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Title

Irish and New Zealand Midwives’ expertise at preserving the perineum intact (the MEPPI study): perspectives on preparations for birth.

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Abstract

Objectives: Perineal trauma during birth can result in short or long term morbidity for women. Internationally, rates of episiotomy and severe perineal tears vary considerably. In New Zealand, in 2011, and in a trial of midwife-led care in Ireland, episiotomy rates were found to be considerably lower than those in many other countries. A qualitative exploratory study was undertaken to ascertain how midwives achieve these low rates, in these countries and settings.

Design and participants: A qualitative exploratory study was conducted. Midwives expert in preserving the perineum intact (PPI) from two maternity units in the Republic of Ireland and from varied birth settings in New Zealand, were eligible to participate. Twenty-one consenting midwives took part, seven from Ireland and 14 from New Zealand.

Methods: University ethical approval was granted. Face-to-face, semi-structured interviews were used to collect the data. Interviews were recorded and transcribed verbatim. The data were analysed using Ethnograph software and were organised into prominent themes.

Findings: Four themes were identified; ‘Sources of knowledge for PPI’, ‘Associated factors’, ‘Decision-making on episiotomy’, and ‘Preparations for PPI’. Participants drew heavily on multiple sources of knowledge in building their own expertise for PPI. Physical characteristics of the perineum featured prominently as factors leading to PPI. Episiotomy was, in the main, only performed when there were signs of fetal distress. Antenatal perineal massage was supported.

Conclusion: This study provides valuable insight into the views and skills of midwives, with expertise in PPI at birth, adding to the body of evidence on this topic.
Keywords: ‘Midwives’ expertise’, ‘intact perineum’, ‘perineal care’, ‘perineal trauma’ and ‘episiotomy’

Highlights

- Valuable insight into the views and skills of midwives who have expertise in preserving the perineum intact are provided.
- The expert midwives demonstrated an up to date knowledge of research evidence and have applied it in their practice.
- The study contributes to the evidence base and has identified ways of minimising perineal trauma at birth
- The study provides a precedent for other similar qualitative studies on this topic
Introduction

Perineal trauma at birth is distressing for women and can cause short or long term morbidity. Perineal pain, postpartum dyspareunia and symptoms of depression and stress, for example, are more commonly increased in women with perineal trauma (Andrews et al. 2008; Laws and Sullivan, 2009; Dunn et al. 2015). Recognising that a perineal ‘no trauma’ rate for all women is not likely achievable, identifying ways to minimise even some instances of perineal trauma would be beneficial (Albers et al. 2005). The individual midwife has been identified as having an impact on overall perineal health (Ott et al. 2015).

Historically, in an attempt to protect the perineum from severe trauma, routine episiotomies were often performed during childbirth. A systematic review of eight randomised trials, involving 5541 women, however, showed that restrictive episiotomy, compared with routine episiotomy, resulted in less severe perineal trauma, less suturing and fewer healing complications. No differences were found, between the groups, in severe vaginal/perineal trauma, dyspareunia, urinary incontinence or in measures of pain (Carroli and Migini, 2009). Although episiotomy rates have fallen considerably in practice, large variations in rates still exist between countries. In 2010, for example, episiotomy rates for vaginal births for all women were 5-7% in Denmark, Sweden and Iceland; these countries, however, had the highest rates of severe perineal tears in Europe (3-4%). Norway and the United Kingdom (UK) had moderately low episiotomy rates (19-24%), with average severe perineal tear rates (2-3%). Other countries, for example, Poland and Portugal, continue to have exceptionally high episiotomy rates of 68-73% (EURO-PERISTAT, 2013).

