorsed no form of treatment.

New Onset Pain. Table 4 lists all characteristics for the new onset pain group. A total of 47% of women (50/106) reported new onset of clinically significant pain during intercourse at 34 weeks (i.e., their pain at 20 weeks was < 4/10 and then increased to ≥4/10 on the NRS at 34 weeks). There were six women who reported pain during intercourse at 34 weeks, but did not answer the question about pain intensity at 20 weeks or reported that they had not engaged in intercourse in the previous 4 weeks, so it is unclear if they had this pain earlier in their pregnancy

and were avoiding intercourse because of pain. On average, women indicated that their pain intensity at 34 weeks was 5.30 (range: 4-8.90; *SD* =1.23). Of these women, 43 received the pain characteristics measures. The majority of women indicated that the pain began during pregnancy that had remained the same intensity. Tender, cramping, aching, throbbing, and sharp were the most frequent qualities of pain reported. Urinating after intercourse, manual partner stimulation, and finger or sex toy insertion were additional pain triggering activities endorsed by affected women. The majority of women indicated not accessing treatment, with the exception of three women who reported using Aloe Vera, lubricants, and vaginal anesthetic gels.

Discussion

This study is the first to systematically and comprehensively describe clinically significant pain during intercourse across the second and third trimester of pregnancy. Our results indicate that a substantial number of women—one in five—experience clinically significant pain during intercourse in pregnancy. This high prevalence is relatively consistent with pain during intercourse estimates in the pregnancy literature [14, 21-24]; however, we classified women's pain intensity based on IMMPACT recommendations for clinical significance [40]. Therefore, our approach may more accurately reflect pregnant women who experience this pain as interfering and distressing and are more likely to require intervention. Although this may be a normative experience in pregnancy, pain during intercourse can be highly distressing and impairing for many women [37], thus warranting research attention.

We found that women endorsed a wide array of qualities to describe their pain. Consistent with past research in the genito-pelvic pain literature [29, 30], women most often described this pain as tender, throbbing, aching, and sharp. Although the sample size was small, the qualitative experience of pain during intercourse in pregnancy therefore appears to be

analogous with reports of other types of genito-pelvic pain. Such findings suggest that health care providers may be able to implement interventions found to be effective for women with pain during intercourse within and outside of the perinatal context. Although future research should investigate the efficacy of these interventions in pregnancy, empirically-supported interventions for other types of genito-pelvic pain include pelvic floor physiotherapy to target muscle dysfunction [51, 52], and cognitive behavioural therapy to enhance adaptive and reduce less adaptive pain coping strategies [4, 36, 53, 54]. With the physiological changes associated with pregnancy (e.g., reduced lubrication, decreased tissue flexibility), women can be encouraged to use lubricants and expand their sexual repertoire to accommodate the pain (e.g., different sexual positions, non-penetrative sexual activities). Moreover, many women refrain from penetrative sex during pregnancy for fears of harming the fetus [55]. Fear and avoidance are established psychosocial predictors of greater pain [56, 57], including pain related to intercourse [13, 58, 59]. Psychoeducation on the role of avoidance and fear in the development and persistence of pain during intercourse, as well as targeted cognitive-affective pain reduction interventions (e.g., breathing, cognitive restructuring), may help mitigate the severity and chronicity of the pain. Although it is a common for women to report an increase in pain during intercourse during pregnancy, they should be provided with tools to manage the pain in order to continue having satisfying sexual experiences.

Many women in our sample also indicated that this pain arises in other sexual activities beyond vaginal intercourse (e.g., manual partner stimulation), highlighting additional impacts of this pain for women's sexual functioning. Given that sex plays a unique and fundamental role in couples' relationship maintenance [60], which in turn, is essential to health and quality of life [61], such findings underscore the broader interference of this pain to pregnant women's and

couples' sexuality. Understanding when and how this pain interferes with women's sexual functioning in pregnancy has implications for treatment recommendations to potentially prevent continued impairment (e.g., in the postpartum).

