

Prevalence and Predictors of Chronic Pain in Pregnancy and Postpartum



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Abstract

Objective: A clinically relevant number of patients report pain 1 year after vaginal delivery or Caesarean delivery. Study objectives were to identify the incidence of peripartum pain; determine whether pre-existing pain, pregnancy pain, or pain 2 weeks postpartum predicts pain at 3 months; and to identify whether delivery mode, epidural analgesia use, or delivery complications predict non-genito-pelvic pain postpartum.

Methods: Primiparous women at 30 to 36 weeks GA with an uncomplicated singleton pregnancy were recruited from a large perinatal clinic. Participants completed questionnaires on sociodemographics and non-genito-pelvic pain. Questionnaires were completed in the perinatal clinic and then electronically 2 weeks and 3 months postpartum.

Results: Of the 133 women included, 50 patients (38%) had a chronic pain condition or pain prior to pregnancy, whereas 73 patients (55%) reported pain in pregnancy. Pain was present 2 weeks postpartum in 57 patients (43%) and 3 months postpartum in 33 patients (25%). Patients with pre-existing pain were more likely to experience pain 2 weeks postpartum ($P = 0.006$), and patients with pain 2 weeks postpartum were more likely to have pain 3 months postpartum ($P = 0.005$). Women who had a Caesarean delivery ($P < 0.001$) were more likely to have non-genito-pelvic pain at 2 weeks but not 3 months postpartum.

Conclusions: Women with pain 2 weeks postpartum were significantly more likely to have pain at 3 months. Further investigation is required to determine whether pre-existing pain, pain in pregnancy, or pain at 2 weeks postpartum can adequately predict the likelihood of chronic pain.

Key Words: Chronic pain, postpartum, pregnancy

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Résumé

Objectif : Un nombre non négligeable de patientes disent ressentir des douleurs un an après un accouchement par voie vaginale ou par césarienne. Notre étude visait à mesurer la prévalence des douleurs périnatales, à vérifier si les douleurs avant la grossesse, pendant la grossesse ou deux semaines après l'accouchement pouvaient prédire la présence de douleurs trois mois après l'accouchement, et à déterminer si le mode d'accouchement, l'utilisation de la péridurale et la présence de complications à l'accouchement pouvaient prédire les douleurs postpartum non génitopelviennes.

Méthodologie : Nous avons recruté des femmes primipares enceintes de 30 à 36 semaines ayant une grossesse monofœtale sans complication dans une grande clinique périnatale. Les participantes ont rempli des questionnaires sur leur profil sociodémographique et sur la douleur non génitopelvienne. Elles les ont remplis une première fois à la clinique, puis deux semaines et trois mois après l'accouchement par voie électronique.

Résultats : Sur les 133 participantes, 50 (38 %) avaient des douleurs ou des douleurs chroniques avant la grossesse, et 73 (55 %) ont indiqué avoir ressenti des douleurs durant la grossesse. Deux semaines après l'accouchement, 57 patientes (43 %) signalaient des douleurs; trois mois postpartum, ce nombre était de 33 (25 %). Les patientes qui ressentaient des douleurs avant la grossesse étaient plus susceptibles d'en ressentir deux semaines après l'accouchement ($P = 0,006$). De même, celles qui éprouvaient des douleurs deux semaines après l'accouchement étaient plus susceptibles d'en rapporter trois mois après l'accouchement ($P = 0,005$). Les femmes ayant subi une césarienne ($P < 0,001$) étaient plus susceptibles d'avoir des douleurs non génitopelviennes deux semaines après l'accouchement, mais pas après trois mois.

Conclusions : Les femmes ayant des douleurs deux semaines après l'accouchement étaient significativement plus susceptibles d'en signaler aussi trois mois après l'accouchement. Cependant, des recherches supplémentaires sont nécessaires pour déterminer si la douleur avant la grossesse, pendant la grossesse et deux

semaines après l'accouchement sont des facteurs prédictifs du risque de douleur chronique.