New Zealand (NZ) is one country where episiotomy rates are considerably lower than in many others. In 2011, 866 midwives were registered with the Midwifery and Maternity
Providers Organisation (MMPO) in NZ and returned statistics on all births under their care. Of the 9673 nulliparous women who had a vaginal birth (including instrumental birth), 2157 women (16.7%) received an episiotomy (MMPO, 2011). Similar findings were obtained in a recent Irish trial of midwife-led care (the MidU study) where the episiotomy rate for all vaginal births in the midwife-led care arm, for all parities, was 14% and 8% (n=293/758) in nulliparous women (Begley et al. 2011). As these perineal outcome results from NZ and Ireland are unusually good, and differ from the findings of many other studies across the world, an exploratory study was designed to ascertain how these midwives achieve such good rates.

Aim

To explore Irish and New Zealand expert midwives’ views of the skills that they employ in preserving the perineum intact (PPI) during spontaneous vaginal birth, with a focus on preparation for birth (due to the wealth of data in this study, the study’s findings are presented across two study reports; this is the first of these).

Methods

Design

To gain deeper insight into the nature and meaning of experiences, an exploratory, descriptive approach was used in the study. Using exploratory description is advantageous as it allows for a rich narrative of experiences and is considered ideal when there is limited information on a topic (Burns and Grove 2011). As qualitative descriptive studies present the facts of the case, drawn from naturalistic enquiry, events are not described in terms of a conceptual or theoretical framework (Sandelowski 2000); we do, however, use some of the tenets of grounded theory, such as the constant comparative method of analysis, as we
believe it adds rigour (Sandelowski 2000). Ethical approval was granted by the University’s Faculty of Health Sciences Research Ethics Committee, the New Zealand College of Midwives (NZCM) and the Irish Health Service Executive (Dublin North-East). Participation in the study was completely voluntary, with written consent obtained before each interview. Participant anonymity was maintained by assigning interview codes (NZ 1-14 and IE 1-7). All data (interview tapes and transcripts) were securely stored in a locked filing cabinet in a locked office in accordance with the Irish Data Protection (Amended) Act 2003 (https://www.dataprotection.ie).

Setting

The study settings included hospital, home and community birth settings in NZ and two hospital birth settings, with alongside midwife-led units (MLUs), in the Republic of Ireland.

Sampling and Recruitment

Sampling was purposive and based on the following inclusion criteria; participants had to be employed in either one of the two hospital units in the Republic of Ireland, or practising as a Lead Maternity Carer (case-loading) in NZ with data available in the MMPO database, and be classified as an ‘expert’ in PPI. To be an ‘expert’, midwives had to have a no suture rate (intact perineum or first degree tears not requiring sutures) for nulliparous women, for the three and a half years before the study (2010-2013), of greater than 40%, episiotomy rate of less than 11.8% (the average taken from all NZ and Irish MLU data), and serious perineal tear rate of less than 3.2%. The midwifery managers in Ireland and the Chief Executive Officer (CEO) of the NZCM acted as gatekeepers for identifying eligible participants and for distributing the study information. Midwives who were willing to take part indicated their intention by contacting directly one of the research team. This ensured that the gatekeepers in each country were not informed as to who had chosen to take part in the study. A blanket
reminder was sent to all eligible midwives, by the CEO and midwifery managers, 14 days after the first circulation.

**Data Collection**

Data collection involved face-to-face, semi-structured interviews, conducted by the lead and last authors, who are both experienced in qualitative interview techniques. The interviewer in NZ was not known by most participants but, by chance, three of them had also been interviewed by her for the MEET study (Begley et al. 2012). The interviewer in Ireland was probably known by reputation to all Irish participants and had worked with four of them previously. Interviews took place at a venue and time suitable to the participants, in early 2014 and 2015. An interview schedule (Box. 1) was used to guide the interviews to ensure consistency across interviews. A short demographic questionnaire was also completed by participants at the start of the interview and labelled with the participant’s code number. All interviews were digitally recorded and subsequently transcribed verbatim. The average length of interviews was 40.4 minutes (standard deviation (SD) 5.10), ranging from 34 to 48 minutes.

**Box 1: Interview schedule**

- To start with, can you remember, when did you first start trying to preserve the perineum intact (PPI)?
  
