Protecting the perineum: have we been duped by HOOP?

By Rosemary McCarthy

Abstract

The maintenance of an intact perineum following vaginal birth is a fundamental objective of the midwife. Traditional techniques adopted to protect the perineum were evaluated by McCandlish et al's (1998) pivotal 'HOOP' study some ten years ago. The findings have largely been interpreted as suggesting that the custom and practice 'hand on' approach, adopted by many midwives, was inconsequential in preventing perineal trauma. This finding has impacted practice significantly. Management of the perineum during the second stage of labour is now varied and largely dependant on the preference of the midwife in attendance. Consequently student midwives are taught an assortment of approaches but appear to lack clear understanding of the rationale, let alone evidence, on which their practice is based.

Corresponding with changes in practice, there is local audit evidence to suggest that the incidence of significant perineal trauma, involving damage to the external anal sphincter, anal sphincter complex (external and internal anal sphincter) and in the worst cases also involving the ano-rectal mucosa, is increasing. Given the considerable implications of this, perhaps it is time to re-visit HOOP and challenge the notion that traditional protective measures are of little value in preventing substantial trauma.

Any midwife who trained before the late 1990s is well versed in methods of protecting the perineum during delivery of the fetal head. Indeed, according to either of the midwifery 'bibles' which were used in training, the skill of the midwife was to ensure the active phase was unhurried in order to safeguard the perineum from trauma (Sweet, 1988; Bennet and Brown, 1989). Methods used including guarding the perineum and flexing the fetal head in order to ensure expulsive crowning did not occur and the risk of a 'champagne cork style' delivery was avoided. Flexion was believed to allow the superficial muscles of the pelvic floor to gradually stretch and thin, and for the smallest diameter of the fetal head to present.

Hands off or poised (HOOP)

Over ten years ago McCandlish et al (1998) conducted an influential trial into care of the perineum in the second stage of normal labour, which became known as the 'HOOP' study. The researchers assessed the effect of 'hands on' care with 'hands poised'. The 'hands on' intervention consisted of providing support to the perineum (guarding) and flexion of the fetal head in the birth canal. 'Hands poised' required the midwife to have her hands ready to apply light pressure in the event of rapid expulsion, but not to touch the head or perineum otherwise. There has been a general understanding by practising midwives that this study was about perineal trauma. However, this is a misconception as the primary outcome measure was pain level. The study concluded that there was no significant difference between the groups in pain levels at 10 days.

The ostensible conclusion of this study was that it did not matter whether or not the perineum was supported. However, this conclusion is only relevant to pain and did not consider the between group difference in absolute level of trauma sustained by participants. The HOOP trial (McCandlish et al, 1998) showed that the group receiving the 'hands on' intervention had 22.5% fewer 3rd and 4th degree tears than the 'hands poised' group. However, the incidence of 3rd and 4th degree tears within the whole cohort was small (40 and 31 cases respectively) and the study was not powered to detect differences in these outcomes. These differences may have been a chance finding and therefore recommendations can not be made based on these figures. The trial authors therefore reported this as non-statistically significant.

Importance of clinical significance for practice

While the existence of statistical significance is important in research in general, an equally important marker of relevance in practice is clinical significance. The determination of clinical significance is difficult as it is essentially the professional's judgment of what is clinically important (Testa, 1995). The determination of clinical significance can also be influenced by observed negative outcome for any clinical situation. In other words: the worse the outcome, the greater the desire to avoid it. In the case of the HOOP study, it is likely that, if midwives were asked what the most important outcome for this study was, perineal trauma (3rd and 4th degree tears) would have received the majority vote. To detect clinically important differences in this relatively rare event, however, several thousands of women would have needed to be recruited (though nearly 6000 women were recruited to this study).

Despite the relative rarity of 3rd and 4th degree tears

Rosemary McCarthy is Delivery Suite Co-ordinator and Clinical Teaching Fellow, University Hospitals of South Manchester NHS Foundation Trust and University of Manchester.
Email: rosemary.mccarthy@manchester.ac.uk

Box 1. Perineal tears

1st degree	Injury to perineal skin only
2nd degree	Injury to perineum involving perineal muscles but not involving the anal sphincter
3rd degree	Injury to perineum involving the anal sphincter complex
	3a: Less than 50% of EAS thickness torn
	3b: More than 50% of EAS thickness torn
	3c: Both EAS and IAS torn
4th degree	Injury to perineum involving the anal sphincter complex (EAS and IAS) and anal epithelium

EAS: External anal sphincter
IAS: Internal anal sphincter

there are clearly women who do experience this debilitating consequence of childbirth. The effects for them can be devastating and include: sexual dysfunction, incontinence, emotional trauma, and strained personal relationships (Royal College of Obstetricians and Gynaecologists (RCOG), 2007). Beyond this, the costs to the taxpayer are also likely to be considerable in the form of ongoing care and management of subsequent pregnancies.

No figures exist to estimate the economic cost of this, but given that the number of births in the UK is now over 700 000 (Office for National Statistics, 2008) and 1% of these births are likely to result in 3rd or 4th degree trauma (RCOG, 2007) the human and economic consequences are likely to be substantial. As such, it is worth considering which interventions can be used to minimize the likelihood of this level of trauma. However, before effective intervention can be considered, it is necessary to be able to better predict who is most likely to incur this level of trauma. If a proportion of 3rd and 4th degree tears can be predicted, it will go a long way to reducing both the significant postpartum complications, their effects on quality of life, and costs to the tax payer.

