

JOURNAL

Warkworth Birthing Centre:
exemplifying the future

Report on mapping the rural midwifery
workforce in New Zealand for 2008

Midwives care during the Third Stage of
Labour: an analysis of the New Zealand
College of Midwives Midwifery Database
2004-2008

The cost of healthy eating for pregnant and
breastfeeding women in Otago

To suture or not to suture second degree
lacerations: what informs this decision?



How do you make the powerful love you feel, the gentlest thing he feels?

The powerful surge of love you feel for your baby, becomes the softest, sweetest and most gentle sensation he feels when you bathe him with Johnson's® Baby Top-to-Toe® bath. It is perfectly pH balanced and also soap free, dye free, and has the unique No More Tears® formula. Making it as gentle to the eyes as pure water. It's the gentlest loving you can give your baby, during bath-time.

To order your Johnson and Johnson samples, product brochures, patient literature and purchase full-sized products, visit:



*Johnson's
baby*



SAMPLES
PLUS

www.samplesplus.co.nz



NEW ZEALAND'S NO.1¹ CLINICALLY-PROVEN² NAPPY RASH TREATMENT

WHAT IS BEPANTHEN® OINTMENT?

Baby's skin is so perfectly huggable that mums will want to keep it that way, however, most infants will suffer nappy rash at some time. Bepanthen® Ointment has a unique formula containing dexpanthenol (pro-vitamin B5) that forms a waterproof barrier but still lets baby's delicate skin breathe. This helps accelerate the skin's natural healing process. It's also free from colours, fragrances and preservatives so is gentle enough to be used at every nappy change.

BEPANTHEN® IS CLINICALLY-PROVEN²

You can confidently recommend Bepanthen® Ointment to new mums, knowing that Bepanthen® Ointment is clinically proven² to help PREVENT nappy rash: 42% reduction in the incidence of nappy rash when Bepanthen was applied after every nappy change.

Bepanthen Ointment is also clinically proven² to help TREAT nappy rash: 44% increase in healing from nappy rash than treatment with standard hygiene care.



Bepanthen®
OINTMENT

1) Aotec Scan Data National Combined MAT 19/07/09. 2) Pulet G. et al., Effect of Bepanthen Ointment in the prevention and treatment of diaper rash on premature and full-term babies. Realities Pediatrics 2001. Bepanthen Ointment is a nappy rash/skincare ointment with Vitamin B5. Contains d-panthenol 50mg/g and almond oil. Medicines have benefits and some may have risks. Always read the label carefully and use strictly as directed. If symptoms persist or side effects occur, consult your doctor or healthcare professional. For further information contact 0800 847874 TAPS NA3677.



Clinically proven to help build healthy babies¹.

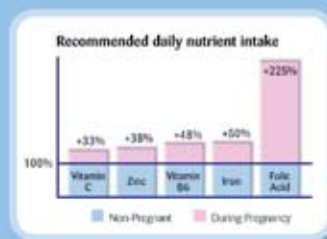
What is Elevit

The Ministry of Health recommends that women, during pregnancy, take higher levels of a range of key vitamins and minerals every day. This includes over 200% folic acid. Elevit contains the right nutrients at the right levels that includes 800mcg of folic acid and 60mg iron for the prevention of dietary iron deficiency, as well as Vitamin C for absorption, and B group vitamins for energy.²

Only Elevit is clinically proven to reduce Neural tube defects by 92%¹ to help improve the chance of a healthy pregnancy and baby.

When to take Elevit

All these benefits are contained in a once daily tablet that should be taken at least 3 months before pregnancy, during pregnancy and while breast feeding.



For more information please visit
www.elevit.co.nz or freecall 0800 847 874

REFERENCES: 1. Czeizel A et al Prevention of the first occurrence of neural tube defects by periconceptual vitamin supplementation. New Eng. J Med 1992 327(26): 1832-1835. 2. Adapted from the Nutrient Reference Values for Australian and New Zealand.

DISCLAIMER: New Zealand Elevit formulation is the same as that used in the Czeizel study except that it does not contain vitamin A. Supplementary to and not a replacement for a balanced diet. Medicines have benefits and some risks. Recommended as per the label and data sheet. For further information visit: www.medsafe.govt.nz for Elevit datasheet and CMI. Bayer New Zealand Ltd Auckland, TAPS NA3575.



