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Frequency, severity and persistence of postnatal dyspareunia to 18 months post partum: A cohort study

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ABSTRACT

Objective: to describe the frequency, severity and persistence of dyspareunia in the first 18 months after the birth of a first child.
Design: prospective pregnancy cohort study.
Setting: Melbourne, Victoria, Australia.
Population: 1507 nulliparous women.
Methods: women ≤24 weeks gestation were recruited from six public hospitals. Self-administered written questionnaires were completed at recruitment and at three, six, 12 and 18 months post partum.
Outcome measures: study-designed self-report measure of dyspareunia on first vaginal sex, and on second and subsequent sex at all time-points, utilising the rating scale from the McGill Pain Intensity Scale.
Findings: overall, 961/1122 (85.7%) of women experienced pain on first vaginal sex postnatally. The proportion of women experiencing dyspareunia reduced over time, from 431/964 (44.7%) at three months post partum to 261/1155 (22.6%) at 18 months post partum. Of the women who reported dyspareunia at each time-point, around 10% of women described the pain as *'distressing'*, *'horrible'* or *'excruciating'*. Women who had a caesarean section were more likely to report more intense dyspareunia at six months post partum (aOR=2.35, 95% CI=1.2–4.6).
Conclusions: postnatal dyspareunia decreases over time, but persists beyond 12 months for one in five women. Caesarean section appears to be associated with more intense dyspareunia.

Introduction

Dyspareunia (pain during sex) is a common experience of women after childbirth (Gjerdingen et al., 1993; Klein et al., 1994; Glazener, 1997; McCandlish et al., 1998; Barrett et al., 2000; Signorello et al., 2001; Stamp et al., 2001; Hannah et al., 2002; Schytt et al., 2005; Buhling et al., 2006; Brubaker et al., 2008; Declercq et al., 2008; Serati et al., 2008; McDonald et al., 2015). Four studies conducted in Germany, Canada, the United States and Australia found that a majority of women report pain on first vaginal sex after childbirth (Klein et al., 1994; Signorello et al., 2001; Buhling et al., 2006; McDonald et al., 2015). However, few papers have reported the severity, duration and intensity of dyspareunia over the course of the first 18 months postpartum. Estimates of prevalence of dyspareunia in the first six months postpartum vary widely between studies, from 16–62% at three months (Gjerdingen et al., 1993; McCandlish et al., 1998; Barrett et al., 2000; Signorello et al., 2001; Stamp et al., 2001; Hannah et al., 2002; McDonald et al., 2015) and 9–51% at six months post partum (Gjerdingen et al., 1993; Barrett et al., 2000; Signorello et al., 2001; Brubaker et al., 2008; Serati et al., 2008; McDonald et al., 2015) depending upon the methods used for ascertainment (e.g. wording of questions and response options, timing of data collection and extent to which measures are subject to recall bias). Very few studies distinguish between pain on first vaginal sex and pain during second and subsequent sex (Buhling et al., 2006; McDonald et al., 2015). Data

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from three studies suggest that 8–28% of women experience dyspareunia at 12 months post partum (Schytt et al., 2005; Serati et al., 2008; McDonald et al., 2015). There are major gaps in the literature with respect to assessment of the intensity and severity of dyspareunia, and pattern of dyspareunia over time.

The Maternal Health Study is an Australian multi-centre, prospective pregnancy cohort study investigating common postnatal maternal morbidities, including urinary and faecal incontinence, perineal pain and sexual health problems. The study was designed to provide a comprehensive picture of maternal health during pregnancy, and the first 18 months postpartum, including detailed information regarding changes to sexual health and intimacy during this time period. We have previously reported data on the timing of resumption of vaginal sex, and on the association between mode of birth and dyspareunia at six and 18 months postpartum (McDonald and Brown, 2013; McDonald et al., 2015). The objectives of this paper are: (1) to describe the frequency, severity and persistence of dyspareunia in the first 18 months after the birth of a first child and (2) to investigate the association between mode of birth and more intense dyspareunia, taking into account other maternal social and obstetric characteristics.

Methods

The sample for the study comprised nulliparous women ≥ 18 years of age who were recruited between 1 April 2003 and 31 December 2005 from six metropolitan public hospitals in Melbourne, Australia. The hospitals serve an ethnically diverse population spanning inner and outer suburbs of Melbourne, and offer high and low-risk services. Additional eligibility criteria were sufficient English language fluency to complete self-administered questionnaires and telephone interviews, and estimated gestation of ≤ 24 weeks at enrolment (according to ultrasound or date of last menstrual period).