The majority of women in our sample also reported not accessing treatment for their clinically significant pain during intercourse. Past research indicates that only 60% of women in the general population who experience genital pain seek treatment [62]. Affected women endorse a number of reasons for not accessing treatment, including perceived stigma, socioeconomic barriers, and limited discussions about sexuality with their health care providers [8, 63-66]. It is possible that women in the current study and their health care providers have not broached the topic. Indeed, prior research has indicated that only 29% to 36% of pregnant women have discussed sexual activity with their physicians [8, 67]. Changes in vaginal physiology during pregnancy [8-10] may lead both health care providers and pregnant women to regard pain during intercourse as an expected and transient experience [38]. Nonetheless, this pain can be distressing for women [37] and have negative consequences for their sexual and romantic relationship [3, 4]. Moreover, while it may be transient for some women, pain during intercourse in pregnancy can be a risk factor for persistent pain problems [13-15, 68] due to a combination of biological (e.g., peripheral and central sensitization [7, 69, 70]) and psychosocial (e.g., fear of pain, avoidance [13, 59, 71]) factors. Thus, these expectations can lead to unnecessary and prolonged suffering for women given the effective treatments that may alleviate pain during intercourse [4, 36].

Importantly, most women in our sample reported that this pain began during pregnancy. Pain during intercourse that develops before or during pregnancy increases the risk of postpartum pain [13-15, 68]. Postpartum pain during intercourse is associated with greater

depression and impaired sexual functioning [11, 30, 72, 73], both of which can have substantial consequences for couples' relationship quality [60, 74], health-related quality of life [61, 75], the adjustment of new parents [76-78], and newborn development [17, 79, 80]. Implementing interventions at the onset of pain during intercourse in pregnancy may reduce the severity of the pain in the postpartum. We intend to follow this cohort of women after childbirth in order to ascertain the postpartum period trajectory and consequences of the pain groups that emerged (i.e. resolved, new onset, and persistent). Overall, enhanced awareness of the prevalence and characteristics of clinically significant pain during intercourse in pregnancy is an essential first step in its management, both in pregnancy and longer term. Generating a clinical profile of pain during intercourse in pregnancy can increase early detection and implementation of treatment. Moreover, these findings can guide future research in identifying clinical correlates (i.e. physiological and psychosocial causes of pain) of different pain characteristics. The high prevalence of this pain can encourage health care providers to inquire about the presence of pain and its associated consequences. Improved communication between health care providers and women may increase the possibility for early identification and intervention to prevent the persistence or worsening of this pain during pregnancy and postpartum, and in turn the deleterious consequences for affected women and their families.

The longitudinal design allowed us to identify unique pain groupings and evaluate the characteristics of these groups across pregnancy. Furthermore, we adhered to IMMPACT recommended guidelines for pain assessment, which enabled us to describe clinically significant pain during intercourse from a multidimensional perspective. However, this study has some limitations. Results are limited to women in the second and third trimesters. We recruited women from the primary maternity hospital in a mid-sized city that services a large caption area (both

urban and rural) and our sample was broadly representative with regard to culture and sexual orientation. However, most participants had postsecondary education and were within middle to upper household income brackets, which may not be representative of the broader population. Still, our sample reported pain descriptors consistent with those endorsed by wider samples of women with genito-pelvic pain [29, 30]. Nonetheless, these pain characteristics should be explored across all trimesters and within a more diverse sample. Additionally, there were a number of women who did not meet the IMMPACT cut-off guidelines but reported pain during intercourse at lower levels of intensity [34, 46]. Thus, we may have excluded women who still experience impaired functioning related to this pain. Future research should compare the characteristics experienced by women with and without clinically significant pain. Furthermore, we added the pain characteristics four months after the study began. These questions were therefore completed by only a portion of women reporting clinically significant pain (70% at 20 weeks and 83% at 34 weeks) and the sample sizes were small. It is possible that the pain characteristics may not represent the experiences of all affected women. We also did not assess other types of genito-pelvic pain (e.g., vulvar, perineal pain), which may be common during pregnancy [38]. Future research should evaluate genito-pelvic pain during pregnancy more broadly in order to increase understanding of these pain profiles. Finally, the sample size of our pain groups was too small to conduct analyses examining predictors of pain group membership. There is evidence for biopsychosocial variables (e.g., concomitant non-genital pain conditions, pain related anxiety, depression) as predisposing factors for postpartum pain persistence [3, 13, 32]. Thus, future research should explore these potential predictors of pain group status in pregnancy within a larger sample to inform more targeted preventative and treatment interventions.