Having a **MID-WIFE** crisis?

Looking for a change
of scenery? Look
across the Tasman

Australia's only national Midwifery
specific Nursing Agency!

For more information call us:

VIC (03) 9857 3544

NSW (02) 9575 3901

QLD 1300 661 045

OR go to our website for more information:

www.staffingsynergy.com.au



Staffing Synergy
Simply Midwifery



NEW ZEALAND
COLLEGE OF
MIDWIVES (INC)

EDITOR

Joan Skinner

REVIEWERS

Jacqui Anderson	Maggie Banks
Cheryl Benn	Sue Bree
Norma Campbell	Judith McAra-Couper
Rea Daellenbach	Rhondda Davies
Deborah Davis	Jeanie Douche
Margie Duff	Kathleen Fahy (<i>Aust.</i>)
Maralyn Foureur (<i>Aus.</i>)	Lynne Giddings
Andrea Gillkison	Karen Guillard
Jackie Gunn	Marion Hunter
Karen Lane	Debbie MacGregor
Ruth Martis	Robyn Maude
Marion McLauchlan	Jane Koziol-Mclean
Suzanne Miller	Lesley Page (<i>U. K.</i>)
Sally Pairman	Jean Patterson
Elizabeth Smythe	Alison Stewart
Mina Timutimu	Sally Tracy (<i>Australia</i>)
Nimisha Waller	

PHILOSOPHY OF THE JOURNAL

Promote women's health issues as they relate to childbearing women and their families.
Promote the view of childbirth as a normal life event for the majority of women, and the midwifery profession's role in effecting this.
Provoke discussion of midwifery issues. Support the development and dissemination of New Zealand and international midwifery research.

SUBMISSIONS:

All submissions should be submitted electronically via email to joan.skinner@vuw.ac.nz. For queries regarding submission please contact:
Lesley Dixon
PO Box 21 106
Christchurch 8143
Fax 03 377 5662 or Telephone 03 377 2732
practice@nzcom.org.nz

SUBSCRIPTIONS AND ENQUIRIES

Subscriptions, NZCOM,
PO Box 21-106, Edgeware,
Christchurch 8143.

ADVERTISING

Please contact Janice Bateman
Target Media
Phone 03 961 5127
Email janice@targetmedia.co.nz
PO Box 1879, Christchurch

Graphic Designer: Ryan Carter

The New Zealand College of Midwives Journal is the official publication of the New Zealand College of Midwives. Single copies are \$7.00
ISSN.00114-7870
Koru photograph by Ted Scott.
Views and opinions expressed in this Journal are not necessarily those of the New Zealand College of Midwives.

Contents

Journal 41 • October 2009

EDITORIAL

Twenty years on: where to from here?

Skinner, J.

6

EDITORIAL

Erratum

6

NEW ZEALAND RESEARCH

Warkworth Birthing Centre: exemplifying the future.

Smith, L., Payne, D., Wilson, S., Wynyard, S.

7

NEW ZEALAND RESEARCH

Report on mapping the rural midwifery workforce in New Zealand for 2008.

Hendry, C.

12

NEW ZEALAND RESEARCH

Midwives care during the Third Stage of Labour: an analysis of the New Zealand College of Midwives Midwifery Database 2004-2008.

Dixon, L., Fletcher, L., Tracy, S., Guillard, K., Pairman, S., Hendry, C.

20

PRACTICE ISSUE

The cost of healthy eating for pregnant and breastfeeding women in Otago.

Boland, R., Gibbons, M.

26

PRACTICE ISSUE

To suture or not to suture second degree lacerations: what informs this decision?

Cronin, R., Maude, R.

29

BOOK REVIEWS

Fetal Monitoring in practice - 3rd Ed.

The midwives guide to key medical conditions in pregnancy and birth.

36

Twenty years on: where to from here?