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INTRODUCTION

Although childbirth is a natural process, women may experience chronic pain postpartum. Acute labour pain is described as “severe” or “very severe” in 65% to 68% of parturients.¹ The pain is described as “horrible” in 23% of primiparas and 11% of multiparas.¹ Although poorly managed acute pain is a risk factor for the development of chronic pain, a similar correlation has not been established for acute labour pain.² It is possible that the duration and severity of acute labour pain could impact the development of chronic pain in the postpartum period.² Chronic pain is defined as pain persisting beyond the usual course of an acute disease or after a reasonable time for healing to occur.³ Chronic post-surgical pain results from either dysregulation of inflammatory pathways leading to inflammation or neuropathic pain induced by surgical trauma.⁴ To date, it remains unclear whether the etiology of chronic postpartum pain is inflammatory or neuropathic in nature. A recent review suggested that prevalence rates of chronic postpartum pain are between 6% and 18% after Caesarean delivery and between 4% and 10% after vaginal delivery.²

Because the prevalence of pre-existing pain in parturients has not been previously determined and genito-pelvic pain not specifically distinguished from non-genito-pelvic pain in most prior studies, we hypothesized that postpartum non-genito-pelvic pain has a greater prevalence than previously reported. The authors hypothesized that pain present 3 months postpartum is more common in women with a pain history and pain during childbirth. The objectives of this descriptive study were to identify the prevalence of pre-existing pain, pain in pregnancy, and persistent postpartum pain. In addition, the study aimed to determine whether pre-existing pain, pain during pregnancy, or pain 2 weeks postpartum predicts non-genito-pelvic postpartum pain at 3 months. Finally, mode of delivery and the use of epidural analgesia were also examined as potential predictors of non-genito-pelvic pain at 2 weeks and 3 months postpartum.

METHODS

The study was approved by the institutional research ethics board (IWK Health Centre REB #1009783). Women were recruited from the perinatal clinic of a large urban hospital. Patient charts were screened for inclusion criteria, which included nulliparous women at 30 to 36 weeks' gestation with a singleton uncomplicated pregnancy.

A research assistant obtained informed consent from women who agreed to participate in three questionnaires. The first questionnaire included sociodemographic information, plans for labour analgesia, and a pregnancy pain history. The questionnaire was completed on an iPad or at home via an emailed link to the survey. The second questionnaire was emailed 2 weeks postpartum and included questions regarding childbirth experiences and labour analgesia. The third questionnaire, emailed 3 months postpartum, evaluated ongoing pain. Reminder phone calls and emails occurred weekly, 2 weeks after each study time point.

At the first questionnaire time point (30 to 36 weeks' gestation), women indicated whether they had experienced non-genito-pelvic pain prior to pregnancy or in the past 4 weeks of pregnancy. Non-genito-pelvic pain was defined using the McGill Pain Questionnaire Short-Form⁵ and was described as any pain experienced more than once per week or more than five times per month in an area other than the genital and/or pelvic region. Patients also identified whether they had a diagnosed chronic pain condition. The location of pain prior to and during pregnancy was identified. Patients were able to indicate multiple pain locations. The average intensity of the pain, intensity of the worst pain, and the unpleasantness of pain during pregnancy were indicated using a numeric rating scale (0 indicating no pain and 10 indicating the worst pain ever). Present pain intensity was evaluated using a 6-point scale ranging from no pain to excruciating pain.

The second questionnaire (2 weeks postpartum) attempted to identify possible predictors of pain that occurred in the immediate postpartum period. Patients indicated whether they had an epidural for labour analgesia and mode of delivery. The third questionnaire (3 months postpartum) targeted persistent postpartum pain. The incidence and location of non-genito-pelvic pain occurring in the past 2 weeks were elicited at 2 weeks and 3 months postpartum using the definition from the McGill Pain Questionnaire Short-Form.⁵ Pain intensity was quantified using a 6-point scale. The authors have previously published findings from this data set,⁶ but that report focused on genito-pelvic pain.