  Was there a particular reason why you chose to do this?
  
  - Are there any particular circumstances when you would definitely perform an episiotomy?
  
  - How do you know that a woman’s perineum is going to stretch and not tear?
  
  - Try to imagine you are caring for a primigravid woman now, who is in the second stage of labour and the head is visible. Please tell me exactly what you do, in order, for the next half hour.

  Prompts: position, encourage pushing or not, touching perineum or not, flexing head or not, signs of potential tearing or stretching, any special techniques (digital stretching, support with heel of hand, etc). Also, how exactly any practical manoeuvres are achieved
• Are there any other factors that you think help to prevent a woman’s perineum tearing (or make it more likely to tear)?
  Prompts: general health, nutrition, exercise, race, age, preparation in pregnancy
• Is there any advice you provide to minimise perineal trauma during labour and birth?
  Prompts: Birth position? Use of perineal massage or warm pads during birth, etc?
• How do you know whether or not a woman requires sutures in her perineum?
• What advice do you give to women around perineal care following birth?
• Is there anything else you would like to add?
Thank you for your help

Data Analysis

Thematic analysis was used to analyse the data. The computer software package, Ethnograph version 6.0 (http://www.qualisresearch.com/), assisted with this. Initial findings were shared between researchers and were tested in successive interviews, using the constant comparative method; evidence of contradictory views was looked for by questioning subsequent participants (Mays and Pope 2000). Theoretical saturation occurred at approximately interview 15, with following interviews serving to test emergent themes.

Rigour

To improve credibility, prolonged engagement with the data was undertaken and participant’s own words were used in presenting the findings. Stepwise replication was used to enhance dependability, whereby two of the researchers analysing the data swapped a number of transcripts, allowing for independent interpretations of the data which could be compared and contrasted subsequently (Cronin et al. 2015). Their analysis was checked by ‘peer debriefing’ (Kitto et al. 2008), where all other authors were sent two transcripts from participants not in their country, to read in conjunction with the draft findings and comment on any aspects that were unclear or missing. An ‘audit trail’ was maintained to ensure
confirmability (Streubert and Carpenter, 2011). This was achieved through a detailed account of the conduct of fieldwork and through providing examples of raw, coded, categorised and thematic data. A draft of the findings was sent to all participants with a request for any comments. All feedback received was incorporated into the final draft.

Findings

Participant characteristics

Twenty-one midwives consented and took part in the study. Seven midwives were from Ireland and 14 from NZ. Participants’ overall episiotomy rate, for the previous three and a half years, was 3.91%, ‘no suture’ rate (intact perineum and first degree tears) was 59.24%, and third and fourth degree laceration rate was 1.08% (Table 1), confirming these participants’ status as ‘expert’ in PPI.

Table 1: Participant characteristics and outcome

<table>
<thead>
<tr>
<th>Characteristic or outcome</th>
<th>Ireland</th>
<th>New Zealand</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participating midwives</td>
<td>7</td>
<td>14</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Midwife-led unit (4)</td>
<td>All Lead Maternity Carers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hospital labour ward (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean length of time working as a registered midwife</td>
<td>15.9 years (SD 11.8) (range: 5-36 years)</td>
<td>16.7 years (SD 10.6) (range: 5-36 years)</td>
<td>16.6 years (SD 10.6) (range: 5-36 years)</td>
</tr>
<tr>
<td>Mean length of time consciously trying to preserve the perineum intact</td>
<td>14.9 years (SD 10.3) (range: 5-30 years)</td>
<td>14.2 years (SD 7.4) (range: 5-30 years)</td>
<td>14.5 years (SD 8.2) (range: 5-30 years)</td>
</tr>
<tr>
<td>Never taught techniques of preserving the perineum</td>
<td>2 (29%)</td>
<td>2 (14%)</td>
<td>4 (19%)</td>
</tr>
<tr>
<td>Taught techniques in both classroom and in practice</td>
<td>5 (71%)</td>
<td>12 (86%)</td>
<td>17 (81%)</td>
</tr>
<tr>
<td>Episiotomy rate</td>
<td>12/157 7.64%</td>
<td>17/584 2.91%</td>
<td>29/741 3.91%</td>
</tr>
<tr>
<td>‘No suture’ rate*</td>
<td>80/157 50.96%</td>
<td>359/584 61.47%</td>
<td>439/741 59.24%</td>
</tr>
<tr>
<td>3rd/4th degree tear rate</td>
<td>3/157 1.91%</td>
<td>5/584 0.86%</td>
<td>8/741 1.08%</td>
</tr>
</tbody>
</table>