Conclusion

The current study demonstrated that one in five pregnant women may experience clinically significant levels of pain during intercourse. Given that approximately 213 million pregnancies occur worldwide annually [81], pain during intercourse may impact an enormous number of pregnant women, many of whom may not access treatment. The findings underscore the importance of enhancing knowledge of the characteristics of pain during intercourse in pregnancy in order to more effectively recognize, prevent, and treat this pain.

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Table 1. Sociodemographic characteristics of the sample.

Characteristics	*M (range) or N*	*SD*	*%*
Age	29.6 (18-45)	4.32	
Week of gestation	20.8 (18-25)	1.12	
Education level (*n* = 500)			
Postsecondary	439		87.8%
High school or equivalent	57		11.4%
Less than high school	4		.8%
Ethnicity			
Canadian	458		91.4%
Asian	15		3.0%
American	10		2.0%
European	9		1.8%
Other	9		1.8%
Relationship status			
Married or engaged	368		73.4%
Common-law or living with a partner	113		22.6%
Dating one partner regularly	11		2.2%
Other	9		1.8%

Relationship duration (years; *n* = 494)	6.17 (.42-21.33)	3.76	
Sexual orientation			
Heterosexual	463		92.4%
Bisexual	24		4.8%
Other	19		3.8%
Annual household income (*n* = 498)			
$0 – $39,999	53		10.6%
$40,000 – $69,999	89		17.9%
$70,000 – $99,999	146		29.3%
$100,000 or above	210		42.2%

Note. N = 501 unless otherwise indicated. 'Canadian' cultural background includes individuals who identified as First Nations, English, French, African, Acadian, or East Indian Canadian. 'American' cultural background includes individuals who identified as American or Native American. 'European' cultural background includes individuals who identified as European, English, or Scandinavian. 'Other' cultural background includes individuals who identified as Middle Eastern, Caribbean, Australian, African, Indian, or bi-racial (not specifying background). 'Other' relationship status includes individuals who did not have a regular partner, who were unsure of their current relationship status, or who were dating more than one partner. 'Other' sexual orientation includes individuals who identify as lesbian, gay, pansexual, unlabeled, questioning, queer, or heteroflexible. Numbers/percentages under sexual orientation surpass *n* = 501 (or 100%) because participants were allowed to select more than one option.

Table 2. Resolved pain group characteristics.

	Resolved Pain (*N* = 9)	
	n	Percent (%)
Onset (*n* = 9)		
During Pregnancy	7	78
Before Pregnancy	2	22
Improvements Since Onset (*n* = 9)		
A Lot Better	-	-
A Little Better	2	22
About The Same	6	67
A Little Worse	1	11
A Lot Worse	-	-
Sexual Activities Impacted (*n* = 9)		
Masturbation		
Yes	-	-
No or Did Not Engage in Activity	9	100
Manual Partner Stimulation		
Yes	4	44
No or Did Not Engage in Activity	5	56
Oral Partner Stimulation		
Yes	-	-
No or Did Not Engage in Activity	9	100

Finger or Sex Toy Insertion		
Yes	5	56
No or Did Not Engage in Activity	4	44
Urination After Intercourse		
Yes	6	67
No or Did Not Engage in Activity	3	33
Treatment (*n* = 9)		
Yes	1	11
Not Applicable/None Listed	8	89

Pain Quality (*n* = 9)[a]		
	n	Mean (*SD*)
Tender	8	1.88 (.83)
Throbbing	7	1.86 (.90)
Sharp	6	1.75 (.62)
Fearful	6	2.00 (.90)
Hot-Burning	6	2.17 (.75)
Aching	5	1.88 (.83)
Shooting	3	1.00 (.00)
Stabbing	3	1.33 (.58)
Cramping	3	1.67 (.58)
Gnawing	3	1.00 (.00)
Heavy	2	1.50 (.71)
Splitting	1	1.00 (-)

Tiring-Exhausting	1	2.00 (-)
Sickening	1	2.00 (-)
Punishing-Cruel	1	1.00 (-)

[a] *Note.* Sample sizes range from N = 8-9 for all pain qualities.

