

# 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 monofoetale 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.<sup>1</sup> The pain is described as “horrible” in 23% of primiparas and 11% of multiparas.<sup>1</sup> 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.<sup>2</sup> It is possible that the duration and severity of acute labour pain could impact the development of chronic pain in the postpartum period.<sup>2</sup> Chronic pain is defined as pain persisting beyond the usual course of an acute disease or after a reasonable time for healing to occur.<sup>3</sup> Chronic post-surgical pain results from either dysregulation of inflammatory pathways leading to inflammation or neuropathic pain induced by surgical trauma.<sup>4</sup> 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.<sup>2</sup>

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-Form<sup>5</sup> 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.<sup>5</sup> Pain intensity was quantified using a 6-point scale. The authors have previously published findings from this data set,<sup>6</sup> but that report focused on genito-pelvic pain.

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