Statistical Analysis

Data were analyzed using descriptive statistics, and categorical variables were compared using Pearson’s χ^2 tests. Data are presented as frequency (percentage), mean \pm standard deviation, or median (interquartile range [IQR]). A *P* value of <0.05 was considered significant.

RESULTS

A total of 320 women were invited to participate. Of the 254 women who consented to participate, 133 (52%) completed all three surveys and were included in the analysis. Figure 1 illustrates the flow of recruitment throughout the study. The sociodemographics of participants are reported in Table 1. Mode of delivery, the use of epidural analgesia, and delivery complications are indicated in Table 2. Thirty-six percent of women had a Caesarean delivery, and 80% received an epidural for labour analgesia.

Pain present only during pregnancy was indicated by 26 women (20%) in the cohort. Twenty-two women (17%) reported no pain throughout the peripartum period. Fifteen women (11%) reported pain present at 2 weeks postpartum but no pain present at 3 months postpartum.

Pain Prior to Pregnancy

Fifty patients (38%) had a chronic pain condition or pain that predated pregnancy. Migraine ($n = 13$), irritable bowel syndrome ($n = 8$), and back pain ($n = 2$) were the most commonly cited chronic comorbidities. The most common location for the pain is cited in Table 3.

Pain During Pregnancy

Seventy-three patients (55%) described pain in the previous 4 weeks of their pregnancy. Table 4 displays the

Figure 1. Flowchart of patient recruitment and analysis.

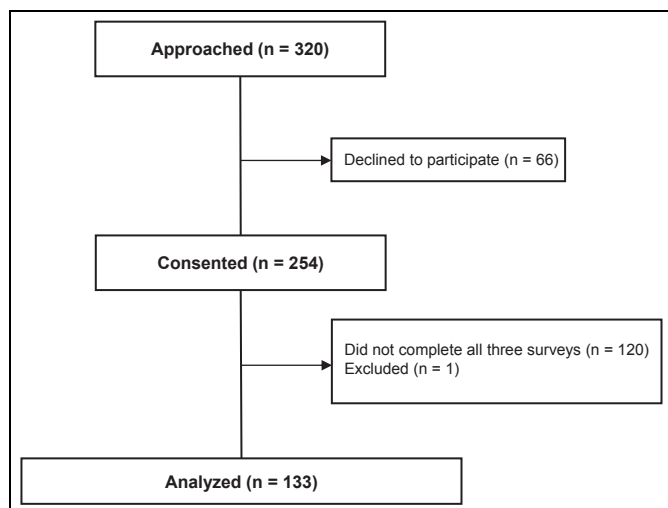


Table 1. Demographic characteristics

	Mean or frequency	n
Age, years	30 \pm 5	132
Education level		133
High school or equivalent	22 (17)	
Community college	27 (20)	
Undergraduate degree	51 (38)	
Graduate degree or higher	33 (25)	
Nationality		133
Canadian	115 (86)	
Non-Canadian	18 (14)	
Relationship status		133
Married/cohabiting with partner	126 (95)	
Other relationship status	7 (5)	

Data are presented as mean \pm standard deviation or frequency (%).

average level of pain, worst level of pain, and average level of unpleasantness for this time point. Pain intensity and location are also presented in Table 4. Of the 73 patients describing pain in pregnancy, 31 (42%) had a chronic pain condition or pain prior to pregnancy. The other 42 patients (58%) developed new pain during pregnancy, leaving only 41 patients (31%) who had not yet experienced pain.