Table 3. Persistent pain group characteristics

	Persistent Pain ($N = 40$)[a]			
	20 Weeks		34 Weeks	
	n	Percent (%)	*n*	Percent (%)
Onset (*n* = 29)				
During Pregnancy	16	55	-	-
Before Pregnancy	13	45	-	-
Improvements Since Onset (*n* = 28 & *n* = 27)				
A Lot Better	-	-	1	4
A Little Better	4	14	2	7
About The Same	17	61	13	48
A Little Worse	7	25	10	37
A Lot Worse	-	-	1	4
Treatment (*n* = 29 & *n* = 27)				

Yes	4	14	6	22
Not Applicable/No Response Listed	25	86	21	78
Sexual Activities Impacted (*n* = 29 & *n* = 27)				
Masturbation				
Yes	2	7	-	-
No or Did Not Engage in Activity	27	93	27	100
Manual Partner Stimulation				
Yes	9	31	9	33
No or Did Not Engage in Activity	20	69	18	67
Oral Partner Stimulation				
Yes	2	7	1	4
No or Did Not Engage in Activity	27	93	26	96
Finger or Sex Toy Insertion				
Yes	10	35	7	26
No or Did Not Engage in Activity	19	65	20	74

Urination After Intercourse				
Yes	6	21	6	22
No or Did Not Engage in Activity	23	79	21	78

Pain Quality[b]

	n	Mean (*SD*)		*n*	Mean (*SD*)
Tender	27	1.93 (.62)	Tender	24	1.80 (.59)
Throbbing	21	1.62 (.67)	Throbbing	18	1.50 (.51)
Cramping	21	1.71 (.56)	Aching	17	1.71 (.69)
Aching	21	1.81 (.75)	Sharp	16	1.69 (.70)
Sharp	14	1.93 (.47)	Shooting	12	1.67 (.49)
Hot-Burning	13	1.85 (.69)	Cramping	12	1.58 (.51)
Shooting	12	1.33 (.49)	Stabbing	10	1.80 (.79)
Tiring-Exhausting	10	1.60 (.84)	Hot-Burning	8	2.00 (.76)
Stabbing	8	1.75 (.71)	Tiring-Exhausting	7	1.86 (.69)
Sickening	7	1.29 (.49)	Gnawing	4	1.50 (.58)

Gnawing	6	1.17 (.41)	Heavy	4	1.25 (.50)
Heavy	6	1.67 (.52)	Splitting	4	1.50 (.58)
Fearful	5	1.20 (.45)	Sickening	4	1.25 (.50)
Splitting	3	2.00 (.10)	Fearful	3	1.00 (.00)
Punishing-Cruel	1	1.00 (-)	Punishing-Cruel	2	1.50 (.71)

[a] *Note.* Sample sizes vary due to missing data. The sample size for each variable is listed.
[b] *Note.* Sample sizes range from N = 26-29 for all pain qualities.

Table 4. New onset pain group characteristics

	New Onset Pain (*N* = 50)[a]	
	n	Percent (%)
Onset (*n* = 42)		
During Pregnancy	34	81
Before Pregnancy	8	19
Improvements Since Onset (*n* = 41)		
A Lot Better	-	-
A Little Better	5	12
About The Same	25	61
A Little Worse	11	27
A Lot Worse	-	-
Treatment (*n* = 42)		
Yes	3	7
Not Applicable/No Response Listed	39	93
Sexual Activities Impacted (*n* = 42)		
Masturbation		
Yes	3	7
No or Did Not Engage in Activity	39	93
Manual Partner Stimulation		