* Intact perineum plus first degree tears not sutured
Thematic analysis

Four core themes on midwives’ expertise emerged from the data. These were ‘Sources of knowledge for PPI’, ‘Associated factors’, ‘Decision-making on episiotomy’, and ‘Preparations for PPI’. Table 2 presents the codes, including extent of use, categories and themes that emerged from the data.

Table 2: Codes, categories and themes

<table>
<thead>
<tr>
<th>Code</th>
<th>No. using</th>
<th>No. times used</th>
<th>Categories</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taught wrongly in practice</td>
<td>11</td>
<td>14</td>
<td>1. Practice-based teaching</td>
<td>Sources of knowledge for PPI</td>
</tr>
<tr>
<td>Taught correctly in practice</td>
<td>4</td>
<td>5</td>
<td>2. Practice-based learning</td>
<td></td>
</tr>
<tr>
<td>Taught by experts</td>
<td>6</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learn from feedback</td>
<td>8</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trial and error</td>
<td>5</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other midwives’ practice</td>
<td>11</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factors leading to tears</td>
<td>14</td>
<td>54</td>
<td>1. Factors leading to tears</td>
<td>Associated factors</td>
</tr>
<tr>
<td>Factors leading to PPI</td>
<td>4</td>
<td>8</td>
<td>2. Factors leading to PPI</td>
<td></td>
</tr>
<tr>
<td>Nutrition</td>
<td>7</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baby’s hand up</td>
<td>8</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water helps</td>
<td>8</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reasons for trying to PPI</td>
<td>13</td>
<td>31</td>
<td>1. Reasons for not doing an episiotomy</td>
<td></td>
</tr>
<tr>
<td>Reasons for doing episiotomy</td>
<td>20</td>
<td>64</td>
<td>2. Reasons for doing an episiotomy</td>
<td>Decision-making on episiotomy</td>
</tr>
<tr>
<td>Preparation in pregnancy</td>
<td>14</td>
<td>33</td>
<td>1. Preparation in pregnancy</td>
<td>Preparations for PPI</td>
</tr>
<tr>
<td>Antenatal massage</td>
<td>19</td>
<td>40</td>
<td>2. Aids for PPI</td>
<td></td>
</tr>
</tbody>
</table>

*Indicates the number of individuals using that code in their interview

Indicates the number of times that code was used throughout all of the interviews

Theme 1: Sources of knowledge for PPI
This theme explains how the midwives developed their knowledge base and abilities as they determined a need to preserve the perineum, including actions which shaped their own practices and expertise. The theme incorporates two categories; ‘practice-based teaching’ and ‘practice-based learning’.

**Practice-based teaching**

Eleven participants (52%) discussed how they were taught to care for the perineum in practice, teaching that had often incorporated the use of episiotomy to “reduce the risk of third/fourth degree tears.” The participants were able to identify what they believed were incorrect or correct practices for PPI.

“She’d done a prophylactic episiotomy and I, I sort of, say to her, how can you justify damaging in order to prevent damage.” (NZ-10)

They further identified how they then developed or adapted their own practice accordingly,

“But I stopped doing that because I noticed ...they'd often have bruised perineums where the finger tips, you could see where the fingers had been, you know. So I thought ‘I'm not going to do that’.” (NZ-4)

and moved towards an overall philosophy of PPI.