Staff at participating hospitals mailed women an invitation package after booking. Study staff also made regular visits to antenatal booking clinics at two participating hospitals, and to childbirth education classes at another study site, to distribute information packages to eligible women. The invitation package included a baseline questionnaire, information sheet, study consent form, a form for providing contact details and a reply paid envelope for returning documents to the research team. A reminder postcard was mailed to women two weeks after the initial invitation. Further follow-up of non-responders was proscribed by the conditions of our ethics approval and Australian privacy legislation. Data were collected via self-administered questionnaires at ≤ 24 weeks' gestation, and at three, six, 12 and 18 months post partum.

Questionnaires were approximately 40 pages in length and focused on the assessment of maternal physical and psychological health. Questions regarding dyspareunia were included in all postnatal questionnaires.

Ascertainment of the timing of *resumption of vaginal sex* after childbirth was based on women's responses to questions asking about resumption of vaginal sex included in questionnaires at three, six, and 12 months post partum. At each time-point women were asked: 'Have you had vaginal intercourse since your baby was born?'. If yes, women were asked when this occurred. This question was included in each of the follow-up questionnaires at three, six and 12 months post partum in order to accommodate women resuming vaginal sex up to 12 months post partum

Ascertainment of *pain on first vaginal sex* was based on women's response to the question 'How much pain or discomfort, if any, did you feel the first time you attempted to have vaginal intercourse after your baby was born?'. Responses to this question were from the McGill Pain Intensity Scale: *'no pain', 'mild', 'discomforting', 'distressing', 'horrible',* or *'excruciating'* (Melzack, 1975; McDowell and Newell, 1996).

Ascertainment of *postnatal dyspareunia* at three, six, 12 and 18 months post partum was based on women's responses to the question 'Are you still experiencing pain or tenderness during vaginal intercourse?' Unless otherwise indicated, "postnatal dyspareunia' refers to pain experienced on occasions other than the first time women had sex after the birth. Assessment of the intensity of postnatal dyspareunia was based on women's responses to the questions 'How would you describe the pain or discomfort you are experiencing during vaginal intercourse now?'. The possible responses were: *'mild', 'discomforting', 'distressing', 'horrible',* or *'excruciating'* (McGill Pain Intensity Scale) (Melzack, 1975, and 2005).

The questionnaires at three, six, 12 and 18 months post partum also included the Brief Pain Inventory (BPI) for women to describe the nature of their pain during sex (Cleeland and Ryan, 1994; McDowell and Newell, 1996).

Questions about the resumption of sex and dyspareunia were piloted in conjunction with other sections of the questionnaires. Results of the pilot study indicated that questions asking about dyspareunia adapted from the McGill Pain Questionnaire (Melzack, 1975, 2005) and Brief Pain Inventory (Cleeland and Ryan, 1994; McDowell and Newell, 1996) were highly acceptable to the pilot cohort and showed good face validity (McDonald et al., 2004).

Data were analysed using Stata version 13 (StataCorp., 2013). Analyses were restricted to women who completed the baseline questionnaire and follow-up questionnaires at three, six, 12 and 18 months post partum. Results include descriptive frequencies for postnatal dyspareunia and intensity of dyspareunia at each time-point. Univariable and multivariable logistic regression was used to examine the association between mode of birth and perineal trauma (exposures of main interest) and intensity of dyspareunia at six months postpartum (primary outcome), taking into account potential confounders. Variables were included in the multivariable regression models based on associations found in univariable analyses at six months post partum. For the multivariable analyses, the sample was restricted to women reporting dyspareunia at each time point. The outcome variable (dyspareunia) was dichotomised to compare women who reported *'mild'* pain with women who reported pain that was *'discomforting', 'distressing', 'horrible',* or *'excruciating'*. Data are presented as crude or adjusted odds ratios (ORs) with 95% confidence intervals (95% CI). Women who had a 2nd infant prior to the 18 months follow-up were excluded from analyses in order to focus on women's experiences of dyspareunia and changes over time outside of the context of pregnancy, and the immediate aftermath of a subsequent birth. The description of postnatal dyspareunia using the BPI is reported for all women reporting dyspareunia at each time-point post partum.

This study was approved by the following human research ethics committees: La Trobe University (2002/38); Royal Women's Hospital, Melbourne (2002/23); Southern Health, Melbourne (2002-099B); Angliss Hospital, Melbourne (2002), Royal Children's Hospital, Melbourne (27056A).

Findings

Sample

1537 women enroled in the study. Thirty women who did not meet study eligibility criteria were subsequently excluded. The reasons for excluding women after enrolment were: insufficient fluency in English (11), miscarriage (12), multiparity (5), and termination of pregnancy for fetal abnormality (2). The final sample