Postpartum Pain

The severity of labour pain was captured in the second questionnaire. Where patients reported their average level of pain throughout labour, the median was 7 (IQR 5–8); the median score for worst level of pain during labour was 9 (IQR 8–10), and the median score for average level of unpleasantness was 7 (IQR 5–9). Forty-six participants (35%) described their average level of pain throughout labour as severe (numeric rating scale 8–10). However, these participants were not more likely to experience pain at 2 weeks or 3 months postpartum ($\chi^2 [1, N = 132] = 0.146; P = 0.70$). Following delivery, pain was present in 57 women (43%) 2 weeks postpartum. Location, intensity, and average level of pain and unpleasantness are depicted in Table 5. Of the patients who had pain 2 weeks postpartum, 29 (51%) had prior pain or a chronic pain

Table 2. Delivery outcomes

	Frequency (%)	n
Mode of delivery		133
Assisted vaginal delivery	21 (16)	
Spontaneous vaginal delivery	64 (48)	
Caesarean delivery	48 (36)	
Epidural	106 (80)	132

Table 3. Characteristics of pain prior to pregnancy

	Frequency (%)	n
Chronic pain condition and/or pain prior to pregnancy	50 (38)	133
Chronic pain condition	37 (28)	133
Migraine	13 (10)	
Irritable bowel syndrome	8 (6)	
Back pain	2 (1)	
Other	14 (11)	
Pain prior to pregnancy ^a	23 (17)	133
Lower back	15 (11)	
Hips	6 (5)	
Genital/pelvic	7 (5)	
Legs	7 (5)	
Feet	8 (6)	
Head	4 (3)	
Other (wrists, knees, neck, shoulders)	9 (7)	

^aPain prior to pregnancy was defined as pain more than once per week or more than five times per month. Patients were allowed to select more than one site.

Table 4. Characteristics of pain during pregnancy

	Mean or frequency	n
Incidence of pain ^a	73 (55)	133
Site of pain during pregnancy ^b		133
Lower back	54 (41)	
Hips	37 (28)	
Legs	25 (19)	
Feet	29 (22)	
Head	11 (8)	
Other (ribs, upper back)	31 (23)	
Present pain intensity		73
No pain	12 (9)	
Mild	17 (13)	
Discomforting	38 (29)	
Distressing	4 (3)	
Horrible	1 (0.75)	
Excruciating	1 (0.75)	
Average level of pain during pregnancy	4 [3–6]	73
Worst level of pain during pregnancy	6 [5–8]	73
Average level of unpleasantness of pain during pregnancy	6 [4–7]	73
MPQ-SF	12.9 ± 7.3	69

MPQ-SF: McGill Pain Questionnaire-Short Form.

Data are presented as mean ± standard deviation, median [interquartile range], or frequency (%).

^aPain during pregnancy was defined as pain more than once per week or more than five times over the past 4 weeks.

^bPatients were allowed to select more than one site.

Table 5. Characteristics of pain 2 weeks postpartum

	Mean or frequency	n
Incidence of pain ^a	57 (43)	133
Site of pain ^b		133
Lower back	31 (23)	
Hips	11 (8)	
Legs	6 (5)	
Feet	4 (3)	
Head	14 (11)	
Other (breasts, abdominal/incision site, shoulders and upper back, wrist)	30 (23)	
Present pain intensity		57
No pain	12 (9)	
Mild	19 (14)	
Discomforting	22 (17)	
Distressing	3 (2)	
Horrible	1 (0.75)	
Excruciating	0 (0)	
Average level of pain during the last month	5 [4–6]	57
Worst level of pain during the past 2 weeks	7 [6–8]	57
Average level of unpleasantness of pain during the past 2 weeks	6 [5–8]	57
MPQ-SF	10.2 ± 5.9	52

MPQ-SF: McGill Pain Questionnaire Short-Form.

Data are presented as mean ± standard deviation, median [interquartile range], or frequency (%).

^aPain at 2 weeks postpartum was defined as pain more than once per week for the past 2 weeks.

^bPatients were allowed to select more than one site.

condition and 35 patients (61%) had pain during pregnancy. Nineteen patients (33%) had pain that predated pregnancy and continued to this time point. Twelve patients (21%) who had no pain prior to pregnancy or during pregnancy developed new pain 2 weeks postpartum. Pain in 47 of 92 patients (51%) who reported prior pain or pain in pregnancy had resolved by 2 weeks postpartum.