“I trained in the U.K. and the hospital I actually trained in would have had a high rate of episiotomies, and then I moved to a London hospital, a very very low rate of episiotomies...So I suppose really my aim would have been to make sure that as a midwife, you know, that I would try and protect the perineum. To me that was always very important” (EI-7)

**Practice-based learning**

Feedback from women provided an important source of information and practice-based learning for participants. Listening to women, being sensitive to their cues and discussing
with them their birth wishes played an important role in how midwives cared for the perineum during birth.

“...you’ll get reports back for some women that find the perineal repairs was as traumatic as the labour... You know, it’s almost like, they’re done and dusted at that stage and then to end up have to have stitches, is another hurdle for them. And they don’t have the energy to, to cross that.” (EI-5)

The midwives recognised that different women had different expectations, preferences and desires but that most women wanted to avoid perineal trauma. Working with and observing other experienced midwives also provided a source of practice-based learning. In these scenarios, participants watched and learned from other skilled, experienced midwives, and, subsequently, assimilated these skills and techniques in their own practice.

“...maybe just taking note of what other midwives maybe with more experience... what they were doing... just kind of building up, you know, my own experience and my own techniques as time went on.” (EI-3)

One technique, which a number of participants referred to, was other midwives’ practice of placing their fingers on the perineum, or just inside the vagina, and applying downward pressure, or stretching, to the area as a woman was pushing. The notion here was to assist the perineum to stretch or widen the vaginal outlet for the baby’s head to pass through.

“... another thing that people used to do is put their fingers in and stretch kind of as the head was coming. They’d maybe put pressure on the posterior vaginal wall downwards with their fingers......and I remember midwives telling me to do that and I was like ‘ah, I don't want to do that’ and I knew the women didn’t like it” (EI-1).
on it. But that's never been part of my practice.” (NZ-7)

Overwhelmingly, all of the participants who mentioned this practice expressed that they did not agree with it, nor was it a technique that they, personally, would use.

Theme 2: Associated factors

Two categories dominated this theme. These were ‘factors leading to PPI’ and ‘factors leading to tears.’

Factors leading to PPI

Although many of the midwives discussed specific factors, overall these varied, and the expert midwives were of the main view that a combination of factors led to PPI.

“I think it’s a mixture of things....a number of different kind of factors in preserving it so the upright position or all fours, whichever, non-coached pushing, getting or asking the mum to go very slowly at the end, as the baby is crowning.” (EI-1)

Position was discussed by the majority of participants, with ‘all fours’ popular,

“But in those situations [previous 3rd degree tears]...it’s quite important I will say to a woman it would be really useful, perhaps not to birth in the pool.” (NZ-11)

Eight midwives believed, however, that labouring in water, as distinct from birthing there,
helped as it softened the perineal tissue,

“If they have been in the bath….often their tissues are softer and stretchier.” (NZ-6)

Factors leading to tears

The participants’ spoke of a variety of factors that they believed led to tearing. One factor, in particular, was speed and woman’s control during the second stage. Participants were in agreement that more extreme expulsive pushing, or no control over the force of the push, increased tears.

“…any bad tears that I’ve had, I would’ve found the mums would have been extremely expulsive with their pushing…. And I would’ve found that the mum had no control over her pushing and was just bearing down consistently.” [EI-5]

The baby’s position and the baby’s hands or shoulders as they pass over the perineum, also played a role in causing tears.

“I suppose it’s all to do with like the position of baby as well, you know if you have a direct OP or something like that the whole way through, maybe delivering OP as well, you know that's obviously going to impact on the perineum as well.” (EI-3)

The physical appearance of their perineum also featured prominently; for example, one midwife perceived the physicality and tissue type of the perineum as more influential than baby size.

