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Midwifery management of second-degree perineal tears in New Zealand: A cross-sectional survey of practice

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ABSTRACT

Background: Second-degree tears are the most common form of perineal trauma occurring after vaginal birth managed by New Zealand midwives, although little is known about midwives' perineal practice.
Aim: The aim of this study was to identify how midwives managed the last second-degree perineal tear they treated and the level to which their practice reflects National Institute for Health and Care Excellence guidelines.
Methods: An (anonymous) online survey was conducted over a six-week period in 2013. New Zealand midwives who self-identified as currently practising perineal management and could recall management of the last second-degree tear they treated were included in the analysis.
Findings: Of those invited, 645 (57.1% self-employed, 42.9% employed) were eligible and completed surveys. Self-employed midwives reported greater confidence (88.0% vs 74.4%, $p < 0.001$) and more recent experience (85.1% vs 57.4%, $p < 0.001$) with perineal repair than employed midwives. Midwives who left the last second-degree tear unsutured (7.3%) were more likely to report low confidence (48.9% vs 15.4%, $p < 0.001$) and less recent experience with repair (53.2% vs 24.7%, $p < 0.001$), and were less likely to report a digital-rectal examination (10.6% vs 49.0%, $p < 0.001$), compared to midwives who sutured. Care consistent with evidence-based guidelines (performing a digital-rectal examination, 59.4% vs 49.3% $p = 0.005$; optimal suturing techniques, 62.2% vs 48.7%, $p = 0.001$) was associated with recent perineal education.
Conclusions: Midwives' management of the last second-degree perineal tear is variable and influenced by factors including: employment status, experience, confidence, and perineal education. There is potential for improvement in midwives' management through increased uptake of evidence-based guidelines and through ongoing education.

Statement of significance

Problem

Little is known about how New Zealand midwives manage second-degree perineal tears.

What is already known

Concerns have been expressed about midwives' knowledge of perineal anatomy, their ability to diagnose severe perineal trauma, and the practice of leaving second-degree tears to self-heal.

What this paper adds

This is the first survey to provide information on midwives' self-reported management of the last second-degree tear that they treated in relation to evidence-based guidelines. Midwives' practice is influenced by confidence and experience with repair, employment status, practice years, and perineal education.

1. Introduction

Perineal trauma affects over two thirds of women who have a spontaneous vaginal birth.[1] Spontaneous vaginal births make up

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65% of all births in New Zealand (NZ)[2] and the management of the perineum following these births is usually the responsibility of the midwives.[3]

NZ provides free maternity care based on a partnership model, with women choosing their maternity provider (midwife, general practitioner or an obstetrician). The majority (93.4%) of pregnant NZ women choose a case-loading community-based midwife who provides continuity-of-care from the antenatal booking, through labour and birth (at home, midwifery-led primary unit, or secondary–tertiary hospital), to six weeks postpartum.[2] Case-loading midwives make up 38.1% of the midwifery workforce[4] and most (86.2%) are self-employed. If the maternity care becomes complicated, the case-loading midwife will refer the woman to the obstetric specialist team at a secondary–tertiary hospital. The obstetric specialist team will work with the hospital-employed midwives (48.9% of the midwifery workforce),[2] either to support the case-loading midwife to continue to provide care or to provide the woman's care.

Second-degree perineal muscle tears are the most common (28%) form of perineal trauma requiring repair by NZ midwives.[5] First-degree tears confined to perineal skin and subcutaneous tissue are not routinely repaired,[6] the incidence of episiotomy performed by NZ midwives is low (10%),[5] and third or fourth degree tears (2.5%) involving the anal sphincter are referred to obstetric specialists for repair.[6]

Most birthing women who experience perineal trauma report perineal morbidity,[7] including poor healing and infection,[7] but primarily pain[1,7,8] intensified by inadequate postpartum analgesia[9] and sub-optimal postnatal care.[7] Concerns have been reported in NZ medical journals[10,11] about NZ midwives' knowledge of perineal anatomy and ability to diagnose severe perineal trauma. However, there are no NZ midwifery guidelines on the management of perineal trauma and NZ datasets are restricted to quantification of severe tears, episiotomies, and intact perinea.[2] NZ research on this topic is limited to a study about influences on midwives' perineal repair decision-making[12] and does not describe practice. How NZ midwives' perineal assessment and repair techniques compare to the internationally recognised National Institute for Health and Care Excellence (NICE) intrapartum guidelines[6] which are informed by Cochrane Systematic reviews[13–16] and provide detailed evidence-based information on the management of perineal trauma, is currently unknown.