Joan Skinner

I'm writing this editorial from Geneva where I am working as a World Health Organisation (WHO) scholar. I am here for three months of orientation to the global policy work of the WHO. My main task is to develop a strategy document for accelerating the education and utilisation of skilled birth attendants. This strategy is being prepared in response to the lack of progress in relation to Millennium Development Goals (MDGs) 5 and 6 which call for a reduction in maternal and infant mortality. These two goals stand out in that there is very slow progress and there is now urgency expressed internationally in attempting to meet them. I will spend a month in Cambodia trialling the strategy at country level and while there undertake some education of the midwifery educators.

I am telling you this to illustrate the impact that New Zealand midwifery, however tiny, can and does have internationally. I am here because of what New Zealand midwifery has achieved. This was evident at the international meeting of nurses and midwives developing the WHO Strategic Directions for Nursing and Midwifery Services towards 2015, the year set for the attainment of the MDGs. There were representatives from every continent and from key international organisations including ICM and ICN. New Zealand midwifery was mentioned during the discussion as an exemplar of both high level professionalisation and practice; a powerful combination of active participation at policy level and the ability to work within the full scope of practice. Karen's input was also mentioned in several of the key goals, including promoting leadership in policy

and practice development. New Zealand midwifery was seen as an exemplar of how to incorporate the principles of primary health care into practice and policy, showcasing what is possible.

This perspective has given me the opportunity to reflect on midwifery in New Zealand especially in light of our 20th anniversary. How are we to continue to grow ourselves as a profession and to build on the unprecedented successes of the last 20 years? We have already achieved, and in many cases have surpassed the goals set out in the WHO strategic direction for nurse and midwives. The question might be: where to from here and where are the priority areas for action? In a global sense New Zealand is tiny, yet ironically our size has made it easier for us to respond and to act; manoeuvring a jet boat is so much easier than an oil tanker. What we really need now is the ability to move on, and to continue to be at the cutting edge and to showcase what can be achieved. The greatest pitfall we face is the possibility of now becoming self-satisfied, self-protective and self-serving. In the very first edition of this Journal in 1989 Joan Donley wrote about this. She critiqued a professionalism which created and protected a power base for itself. Power for whom, was the question that she posed. Her call for the College to be 'progressive and dynamic' is as true today as it was 20 years ago. Our anniversary is an excellent time not only to celebrate and to marvel at our stunning achievements but also to pause and reflect on how we are to keep being progressive and dynamic and to be very wary of falling into the trap of self interest and self protection.

I think that the theme of the NZCOM conference last year holds the answer for us and was inspired; embracing diversity will keep us open to possibility

and keep us flexible and responsive. Whereas in our past we needed to focus on unity and concerted collective action, now is the time to embrace a different paradigm and to develop a new perspective on how we work as a profession. Embracing diversity is as important to us as a profession as it is to us as practitioners yet we have not really explored or articulated what this means. One of our challenges is that we have a less clear set of goals now than we did in 1989, where autonomy of practice and of professional life was the vision. Surely our vision now is not just to maintain this. Without an openness to new vision and to the self critique that this entails we will stagnate and will certainly lose our edge. Those of us who have participated in the last 20 years must actively seek out and nurture new leaders, make sure they have a good understanding of our story and can see and articulate the new vision, so we are not just about maintaining what we have gained but can move it on, take some risks, be astute and be open to possibility.

If we wish to stay at the cutting edge of practice, policy and education, now is the critical time to do this. We must not lose momentum or sink into self-satisfaction. The key elements are:

- To be alert to any attempts to eliminate diversity
- To share the power base
- To actively seek out critique
- To nurture new leaders
- To foster partners

In another 20 years we will look quite different and I hope that when the next generation of New Zealand midwives are working internationally they too can be proud of a profession still leading the way in showcasing what is possible.

ERRATUM

We would like to apologise to the author Jeanie Douche for typographical errors made during publication of her paper: Rhetorical (de)devices and the construction of a 'natural' caesarean, published in the April edition of the New Zealand College of Midwives Journal 40 20 -23.

The author Moorhead was spelt incorrectly throughout the article and in the reference list.

INCOMPLETE CITATIONS:

The citation from Song (2004) on page 21 commencing "Actress Elizabeth Hurley had one." should have continued into the second paragraph and included: "What all these women had are C-sections, and finished with "Some, as the British tabloids have put it are simply too push to push" (Song, 2004).