“Nothing to do with baby size I don’t think. I think it’s purely been their tissue type… it’s like stretching any fabric and it’s just got a certain breaking point and it just goes.” (NZ-6)

Theme 3: Decision-making on episiotomy
Decision-making on performing an episiotomy incorporated two categories; ‘reasons for not doing episiotomy’ and ‘reasons for doing episiotomy’.

Reasons for not doing episiotomy

Participants felt a responsibility and a duty of care to women in reducing perineal trauma and PPI. The participants understood that perineal trauma extended beyond having an immediate impact at the time of birth; rather could have an effect on a woman’s ability to care for and bond with her baby in the postpartum period. For this reason, PPI was important to them as midwives.

“I just feel that it’s, as a midwife it’s our duty of care to be there for the woman and to reduce perineal trauma for her because I think if we can, it can have a huge impact afterwards on her bonding with her baby, you know and really reducing the amount of discomfort and that all helps with the bonding and with breast feeding and all that. And I do think it’s a duty of care we have for the women.” (EI-2)

Participants also expressed personal and clinical practice reasons for consciously trying to preserve the perineum at childbirth. These included personal past birth experiences and past clinical experiences.

“I think maybe from my own experience it’s sort of having my own babies that it started to kind of come into my head for other women.” (EI-1)

Reasons for doing an episiotomy

Midwife experts in PPI rarely performed episiotomy and were very considerate when deciding on whether, or not, one was required.
“I definitely would think a lot about it before doing an episiotomy so I would, it wouldn't be something that I would, like obviously, routinely do or, like, do lightly or not think about” (EI-3)

Primarily, episiotomy was performed only in circumstances or signs of fetal compromise, such as bradycardia or decelerations in the fetal heart rate.

“If it [fetal heart] sustained at eighty, I wouldn't be happy obviously because it's very slow to recover. But then I'd be thinking okay, we need some help, we need maybe to think about an episiotomy.” (NZ-12)

A tight, non-stretching perineum, was also considerably influential in deciding to perform episiotomy.

“...the head was really, really tight coming up......it just felt really, really tight, I had given it time to crown, for the head to come up but it just wasn’t coming up and just taking into consideration everything.....I just had no other option but to do an episiotomy.” (EI-3)

Lastly, previous perineal trauma, such as 3rd or 4th degree tears, also emerged as influential in making decisions to perform, or not, an episiotomy. In the main, participants did not feel that previous trauma was a clinical indicator for performing an episiotomy.

“I mean I've looked after women with previous third degree tears; that to me wouldn't be an indication to do an episiotomy.” (EI-2)

However, participants indicated that they might be directed to, or may experience pressure from others, to do so.

“....sometimes in the case of a woman with a previous third degree tear or somebody who has had a previous episiotomy......It might actually be documented that the
woman is for an episiotomy this time.” (EI-3)

Even when pressure or directions to perform an episiotomy were present, this did not lessen participants’ consideration of performing one, and did not indicate that they would automatically perform one either.

“That you know, someone is coming in with a third degree tear. And you know, maybe at report, you’d be like ‘obviously, you will be giving an elective epis with that.’ And then you’re, sort of, at delivery, like, ‘I don’t know, will I?’ ” (EI-4)

Theme 4: Preparation in pregnancy

There were two prominent categories in this theme. These were ‘relaying information in pregnancy’ and ‘aids for PPI’.

Relaying information in pregnancy

The midwife experts spoke about the importance of preparing women during pregnancy for PPI at birth, including discussing perineal preparation during the antenatal period.

“And what I do is I give them a package and it’s everything about birth, so it’s all about preparing for birth...and preparing your perineum.” (NZ-5)

Prior to the birth the midwives would also discuss with the woman how to slow down their pushing efforts as the baby’s head is being born (a prominent theme that is explored fully in the second publication). The participants indicated how they informed women of this during pregnancy and often reminded them again during labour, emphasising, perhaps, how important this preparation was, for them, for PPI.