Pain 3 Months Postpartum

By 3 months postpartum 33 patients (25%) described pain. Location, intensity, and average level of pain and unpleasantness are depicted in Table 6. Thirteen women (39%) had a chronic pain condition or pain prior to pregnancy. Seventeen of these patients (51%) described pain in pregnancy, whereas 21 patients (64%) had pain 2 weeks postpartum. Five patients (4%) experienced pain throughout the peripartum period, continuing until 3 months postpartum. New pain that developed 3 months postpartum occurred in six patients (5%).

Table 6. Characteristics of pain 3 months postpartum

	Mean or frequency	n
Incidence of pain ^a	33 (25)	133
Site of pain ^b		133
Lower back	17 (13)	
Hips	6 (5)	
Legs	6 (5)	
Feet	4 (3)	
Head	4 (3)	
Other (abdomen/incision site, knee, mid back, wrist)	14 (11)	
Pain intensity		33
No pain	7 (5)	
Mild	12 (9)	
Discomforting	12 (9)	
Distressing	2 (2)	
Horrible	0 (0)	
Excruciating	0 (0)	
Average level of pain during the last month	4 [3–6]	33
Worst level of pain during the past 2 weeks	6 [4–7]	33
Average level of unpleasantness of pain during the past 2 weeks	5 [3–7]	33
MPQ-SF	9.1 ± 5.0	32

MPQ-SF: McGill Pain Questionnaire Short-Form.

Data are presented as mean ± standard deviation, median [interquartile range], or frequency (%).

^aPain at 3 months postpartum was defined as pain more than once per week for the past 2 weeks.

^bPatients were allowed to select more than one site.

Predictors of Pain at 2 Weeks and 3 Months Postpartum

The use of epidural analgesia for labour was not associated with pain at 2 weeks ($\chi^2 [1, N = 132] = 3.48; P = 0.06$) or 3 months postpartum ($\chi^2 [1, N = 132] = 0.57; P = 0.45$). Caesarean delivery was associated with more pain

at 2 weeks postpartum compared to those who had a vaginal delivery ($\chi^2 [1, N = 133] = 17.39; P < 0.001$). However, by 3 months there was no difference in the incidence of pain between the groups ($\chi^2 [1, N = 133] = 1.67; P = 0.20$). Assisted vaginal delivery was not associated with more pain at 2 weeks ($\chi^2 [1, N = 133] = 1.01; P = 0.31$) or 3 months postpartum ($\chi^2 [1, N = 133] = 0.08; P = 0.78$) compared with spontaneous vaginal deliveries.

As seen in Figure 2, patients with pre-existing pain did not appear more likely to have pain in pregnancy ($\chi^2 [1, N = 133] = 1.64; P = 0.20$). However, women with pre-existing pain were more likely to experience pain 2 weeks postpartum ($\chi^2 [1, N = 133] = 7.50; P = 0.006$) (Figure 2), and patients with pain 2 weeks postpartum were more likely to have pain 3 months postpartum ($\chi^2 [1, N = 133] = 7.74; P = 0.005$) (Figure 3).

DISCUSSION

This study aimed to identify the incidence of pain at various time points in the peripartum period.

The incidence of pain was highest during pregnancy, with 55% of women reporting pain. The percentage of women experiencing pain at this time point is not surprising because the literature suggests that the prevalence of back pain and pelvic girdle pain during pregnancy ranges from 42% to 70%.² A surprisingly large number of patients (25%) reported pain 3 months after delivery, which is higher than previously cited in the literature.^{7–11}

Pain Prior to Pregnancy

History of pain has been associated with chronic pain after surgery.^{12,13} The authors hypothesized that patients with pre-existing pain or a chronic pain condition would be more likely to have pain 3 months postpartum. Glowacka et al. showed that pre-pregnancy non-genito-pelvic pain was

Figure 2. Pre-existing pain and its relationship to peripartum pain.