The citation from Moorhead (2005) page 22 commencing "The scent of lavender fills the air and classical music is playing quietly." Should have included: 'It could be a natural birth at any unit in Britain' and concluded with "a contradiction in terms: a 'natural' caesarean (p1/4)"

We apologise to the author and readers of the journal for any inconvenience caused.



Warkworth Birthing Centre: exemplifying the future

Authors:

- Liz Smythe, PhD, RM, RGON
Associate Professor Auckland University of Technology
Email: Liz.smythe@aot.ac.nz
- Debbie Payne, PhD, RGON
Director, Centre for Midwifery and Women's Health Research
Auckland University of Technology
Email: Debbie.payne@aot.ac.nz
- Sally Wilson, RM, RGON, NZRN, ADN
Co-Director Warkworth Birthing Centre
Email: rodneycostmidwives@xtra.co.nz
- Sue Wynyard, RM, RGON
Co-Director Warkworth Birthing Centre
Email: rodneycostmidwives@xtra.co.nz

ABSTRACT

Purpose: Our research asked ‘what works well at Warkworth Birthing Centre?’ This was a collaborative study between researchers and co-directors of the centre, taking an appreciative inquiry approach. While it is a small study it provides a valuable case study of a primary rural birthing centre highlighting the factors that come together to give a service positive regard. **Method:** Questions sought to identify strengths, achievements, values, ethos and the positive core. Data was gathered through focus groups of women who had birthed at the Warkworth Birthing Centre, midwives who practice there, and staff of the centre. Individual interviews were conducted with the Co-directors and the Chair of the Trust Board. Transcripts were interpreted thematically. **Findings:** This paper takes the findings of the study and puts them alongside the Principles of the New Zealand Ministry of Health Maternity Action Plan 2008-2012 (Draft for Consultation). We argue that the women described a way of being cared for that is ‘women-centred’. Care approaches seemed to support positive health outcomes for women and their babies. The comprehensiveness of Warkworth Birthing Centre’s service was impressive, as was the cultural safety. There appeared to be a seamless continuity of care. **Discussion:** The factors that

achieved the kind of maternity service outline in the Maternity Action Plan (Draft) are already being enacted at the Warkworth Birthing Centre. The keys to success lie in committed midwifery leadership, funding decisions kept close to practice, and an ethos of care that permeates all staff.

WARKWORTH BIRTHING CENTRE:
EXEMPLIFYING THE FUTURE

Amongst midwifery and community conversation one is quick to discern the reputation of a birthing centre. Yet on what is that based? This paper is drawn from research that asked “what works well at the Warkworth Birthing Centre?” Appreciative Inquiry is a methodological approach that seeks to uncover strengths. The findings of the study emerged at the same time as the Maternity Action Plan 2008 -2012 Draft for consultation (Ministry of Health (MOH), 2008). We recognised that the strengths identified as making the Warkworth Birthing centre work, resonated strongly with the future vision for New Zealand’s maternity service. Written while this action plan was still in draft format, this paper offers evidence that the vision is worth pursuing.

BACKGROUND

Warkworth has had its own place in which women of the community could birth since 1914. In 1992 the then government-funded Warkworth Maternity Hospital was down-scaled as part of a cost-cutting exercise. It took five years of community lobbying for the new Warkworth Birthing Centre to become a reality. In 1998 a Community Trust Board was formed with the aim that there should always be a

birthing facility in Warkworth. Midwives Sally Wilson and Sue Wynyard (the current managers) were part of the group who spearheaded the project. The Centre is a midwifery led private facility 60kms away from a secondary maternity hospital, with full birthing and postnatal care provided free to New Zealand (NZ) residents. Registered nurses from the Warkworth community are employed to provide postnatal care to women. There are many Lead Maternity Carer access holders. The average postnatal stay is 3.6 days.