“....when we do a birth plan I talk to them [women] about second stage....and I always remind them that I’m going to, you know, be telling them to stop pushing
when the head’s coming out…I just give that reminder because I think with what
they’ve been through....I think they’ve forgotten what I’ve told them four weeks ago.”
(NZ-9)

“I think it is so important to tell her earlier, you know, not just wait till the second
stage to tell her to stop pushing... I remind her a couple of times during labour.” (EI-7)

Aids for PPI

Antenatal perineal massage and the ‘Pink Kit’, recently reviewed in the midwifery press
(Buckley, 2004), emerged as two aids that might assist with PPI at birth. The participants
were divided as to whether antenatal perineal massage was helpful for PPI, although more
thought it was than not (seven versus three participants, respectively). Of those who
favoured perineal massage for PPI, they mainly did so for nulliparas or for women who had
scarring from previous tears.

“I do think perineum massage is certainly of value. And....for older primigravida or
for a woman that’s suffered a previous nasty laceration, you know, it is really worth
doing.” (NZ-6)

Of the participants who described the technique of perineal massage, all encouraged
women to commence massage at 36 weeks’ gestation, using oil, and to massage the
perineum externally, and internally, if able.

“I try and get them to do perineal massage, at thirty-six weeks, daily, if they can. And
I really encourage that, if they can't do the internal that they at least get oil onto the
outside and lots of massage there.” (NZ-12)

Of the midwives who mentioned the ‘Pink Kit’ during conversations, all were from NZ,
suggesting that this is something familiar to NZ midwives, but not, perhaps, Irish maternity
care. The ‘Pink Kit’ is a birth preparation package that uses a video, a tape and a book to deliver eight lessons on aspects of birthing; for example, breathing techniques, movement during labour and exploring the anatomy of the pelvis and of the soft tissues, including the perineum and vagina. Mixed views were reported.

Discussion

The expert midwives in this study, drew on a variety of sources of knowledge and developed their practice through an integration of observation, careful consideration, evidence-informed practice and working with women. This included, in some instances, avoiding particular techniques that other midwives were observed using, or that they had previously been taught, in particular, manual stretching the perineum and/or vagina as a woman pushes during contractions during the second stage of labour. While research evaluating the ‘hands on/hands poised’ techniques exists (McCandish et al. 1998; Aasheim et al. 2011), no research that specifically evaluates the practice of ‘digitally stretching’ the perineum or vagina at birth was found. It is therefore reasonable to suggest, based on the testimony of the expert midwives in this study, that the practice of digitally stretching the vagina/perineum during childbirth should be avoided.

Although women are encouraged to adopt positions that are most comfortable for them during labour and birth, some positions have been associated with increased rates of perineal tears, for example, the supine position (Gupta et al. 2007), and are not recommended (NICE, 2014). In this study, the expert midwives favoured the ‘all-fours’ position for PPI at birth, for both greater visualisation of the perineum and for reducing pressure on the perineum. Clinically and physiologically, this makes sense, as both the pressure from the surface underneath a woman (usually a bed) combined with the
gravitational weight of the baby and uterine forces acting in a downward direction, is bound to cause intense pressure on the perineal region, and even more so, if a woman is in this position for a length of time. Previous research studies support the use of all-fours for PPI and a reduced need for suturing (Cluett and Burns, 2009; Royal College of Midwives, 2010), yet a UK survey found 49% (of 929 women) using the semi-recumbent position for birth and only 10% using all-fours (Komorowski et al. 2014). This study adds to the evidence that positioning is important in reducing perineal trauma.

Evidence surrounding waterbirth and perineal trauma rates is both conflicting and controversial. Cluett and Burns (2009) suggest that immersion in water during the first and second stages of labour, compared with no immersion in water, neither increases nor decreases rates of episiotomy nor all other tears during childbirth. Soong and Barnes (2005), conversely, reported increased perineal trauma with waterbirth compared to landbirth. At present, national guidelines recommend informing women that there is insufficient high quality evidence to either support or discourage giving birth in water (Lodge and Haith-Cooper, 2016). In this study, the expert midwives did not overly favour birth in water for PPI, but a sizeable group did suggest that labouring in water helped as it softened the perineal tissue and facilitated stretching, supporting perhaps, the recommendation that further research on birth in water or labour in water for PPI, is needed.