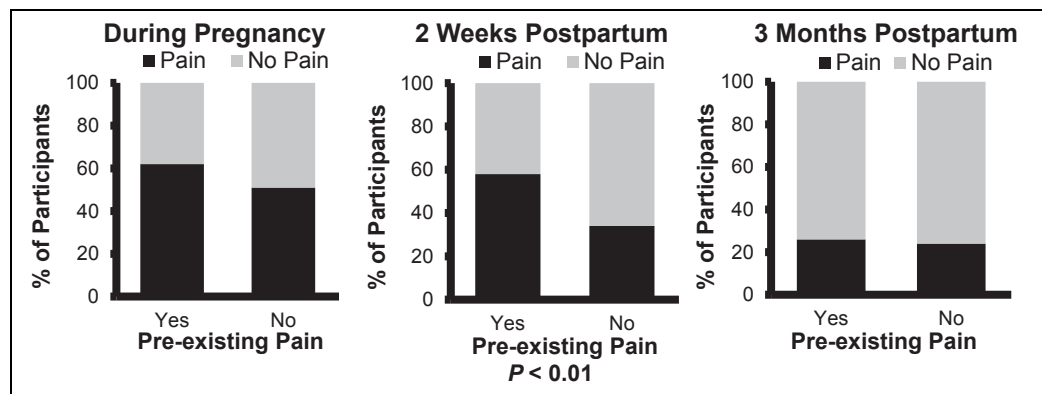
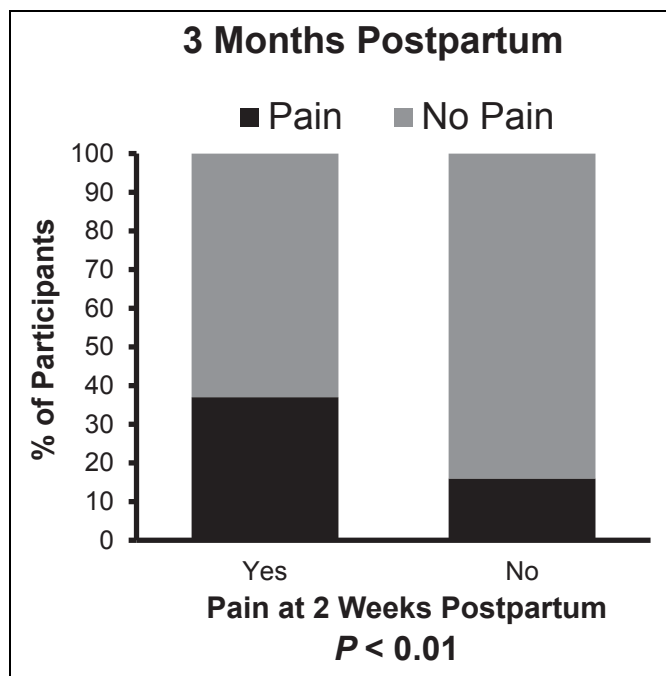


Figure 3. The relationship between pain 2 weeks postpartum and 3 months postpartum.



associated with genito-pelvic pain at 3 months postpartum.⁶ Similarly, a large questionnaire demonstrated that persistent pain was more common 1 year postpartum in women who had previous pain, previous back pain, or any chronic disease.⁷ In this study, 28% of patients had a chronic pain condition and 17% experienced pain prior to pregnancy. The prevalence of persistent pain among adult primary care patients is estimated at 22%, which closely reflects the findings of this study.¹⁴ Patients in this study with pre-existing pain were more likely to experience pain 2 weeks postpartum but not at 3 months postpartum. This finding is in conflict with studies that linked a history of chronic pain to postpartum pain that persisted up to 1 year.^{10,15} It is possible that psychosocial factors may explain that conflict. After the acute pain of childbirth subsides, women may not focus on pain because they are preoccupied with childcare 3 months postpartum. Another explanation may be that after the experience of labour and delivery, women may have an altered perspective of pain compared with their pre-pregnant state. This may explain the decreased percentage of women reporting pain 3 months postpartum relative to their pre-pregnancy pain rates.