THE IMPETUS FOR THIS STUDY WAS:

Statistics reveal that when women book at a primary birthing centre in the belief that they can give birth without intervention, a high percentage achieve that aim (See Table One). At National Women’s Hospital in 2007 only 54.7% of women experienced a normal birth (spontaneous vertex birth) and 43% of women had an epidural for pain relief in labour (National Women’s Annual Clinical Report, 2007). We acknowledge that some women may book to give birth at a base hospital due to the likelihood of needing intervention thereby skewing these statistics. The vast majority of women who aimed to achieve a normal birth at Warkworth Birthing Centre did so, which we believe is impressive in our society currently. This feature of increasing the chance of achieving a normal birth if the woman avoids a secondary or tertiary unit is supported by Skinner and Lennox (2006).

Further, we argue that how a woman gives birth, and the model of care that supports birthing services, is shaped by social practice and cultural context (McAra-Couper, 2007; Payne, 2002). If midwives who work together in a community hold confidence that

Table 1: Booking and Birthing Numbers at Warkworth Birthing Centre

Table One	2005	2006	2007	2008
Normal birth	178	154	161	162
Primigravida	59	43	45	58
Multigravida	119	111	116	104
Transfer in Labour	18	20	20	22
Postnatal only	180	234	268	281
% of booked women who gave birth normally	91%	89%	89%	88%

sustains a belief in normal birth, an ethos is established that allows birth to stay within the community (Hunter, 2000, 2003; Barlow, Hunter, Conroy & Lennon, 2004). Articulating the 'ways' of a birthing centre such as Warkworth are in urgent need of being explicated and replicated elsewhere in New Zealand.

If a midwifery run centre is key to holding confidence in normal birth then it is also important to consider the sustainability of the continuity of care model of practice (Wakelin & Skinner, 2007; Patterson, 2007; Brodie, Warwick, Hastie, Smythe, & Young, 2008). We were keen to explore how midwives in this Birthing Centre look after their own wellbeing to enable them to continue practicing in the long term.

APPRECIATIVE INQUIRY APPROACH

The research question guiding this study was simply "what works well at the Warkworth Birthing Centre?" The research drew from an appreciative inquiry approach which seeks to reveal the strengths, achievements, values, ethos and positive practices that those involved recount with excitement and pride (Ludema, Cooperrider & Barrett, 2001; Hammond, 1998; Hammond & Royal, 2001; Preskill & Catsambas, 2006). It is an approach in which the process itself is said to be transformational for participants, as the collective stories of strengths inspire a renewed focus to do even better. Thus it is a formative approach in that the aim is to seek improvement of a mature service (Davidson, 2005).

The approach is built on the assumption that research into the social potential of organisational life should:

- begin with appreciation
- be applicable
- be both pragmatic and visionary
- and be collaborative (Cooperrider & Srivastva, 1987).

Critics of appreciative inquiry suggest a "Pollyannaish refusal to face negativity" (Liebling, Price & Elliot, 1999, p.77). Yet, as Liebling et al. argue, when evaluative research starts from a position of empathy and supportive interest, not judging or criticising, there is more likely to be a collaborative willingness amongst participants to explore some of the aspects that they believe could be improved.

COLLABORATIVE APPROACH TO METHOD

This project grew from discussions with the two researchers from Auckland University of Technology and the Co-directors of the Warkworth Birthing Centre. Ethics approval was gained from the Northern Regional Ethics committee. Focus groups were organised by the Midwifery Directors, and facilitated

by the researchers over a three day period. There were two groups making a total of eleven women, with a spread of six first time mothers. In one group three of the women identified as Maori. The midwives were interviewed as a group, as were a collection of staff (5 nurses, a clinical assistant, a cleaner and the receptionist). Individual interviews were conducted with the Co-directors and the Chair of the Trust Board.

DATA ANALYSIS PROCESS

All interviews were tape-recorded. The two researchers listened to each tape, transcribing all the comments they believed were relevant to this study. The quest was to look for the positive core, for a sense of the things that came together to 'work well'. The data was then grouped into themes, from which insights arose (Sandelowski, 2000; Braun & Clarke, 2006). A powerpoint presentation focusing on key themes was prepared to enable the initial findings to be shared with participants who provided further clarification and correction, and affirmed that the core had been appropriately articulated. A draft report was written with further discussion arising between the researchers and Co-directors.

