Prevalence of Low Back Pain, Pelvic Girdle Pain, and Combination Pain in a Pregnant Ontario Population



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Abstract

Objective: The purpose of the current pilot study is to determine the point and period prevalence of site-specific back pain, low back pain (LBP), pelvic girdle pain (PGP), and combined pain (Combo Pain) in pregnant women at a large urban centre in Ontario.

Methods: Point and period prevalence for LBP, PGP, and Combo Pain were determined using a questionnaire and accompanying pain diagram. Women were included in the study if they were healthy, of child-bearing age (18–45 years), currently experiencing a singleton pregnancy (any trimester), and proficient in the English language.

Results: Data collected from 287 women were included in the analysis. Three-quarters of women suffered from some sort of pregnancy-related back pain. The point and period prevalences for women who were experiencing LBP, PGP, and Combo Pain were 15.7%, 17.8%, and 15.3% and 33.4%, 27.9%, and 30.7%, respectively. Secondary analyses demonstrated that increasing GA and suffering from both pains at some point prior to pregnancy (Prior Both) increased the risk of experiencing PGP and Combo Pain during pregnancy, respectively.

Conclusion: The current study demonstrates that 76% of sampled women experienced pregnancy-related back pain and the prevalence of site-specific pain (LBP, PGP, and Combo Pain) increases with increased gestation. Risk factors include advanced GA and experiencing both types of pain prior to pregnancy (Prior

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Both). Furthermore, it is suggested that a standard definition of pain by location should be developed and employed so that future studies can elucidate appropriate prevention strategies and treatment options for each.

Résumé

Objectif: Cette étude pilote avait pour but de déterminer la prévalence de la douleur au dos, plus précisément de la douleur lombaire (lombalgie), de la douleur de la ceinture pelvienne (DCP) et de la douleur touchant ces deux régions (douleur combinée), ressentie par des femmes enceintes d'un important centre urbain d'Ontario le jour où elles ont répondu à un sondage et durant leur grossesse en général.

Méthodologie: La prévalence de la lombalgie, de la DCP et de la douleur combinée le jour du sondage et au cours de la grossesse en général a été déterminée à partir des réponses au questionnaire et d'un diagramme corporel. Les femmes retenues pour l'étude étaient en santé, en âge de procréer (18 à 45 ans) et enceintes d'un seul fœtus (peu importe le trimestre), et elles maîtrisaient bien l'anglais.

Résultats: Au total, 287 femmes ont été retenues. Trois participantes sur quatre ont dit éprouver de la douleur au dos liée à la grossesse. La prévalence de la lombalgie, de la DCP et de la douleur combinée était respectivement de 15,7 %, de 17,8 % et de 15,3 % le jour du sondage, et de 33,4 %, de 27,9 % et de 30,7 % au cours de la grossesse en général. Des analyses secondaires ont montré qu'un AG avancé et le fait d'avoir souffert à la fois de lombalgie et de DCP avant la grossesse augmentaient respectivement le risque de DCP et de douleur combinée durant la grossesse.

Conclusion: L'étude a montré que 76 % des participantes éprouvent de la douleur au dos liée à la grossesse, et que la prévalence de la douleur (lombalgie, DCP et douleur combinée) augmente à chaque grossesse. Les facteurs de risque comprennent l'AG avancé et le fait d'avoir souffert à la fois de lombalgie et de DCP

avant la grossesse. Par ailleurs, cette étude semble indiquer qu'une définition normalisée de la douleur devrait être établie pour chaque région, puis employée au cours d'études ultérieures visant à mettre au point des stratégies de prévention et des options thérapeutiques pour chacune.

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INTRODUCTION

Back pain is a common complaint in pregnancy. It has been reported that between 20% to 90% ^{1–5} of women suffer from some type of pregnancy-related back pain, and approximately 10% to 35% of them classify their pain as moderate, severe, or disabling. ^{1–3}, ^{6–9} In addition, pregnant women often report that back pain affects their activities of daily living. ^{1,2,7} Unfortunately, many health care providers ^{1,2} dismiss these complaints since they consider pregnancy-related back pain a temporary, self-limiting condition ¹⁰ and is not a serious health risk to the mother or fetus. ^{10,11} As a result, women suffering from this pain received little or no recommendations for treatment. ^{1,9}

Pregnancy-related back pain may be further classified as low back pain (LBP), defined as pain between the costal margins and the inferior gluteal folds, ^{12,13} and pelvic girdle pain (PGP), defined as pain in the symphysis pubis and/or between the posterior iliac crest and gluteal folds. ^{12–14} The pain that occurs simultaneously at both sides has been referred in the literature as "combined pain," "mixed pain," "lumbopelvic pain," or "lumbosacral pain," "combo Pain," as we refer to it in this study. These sites of pain are rarely investigated separately, which may explain the wide range in reported prevalences. As a result, etiology, pathophysiology, and risk factors^{7,11,15,16} of each remain unclear, ^{5,13–15,17} and as such, determining safe and effective treatment strategies ^{13,18} for this population is challenging.

The literature further suggests that the frequency and reason for these pain complaints may vary between countries, and, therefore, establishing national prevalence estimates¹ may be important to determine treatment options and prevention. To date, and to the best of our knowledge, there has been no study reporting the prevalence of site-specific pain (LBP, PGP, and Combo Pain) during pregnancy in Canadian population. Therefore, the purpose of this pilot study is to determine the prevalence of site-specific pain in pregnant women at a large urban centre in Ontario and to determine the risk factors.

METHODS

Study Design and Subject Recruitment

The current study was approved by the Research Ethics Board at the Canadian Memorial Chiropractic College (REB approval number 1306X01) and Sunnybrook Health Sciences Centre (Approval number 244-2013). Participants were recruited from August 2013 to August 2014 by word of mouth or by the obstetrician, nurse, or receptionist in the subject's circle of care at the hospital's prenatal clinic. Student investigators approached only those subjects who expressed interest, explained the study to them, and answered any questions. Healthy volunteers of 18–45 years old at any GA of a singleton pregnancy were included. Women were excluded if they were carrying multiple foetuses, suffering from a known and current disc pathology, previous surgery (e.g., back surgery for spine, previous Caesarean section, and abdominal herniorrhaphy), or having little comprehension of the English language. Although student investigators were chiropractic students, they approached all women who agreed to participation and did not specifically look for women who were engaged in chiropractic care. Consent was obtained from eligible women before the administration of the questionnaire.

In this study, a modified version of a questionnaire from a Norwegian study² was used where specific pregnancy-related pain sites were determined. The questionnaire contained a total of 44 questions grouped in seven sections and required no more than 20 minutes to complete. Questions pertaining to demographics, site-specific pain (LBP and PGP) prior to and during pregnancy, quality of life, treatment, and the psychosocial aspects of pain were included. To ensure that the site of pain (LBP and PGP) was clear to a participant, a diagram accompanied the pertinent sections of questionnaire. Pain-related variables (Table 1) were derived from the information regarding location and timing of pain (prior to or during pregnancy) collected in the survey. These variables were used for prevalence calculations.

Statistical Analysis

Point and period prevalence and corresponding CIs of site-specific pain (LBP, PGP, and Combo Pain) were calculated. ¹⁹ For the analysis of risk factors, the binary outcome variable pregnancy-related back pain was defined as any pain (LBP, PGP, or Combo Pain) experienced by participants at any point of time during their pregnancy, including the day of the survey. The logistic regression model was fit to determine the association between the probability of having pregnancy-related back pain and the history of pain prior to pregnancy (Prior LBP, Prior PGP, and Prior Both),

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