Pain During Pregnancy

Approximately 55% of patients reported pain in the last 4 weeks of pregnancy. This finding is supported in the literature, in which the prevalence of pregnancy pain ranges from 24% to 90%.^{16,17} The most common pain sites

identified in this study were the back, hips, and lower extremity. Low back pain is common during pregnancy and tends to increase as pregnancy advances.¹⁸

Pain During Labour and Delivery

Acute pain has been found to be a predictor of chronic pain.^{12,13} In this study, labour pain was rated the highest of all peripartum pain on the 10-point scale, but severe labour pain was not associated with pain experienced postpartum at 2 weeks or 3 months. Eighty percent of this cohort received an epidural for labour analgesia. It has been questioned whether analgesia for the pain of labour and delivery may mitigate the development of postpartum pain. Prior studies evaluating the effect of neuraxial anaesthesia on postpartum pain have had mixed results.⁷ Although it would be interesting to determine whether epidural analgesia decreases postpartum chronic pain, this study did not find an association because the intervention occurred so frequently. The use of epidural analgesia was not associated with pain at 2 weeks or 3 months postpartum. Similarly, Kainu et al. evaluated epidural analgesia provided to 66% of women with a vaginal delivery and found that it did not affect the incidence of chronic pain 1 year later.¹⁰

The prevalence of chronic postsurgical pain rates in retrospective studies varies between 12% and 33%^{7,10,19} and is estimated to be between 10% and 21% in prospective studies.^{8,9,20} This study population had a Caesarean delivery rate of 36%. The rate is higher than the study institutional rate of 28% and the 2013 national rate of 27.3%.²¹ The difference is likely due to selection bias; recruiting took place within clinics staffed by maternal fetal medicine specialists. Patients who had a Caesarean delivery reported more non-genito-pelvic pain 2 weeks postpartum than those who had a vaginal delivery. The literature provides mixed results regarding the prevalence of postpartum pain based on mode of delivery. Kainu et al. found a significant difference in persistent pain 1 year after delivery between Caesarean delivery (18%) and vaginal delivery (10%).¹⁰ The same investigators completed a large prospective study and found the incidence of persistent pain 1 year after delivery was greater after Caesarean delivery (85/379 [22%]) than after vaginal delivery (58/713 [8%]).¹⁵ In contrast, Eisenach et al. did not find a difference in pain 8 weeks postpartum when vaginal versus Caesarean delivery was compared.¹¹

Perineal pain is more common in patients who have an assisted delivery (forceps or vacuum extraction).²² In this study, only a small number of parturients (16%) had an assisted vaginal delivery. Although we did not find an association between assisted vaginal deliveries and

postpartum non-genito-pelvic pain, it would be unlikely for postpartum pain caused by instrumental delivery to be felt anywhere other than the genito-pelvic region.

Postpartum Pain

Higher acute pain scores after Caesarean and vaginal delivery have been identified as predictors of chronic postpartum pain.^{7–10,15} In this study, 43% of patients described pain 2 weeks after delivery, a time point not previously described in the literature. Eisenach et al. found the prevalence of severe acute pain within 36 hours postpartum was lower than that of this cohort at 11%.⁸ It is possible that a longer time interval is required to establish pain. Within 36 hours, patients may be taking analgesics and limiting mobility, which could explain why a higher incidence of pain was noted at 2 weeks in the current study. In the prospective cohort study by Eisenach et al., women with severe acute postpartum pain had a 2.5-fold increased risk of persistent pain. Similarly, a correlation between pain experienced 2 weeks postpartum and pain that occurred 3 months postpartum was demonstrated in this study. This finding is supported by Kainu et al., who reported that women with persistent pain recalled significantly more pain on the day after Caesarean and vaginal delivery.^{10,15} Higher pain scores in the immediate postoperative period have been shown to correlate with chronic pain at 3 months.²³ In this cohort, of the 33 patients describing pain 3 months postpartum, only 13 patients described pain prior to pregnancy. This finding may imply that postpartum pain is more likely related to pain developed during pregnancy or delivery rather than a pre-existing chronic pain condition. If the occurrence of pain at these prenatal time points could be elicited by the primary care provider, multimodal interventions such as medication and physiotherapy may be instituted in hopes of mitigating chronic postpartum pain.