THE FINDINGS

The findings show that the things that make the Warkworth Birthing Centre work well are:

- The mothers' confidence is built
- The Birthing Centre feels like home
- The women gain confidence in natural birth
- The women get mothered, and in turn learn to mother
- Being within the local community matters

Moreover, there was a strong sense that Warkworth Birthing Centre was under a sound, visionary management team committed to ensuring everyone was clear about the nature of woman/family centred care that was to be enacted. There was an absolute commitment to maintaining both a safe environment and safe practice. The midwives were also addressing ways of sustaining their own wellbeing. All of this came together in a way that meant several women talked about the 'whole experience' and how much they appreciated the 'feel of the place'.

This paper takes the findings and lays them alongside the Maternity Action Plan 2008-2012 (MOH, 2008).

FINDINGS LINKED TO THE MATERNITY ACTION PLAN

The Vision for the maternity services in the Maternity Action Plan states: "Women will experience pregnancy and motherhood as normal life events with confidence in their ability to give birth" (Ministry of Health, 2008, p.6). The long term goals expressed were to improve maternal and infant outcomes, reduce inequalities and

increase public confidence in the safety and quality of maternity services. These statements are very congruent with what this research revealed as already happening at the Warkworth Birthing Centre. To demonstrate this congruence we now present the findings of this study as evidence of how they meet the eight principles outlined in the Action Plan.

Principle one: Maternity services ensure a woman-centred approach

A predominant theme that emerged from this study was that the women who birth in the Centre are individually valued. Valuing starts with management and works its way through. Sally, the Co-director and midwife said:

We care for the midwives so they can care for the women. And we the midwives can leave our women in the care of the nurses because we know they will love and care for the women.

The staff echoed this:

I think there is a feeling of love and respect for the women, wanting them to succeed and enjoy their experience. That infiltrates everybody who works here. I think we have a different attitude here. At the end of the day you feel like you are doing something worthwhile.

And the women themselves confirmed it. For example:

All the staff have been here for more than seven years and that tells you something about the place. I asked a few of the staff and they love their work. They love the contact with all the mums.

When everything that happens at this Centre is directed towards caring for mothers/families and their babies, we suggest, then the woman stays firmly at the centre of how the service is run. Being woman-centred was more than a glib phrase; the ethos seemed to live and breathe in the staff who worked within the Centre. For example, the cleaner said:

I like to meet people, I like talking to them. I like caring for them. I love to give them fresh towels and restock their nappies for their babies. I like everything.

Such a climate of care and nurturing we propose is what made this birthing centre so successful for our participants. As Sally said:

I think the nurturing side is really important and it doesn't cost money. Because if you nurture them at this specific time then they become independent.

To be woman-centred was to commit to giving each woman the best experience possible, so that she may emerge back into the community ready and able to mother her child. Centring on people was a cascade



of care. For, as we discuss below in Principle 5, if the people employed to do the caring also feel that they are respected and valued there is likely to be pervading women-centred care.

Principle two: Maternity services are delivered in a way that acknowledges pregnancy and childbirth as a normal life stage

The nearest tertiary maternity unit from Warkworth is 60 kms away. Therefore we argue that to birth in this Centre, the midwife and mother need to confidently believe that it is possible to give birth without medicalised intervention. The figures in Table One demonstrate that nine women out of ten who plan to birth normally within the Centre achieve their aim. The women described their perception of birth:

South of the harbour bridge they are all saying "go for the drugs" but up here the midwives say "you can do it, you won't need it".

The midwives gave the women the confidence they needed to believe that they were able to give birth:

I wanted to labour without an epidural to see what it was like. Afterwards I was on a huge high, like superwoman. It was a good experience.

Not only did this mother birth without an epidural, but she emerged from the experience feeling like superwoman. The confidence she exuded in her own ability to birth still shone from her months later. The women's stories said something quite different to 'there was no pain relief':

They are not saying "this is natural birth and there are no options". You have the gas, you can have the music, you can have the oils, the rope ladder, or the tens machines. There are some things you can't have up here but they give you the options of what you can.

It was with a sense of pride that these women told of the variety of options available to assist them through labour. From their experience, such low-tech, low-cost, no-side-effect options worked. The midwives confirmed this:

Most of our births here are amazing. You see people who are totally unstressed. It's not labour, they are relaxed and they enjoy it. Lots of women here, before their placentas are born are talking about the next one. They feel really powerful afterwards like they have done something amazing.