Yes	12	29
No or Did Not Engage in Activity		71
Oral Partner Stimulation		
Yes	1	2
No or Did Not Engage in Activity	41	98
Finger or Sex Toy Insertion		
Yes	11	26
No or Did Not Engage in Activity	31	74
Urination After Intercourse		
Yes	5	12
No or Did Not Engage in Activity	37	88

Pain Quality[b]

	n	Mean (*SD*)
Tender	31	1.65 (.75)
Cramping	24	1.42 (.50)
Aching	23	1.48 (.51)
Throbbing	22	1.58 (.58)
Sharp	21	1.71 (.72)
Stabbing	19	1.58 (.61)
Shooting	15	1.20 (.41)
Heavy	15	1.33 (.62)
Hot-Burning	14	1.43 (.65)
Tiring-Exhausting	9	1.33 (.50)

Fearful	7	1.29 (.49)
Gnawing	5	1.40 (.55)
Splitting	5	1.60 (.90)
Sickening	4	1.25 (.50)
Punishing-Cruel	1	1.00 (-)

[a] *Note.* Sample sizes vary due to missing data. The sample size for each variable is listed.
[b] *Note.* Sample sizes range from $N = 40\text{-}43$ for all pain qualities.

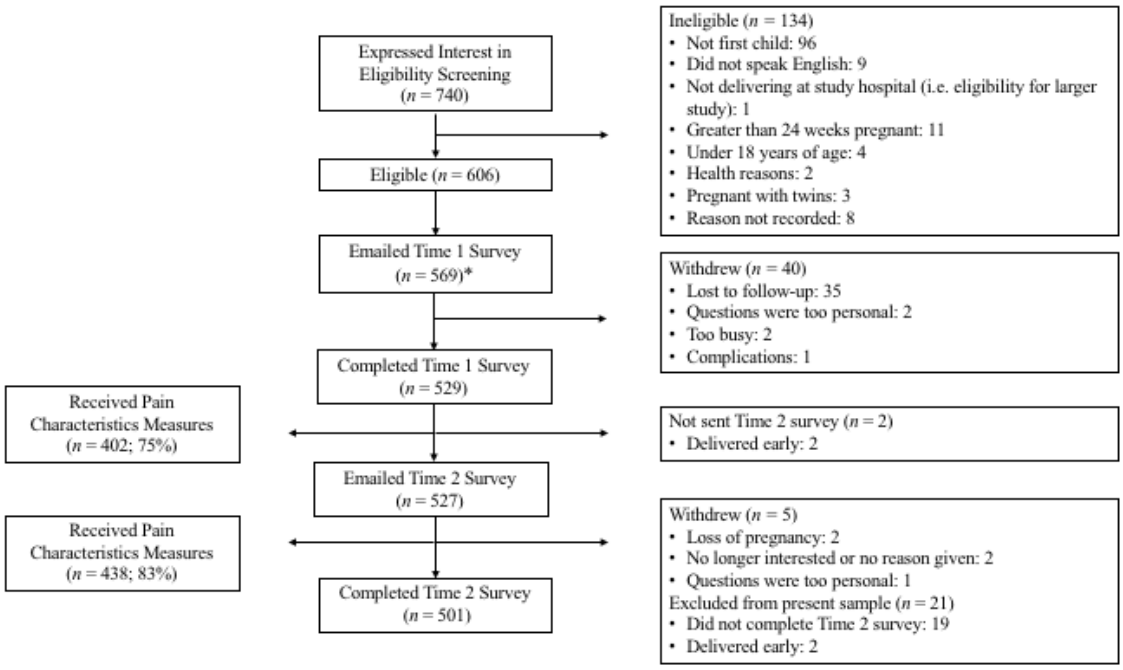

Figure 1. Flow of participation across the study. **Note.* After being screened eligible, $N = 37$ women did not respond to emails inviting them to participate in the study. As such, they were not sent the Time 1 survey. Since the measures assessing the detailed characteristics of pain during intercourse were added into the study at a later date, more women received these questions at Time 2 than Time 1. Thus, the boxes on the left side of the figure indicate the differing percentage of women who received the pain characteristics at each time-point.