A prospective cohort study focusing on pain beginning at the time of labour found the prevalence of persistent pain after 8 weeks was 10%.⁸ Similarly, Lavand'homme et al. found that the incidence of pain 8 weeks postpartum was nearly 10%.²⁴ These rates are lower than the 25% of patients who described pain at 3 months in this study. A longer time interval may be required to evaluate the true incidence of postpartum pain. In an analysis of a large database, the incidence of Caesarean incision pain that persisted for a minimum of 6 months was 18% in primiparous women,²⁵ which more closely reflects the current findings. This 6-month postpartum interval may be a valuable time frame for care practitioners to discuss pain with their patients. There is evidence that postpartum pain has other medical consequences, such as depression, which

benefit from early intervention.¹¹ The higher rate of pain at 3 months postpartum may be attributable to the population of participants who completed the survey. It is possible that women experiencing pain would be more likely to consent and complete all surveys, potentially biasing the results towards women with more pain.

This study has limitations that preclude it from identifying predictors of chronic postpartum pain with true certainty. This was an observational study, with a sample size of convenience. No a priori sample size estimate was calculated; therefore, it cannot be certain that the relationship of pain to the study time points is adequately powered to show a statistical difference. Future work from our research group will be conducted with the aim of following up on these findings with a larger, more comprehensive data set. The study design used self-report measures with no personal interview. Intrapartum pain was assessed in the 2-week questionnaire, which introduces the issue of recall bias. The term “pain” was used in the questionnaire to capture all types of non-genito-pelvic pain. However, recognizing that participants experienced pain at various locations, the pain experienced postpartum may not have the same origin. Patients' individual pain trajectories were not followed. This means that a patient could have indicated a pain condition that predated pregnancy, but yet reported she had no pain during pregnancy. Although it is unlikely that pregnancy improved patients' pain condition, it is more likely that the patients were addressing new pregnancy pain only. Although not a study objective, the important interactions of genito-pelvic and non-genito-pelvic pain states need to be acknowledged. For example, the reduction in pain 3 months postpartum from the pre-pregnant state may have been due to the elimination of severe dysmenorrhea, a known cause of chronic pelvic pain. However, this phenomenon was not demonstrated in the cohort. Results from a prior data set⁶ indicated that genito-pelvic pain was experienced in 5% of women ($n = 7$) prior to pregnancy, 46% ($n = 61$) during pregnancy, 74% ($n = 99$) 2 weeks postpartum, and 26% ($n = 35$) 3 months postpartum. The increase in genito-pelvic pain postpartum compared with the pre-pregnant state was as expected and cannot explain the relative decrease in non-genito-pelvic pain observed 3 months postpartum. Additionally, the number of patients reporting pain 2 weeks postpartum could be inflated due to the high incidence of Caesarean deliveries; the literature suggests a higher incidence of postpartum pain with this type of delivery mode.^{10,15} Finally, this study only evaluated pain present 3 months postpartum. Future studies should focus on longer-term follow-up to determine the true persistence of postpartum non-genito-pelvic pain.

CONCLUSION

Pain 3 months postpartum may be more prevalent than previously cited in the literature. Women with a pain history did not appear more likely to experience persistent postpartum pain. This suggests that physiological changes that occur at delivery and the presence of acute pain more significantly affect chronic postpartum pain. This study demonstrates that women who experienced pain 2 weeks postpartum were more likely to have pain 3 months postpartum. Pain control efforts should be tailored to these time points—pregnancy and the early postpartum period. Because pain causes a significant burden for new mothers, it is important that ongoing research helps to further predict risk factors for developing chronic postpartum pain.

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