The women spoke of enjoying their births, so did the midwives. The word 'relaxed' was heard often in the data. The sense of pride and exhilaration was still evident as women retold their stories some months later. The midwives saw women empowered by their birth experience.

It seemed that again it is the simple things that made a difference:

I think in labour they are not tied to one room, they can wander outside, They can be really, really mobile, and feel OK wandering about in their pyjamas. And the women can make a noise without it being a problem.

Being mobile in labour is known to promote a positive experience (Balaskas, 1992). The midwives talked of how easy it is for the women to wander around, inside or out, wearing anything they like. There is privacy in this Centre. It is tucked up on the hill overlooking the town with a backdrop of native bush. If women make a noise, the only people who might hear will understand. We believe that women are free to labour with no sense of having to be a good patient. This is their place where they are able to stay completely focused on the labour itself and to retain a sense of control.

The women and the midwives both indicated that such an empowered birth experience is not about any one thing. It was about everything coming together in a way so that the woman has the confidence, freedom and support to birth as generations of women before her have done. This was reflected by Sue when she described how as a rural midwife she helped women understand the nature of birth:

Education is important. It takes ages going through with the woman how the labour starts. I relate everything back to centuries ago: we are supposed to be born at night, it's safer, there are not so many predators around. They are usually more settled at night. And especially for primips, if they are not in established labour by the time the sun comes up it usually goes away again. And it starts again the next night when it gets dark. So we should keep in contact, and say "lie low, stay in bed, get peaceful". It's usually a long latent phase. And then they come in, 7cm dilated, about 10 pm at night because they have just slowly been doing something. And I guess coming from a farming background you are in tune with how it's really meant to be. My husband has been involved in farming all his life. I've learnt a lot from him. It relates, it really does.

Sue knew labour happens best when the woman lies low, finds a quiet private place and lets the long latent phase slowly progress. There is no sense of hurry or angst. Rather she instils trust in these first time mothers to be attuned to the instinctive process of birth. She almost expects that the contractions will go away in the harsh light of day, to return again in the safety of the dark night. Arriving at the Birthing Centre 7cm dilated means the birth itself will not be that far away. In such a way birth just happens, just as it happens on the farm. Perhaps in a rural community there is more trust in nature, more confidence in the fruitfulness of simply waiting.

Principle three: Maternity services are aimed at improving health outcomes and reducing inequalities

A direct link between health outcomes and mode of care is not easily made, yet there is evidence that when a woman has confidence outcomes may be influenced (Vague, 2004). One of the Maori women expressed it this way:

Nothing was ever a problem. No question was ever silly or daft. Everything was answered, no matter how big or how little it was. You feel as though you are asking a stupid question but you don't actually feel like you are daft. It was just 'wow'. It was just fantastic.

For this woman there was a real sense of feeling safe to ask. She gained the confidence to ask anything because she was never made to feel foolish, or that she should not have needed to ask such a question. One could hear the empowerment in her voice as she dipped again and again into this on-hand expertise to gain her own confidence and skills.

The nursing staff showed how such a climate of trust is achieved:

I think we are really good at making the women feel listened to and cared for. They feel nurtured in the time we spend with them. Even when we are really busy we let them know that we are available. We carry phones so that they can ring us whenever they need us. Yet we are helping them to cope on their own, giving them the skills to cope by themselves.

Even when the nurses were busy, they recognised the importance for the women to be able to contact them easily by ringing them on the phone they carry. Thus, women never have to wait for their bell to be answered and their concerns dealt with. They get an immediate response and know how soon the nurse will be able to come to their room. The nurses talked of 'nurturing' yet they balanced this with the recognition that their ultimate aim was to help each woman cope on her own.

This example showed the commitment of the staff to being confident and acting confident:

We had a woman with inverted nipples. She had no milk. We managed to keep her chilled. It's just our attitude I think. I said to her: If I start to look worried then you start to worry, and I'm not worried. And she was just so relaxed and the milk came in. It's keeping positive.