While risk factors of 3rd and 4th degree tears have been identified and include: nulliparity, occipito posterior position, birth weight over 4 kg, assisted delivery, epidural anaesthesia, midline episiotomy and prolonged second stage; most cannot be used to accurately predict and therefore prevent an occurrence of a 3rd or 4th degree tear (RCOG, 2007). This lack of ability in prediction is particularly concerning given a recent and relatively sudden rise in the rate of 3rd and 4th degree tears in local hospitals, anecdotally reported by senior midwives. Improved detection rates might contribute to an apparent rise in 3a/b tears, but it is unlikely that 3c and 4th degree tears in particular would ever have been missed or classified as 1st or 2nd degree (*see Box 1* for definitions).

Based on the Office for National Statistics figures (2008), it is estimated that 7000 women suffer 3rd or 4th degree tears each

year in the UK. The rise of these traumatic events is worrying and must be considered. Anecdotal evidence indicates a significant increase in the incidence of these episodes with no ostensible reason. This underpins the urgent need to rethink the management of the perineum during the second stage of labour.

Research and the midwife

Midwives need to identify areas that require research and where research questions are raised, midwives need to ensure research is specific and pertinent to clinical practice. Midwives should be less accepting and more questioning of those who tell them that their practice is wrong. Midwives must be more prepared to accept the logic of their interventions and scrutinize policies that seek to change their practice. They should not draw conclusions from the literature that are not there, as seems to be the case with HOOP.

There are creators of research and users of research. While each requires specific skills, those most pertinent to practising midwives are those associated with using research. These skills are not necessarily acquired within the context of clinical practice and this may be because research awareness does not tend to be as valued in midwifery clinical practice, possibly because its relevance is not always apparent.

In order to maintain credibility within the context of modern health care, midwives must demonstrate knowledge and understanding as a professional group that research guides our practice. Ultimately, midwives see research in the form of guidelines for best practice which are frequently informed by systematic reviews, randomized controlled trials and consensus statements. This will become more apparent in the future, primarily owing to rising litigation, rising costs of health care and the need for efficacy in practice. This is why midwives must be aware, not only of what constitutes good research, but also poor research and, most importantly, learn not to read into research what is not there.

Failure of midwives to be able to do this has led to a misinterpretation of the HOOP study which did not say that there was no effect of perineal guarding. It did say that there was little difference between the test groups in terms of pain. This appears to have been interpreted as 'support of the perineum is neither an effective nor ineffective way to manage the second stage labour', which is at odds with the intuitive leanings of many midwives in clinical practice.

HOOP—10 years on

The effect of the HOOP study has been far reaching and has resulted in the formation of national clinical guidance which suggests that either practice of 'hands on' or 'hands poised' is acceptable (National Institute for Health and Clinical Excellence, 2007). Midwifery education has tended to lean on the side of non-intervention but experience and observation in clinical practice has indicated that newly-qualified midwives tend not to intervene (or even know how to intervene) to protect the perineum. But how and why would they know when the prevailing belief that 'hands on' offers little or no protection, is the view expounded by those accountable for directing practice within the profession?

We have not been duped by HOOP. We have duped ourselves by misinterpreting the results of HOOP and by inferring an outcome from the trial which was never implied by the authors. More worryingly, this inference is at odds with our own intuitive nature and theory-driven practice and it remains a mystery as to why this misinterpretation has been made as the paper provides very clear aims and objectives.

> *'We have duped ourselves by misinterpreting the results of HOOP and by inferring an outcome from the trial which was never implied by the authors.'*

Perhaps the midwives of pre-1998 have some 'old school' insights that are currently lacking and that new behaviours are driven by a misconstrued interpretation of a study that was meant to clarify, but has perhaps merely confused. While it is vital for midwives to engage in the process of understanding research in midwifery and its implications, perhaps it is also time to revisit the old school ways and trust our professional judgment and intuition, literally at the point of delivery. **BJM**

Bennett VR, Brown LK (eds) (1989) Myles Textbook for Midwives, 11th Edition. Churchill Livingston, Edinburgh

McCandlish R, Bowler U, van Asten H (1998) A randomised controlled trial of care of the perineum during the second stage of labour (The 'HOOP' trial). *BJOG* **105**(12): 1262–72

National Institute for Health and Clinical Excellence (2007) Intrapartum care; care of healthy women and their babies during childbirth. NICE, London

Office for National Statistics (2008) Live births www.statistics.gov.uk/cci/nugget.asp?id=369 (accessed 22 November 2009)

Sweet BR ed (1988) *Mayes Midwifery Textbook for Midwives*. 11th edn. Bailliere Tindall, London

Royal College of Obstetricians and Gynaecologists (2007) The Management of Third and Fourth Degree Perineal tears. Green-top Guideline no. 29. RCOG Press, London

Testa M (1995) The Nature of Outcome Assessment in Speech–Language Pathology. *J Allied Health* **24**(1): 41–55

Key Points

- **Midwives need to appreciate research and recognize its significance for practice.**
- **Midwives need to be able to critically evaluate research and challenge research conclusions.**
- **Traditions and customs in midwifery have been developed through experience and the application of theoretical knowledge which remains untested by research.**
- **These interventions and beliefs should be tested rigorously and midwives should be at the forefront of such research.**
- **'Hands off' or 'poised' should be revisited with specific reference to significant perineal trauma.**