A number of the midwives commented on the physicality of the perineum in the context of perineal tears. A short, non-stretchy perineum was considered to be associated with an increased risk of tearing, and many of the midwives voiced the latter as a (rare) clinical reason for performing an episiotomy. Perineal length, however, or genital hiatus length, was not found to be associated with increased perineal trauma in one study that specifically
explored this phenomenon (Komorowski et al. 2014), although the width of the baby’s head circumference was. The notion that larger babies increase the risk of perineal trauma is repeatedly supported in the literature (Smith et al. 2013; Perigialotis et al. 2014), yet this was not considered to be a major influence by the midwives in this study. This might well be one of those instances where experiential evidence conflicts directly with objective statistical findings. Further qualitative enquiry, of other midwives, in other countries, who are expert in PPI, is required to substantiate, or otherwise, these findings.

A duty of care in reducing postpartum morbidity had an important place for midwives in trying to maintain the integrity of the perineum at birth. For this reason, the expert midwives deliberated very carefully on their decisions and the clinical indicators, for performing an episiotomy. Overwhelmingly, the majority of midwives reported that they would perform an episiotomy only in circumstances where there are signs of fetal/suspected fetal compromise. This is in line with evidence-based practice (Carroli and Migini, 2009) and national guidelines (NICE, 2014), highlighting how these midwives have competently assimilated research evidence into their practice.

Strengths and limitations

The study provides in-depth information, from midwives, on the skills they employ for PPI. The results of the study contribute to the body of evidence for minimising perineal trauma and increasing PPI at birth. The study is limited by the inclusion of midwives from two countries only and the findings might not necessarily be transferable to midwives working in other countries or in alternative birth settings.

Implications for Practice
This study has identified how this group of expert midwives work towards PPI for women under their care. Aspects of this care can be considered by other midwives as they themselves consider what they can do when working with women. A clear issue identified by these midwives is avoidance of manual stretching of the perineum or vagina when a woman is pushing during uterine contractions. The expert midwives considered this practice to be distressing for women and of little value in preserving the integrity of the perineum. The experts also identified that episiotomy should be avoided and only performed when there is a clear clinical need. Positioning for birth is important and midwives should encourage women to adopt non-supine positions. Lastly, midwives need to prepare women for PPI during pregnancy and should encourage and support women to use antenatal perineal massage.

**Conclusion**

This study provides valuable insight into the views and skills of midwives who have expertise in PPI at birth. The expert midwives have demonstrated up to date knowledge of research evidence and have applied it in their practice. This study contributes to the evidence base, has identified ways of minimising perineal trauma at birth, and provides a precedent for other similar qualitative studies on this topic.

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Abbreviations

CEO: Chief Executive Officer

IE: Ireland

MEET: Midwives’ Expertise in Expectant Management

MLU: Midwifery-Led Unit

MNPO: Midwifery and Maternity Providers Organisation

NICE: National Institute of Health and Care Excellence

NZ: New Zealand

NZCM: New Zealand College of Midwives

OP: Occiput-Posterior

PPI: Preserving the Perineum Intact

SD: Standard Deviation

UK: United Kingdom

Ethical Statement

Conflict of Interest

The authors declare they have no conflict of interest

Ethical Approval
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**Clinical Trial Registry and Registration number**

Not applicable

**References**


vaginal delivery and the individual performance of experienced midwives. BMC Pregnancy and Childbirth. 22(15), 270.


24. Royal College of Midwives (RCM). 2010 The Royal College of Midwives’ survey of positions used in labour and birth. London: RCM