This research aimed to describe how midwives managed the last second-degree perineal tear they treated after a birth, factors affecting their management of this tear and their evaluation of healing, and to establish the level to which their perineal practice reflects best evidence.

2. Participants, ethics and methods

2.1. Study design and participants

A cross-sectional online survey was undertaken over a six-week period in February and March 2013. Eligible respondents were midwives currently undertaking perineal assessment and repair and who could recall their management of the last second-degree tear they treated.

2.2. Data collection

An invitation email, with a link to the questionnaire platform which hosted the online survey (Qualtrics) was distributed via the New Zealand College of Midwives (NZCOM) to actively practising midwife members with a valid email address, who agreed to receive non-practice-related emails. This comprised 76% (2236 of 2938) of the total number of practising midwives in NZ in 2013. At two and four weeks after the initial invitation to participate, a reminder email was sent. Data were collected exclusively via the anonymous online survey questionnaire. The survey was open for a period of six weeks.

2.3. Measures

The survey utilised 22 of 24 questions (with permission) from the Perineal Assessment Repair Longitudinal Study, which had been validated for the UK context.[20] In addition, midwives' employment status, their decision to suture or not to suture the woman with the last second-degree tear they treated, and postnatal perineal management data were collected.

The draft of the survey was piloted on paper and online with 12 practising midwives, then revised and refined based on their feedback to achieve content and criterion validity. Cronbach's Alpha for questions representing confidence in perineal assessment and repair, measured using a four-point Likert Scale (confidence all of the time, most of the time, some of the time, or never confident), was 0.717, indicating internal consistency in the responses. Generated data were primarily nominal, and some ordinal, closed forced-choice questions. Free text comments were requested if the response differed from the options provided and at the completion of the interview.

The final survey consisted of 75 questions divided into four sequential sections:

1. About you: demographics and midwifery characteristics (including confidence with perineal care and perineal education).
2. Your management of the last second-degree perineal tear you treated (in the immediate postnatal period).
3. Postnatal perineal pain management (for the last tear treated)
4. Postnatal perineal healing assessment (for the last tear treated during the first six weeks after birth).

Midwives who reported being self-employed, while simultaneously being employed by others (including midwifery educational institutions, midwifery organisations, non-government community trusts, and Maori health providers), were categorised as self-employed based on a previous NZ midwifery research strategy.[12] Where midwives were employed by more than one employer, they were given a single employer (prioritised as tertiary, secondary, primary, other) due to the effect of the workplace environment on perineal practice.[17]

Midwives with more than one ethnicity were given a single ethnicity using the criteria recommended by the New Zealand Ministry of Health (Maori, Pacific, Asian, Other Non-European, Other European, and New Zealand European).[18] The inclusion of only the midwives who reported that they currently undertake perineal assessment and repair was to enable a degree of confidence that the data were contemporaneous. Furthermore, as opinion and practice questions may result in contradictory responses,[19] midwives were requested to answer based on their recall of the last woman they cared for who had a second-degree perineal tear they treated, rather than what they 'usually' did.

2.4. Data analysis

The minimum sample size (95% confidence level and 5% margin of error) was 328 midwives from a population of 2236 NZCOM member midwives who were emailed the survey invitation. Data were analysed using Statistical Package for Social Sciences (SPSS) version 24 and presented as number (percentage) or mean (SD) as appropriate. Chi-square tests were conducted for categorical variables; to assess factors that influence midwives' confidence with perineal management (employment status, years of practice,

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