Nurses and midwives spoke of having seen many situations where what seemed an impossible breastfeeding scenario became straightforward as long as trust and confidence remained. The most important skill in the trying-to-get-it-right period was to show no signs of worry. The midwives and staff felt that if the woman could catch the confidence

of those who knew, she was much more likely to succeed. They believed that confidence mattered and supported improved health outcomes.

Principle four: Maternity services provide safe, high quality services that are nationally consistent and continuously improve

Smythe (2000) identified that what matters most in a birth experience is that the mother and baby are safe. Morbidity or mortality arising from a mis-managed childbirth experience is a lifetime legacy that bears with it the angst that maybe the un-safety could have been prevented (or maybe not). The midwives practicing at the Warkworth Birthing Centre were very mindful that safety matters. They voiced a strong sense of feeling well supported to ensure safe practice:

What keeps it safe is that you know it's well equipped, you know that there are always other people around to consult with if you are unsure. No-one is too far away.

First there was confidence that everything was always in place for when a situation arose that needed equipment to be 'right there'. And second, there was a strong ethos of collegial support. There was always another midwife to ask, or to come at a moment's notice to help. Sue gives an example:

The heart beat was dipping down. She was about 7cm, so I ruptured her membranes to see if there was meconium liquor and found a cord at the side of the head. It was during the day. Sally was here. I kept the head up and she did all the organising. The baby was born by caesarean section 55 minutes after leaving here, and everything was fine.

This situation could not have been predicted. It simply happened. But everything was in place to ensure the situation remained as safe as possible. The cohesive teamwork meant the woman was promptly on her way to the base hospital. The midwives had the skills and processes to keep the woman safe, and share in celebrating the positive outcome. Nevertheless, they did not take such success for granted:

We have a good transfer policy. When we have our midwifery meetings on Fridays we go through cases and review how the transfer went.

It is standard practice at the Centre to review every case where an event happens that requires a transfer to the base hospital. Questions are asked as to how practice could have been even better. Lessons are learned to ensure that practice is always as safe as can be.

Principle five: All women have access to a comprehensive range of maternity services that are funded and provided appropriately to ensure

that there are no financial barriers to access for eligible women

Funding for maintaining the Warkworth Birthing Centre's 24 hour in-patient service is attained from the Waitemata District Health Board on a fee for service basis. Sally describes the strength of the funding system that has evolved:

We are fortunate because we are a private facility. We can make our own rules and decide for ourselves what to do with our funding.

Maintaining a women-centred focus is possible when funding is distributed at a local level by those actually providing services. How the money gets spent is left in the hands of those directly providing the service. We heard of how a children's playground was built in preference to a second fetal heart monitor. Nurturing of staff was possible because the Directors are free to decide how staff will be recompensed:

We give our staff lots of incentives. We have a birthday bonus system. We give them lots of education. We make ourselves available to them.

We propose that this service thrives because the funding that is received is invested in a way that shows that the staff and the women are valued. Sally is very adamant about the importance of maintaining a funding system that allows all women to access this Centre:

The biggest thing is that maternity has to remain free. I am determined not to have a paying wing here, a sub-class of people. Why shouldn't someone who is very poor at home have a lovely comfortable birth experience and be treated like a queen for a while? That's what they tell us they feel like.

Because The Warkworth Birthing Centre is situated in the midst of its rural community, it is readily accessible to the women it serves. But more than that, it strives to maintain an atmosphere that enables each woman to feel that it is their place, where their own particular needs will be met.

Principle six: Maternity services are culturally safe and appropriate

In describing her birth experience at this Birthing Centre, one woman identifying as Maori said:

My experience was great. I'm a first time Mum. You are coming into an environment where you feel pretty vulnerable; hormones all over the place. I found it really peaceful coming here. What I liked about it was with your birth plan everything was open. We did a karakia when my daughter was born, and my husband did that. You could do whatever you liked and they were open to suggestions. I had all my family in when I had my baby, there were twenty of them and they were fine with that.

This woman expresses the cultural safety aspects of her birth experience. Her husband clearly felt comfortable praying as their baby was born. Having twenty whanau present was not a problem. What could have been an unsafe experience for this first time mother socially, culturally and spiritually is described in very positive terms, and was affirmed by the other Maori women in the group.

All the women in the focus groups talked of how at home they felt in the birthing centre environment:

It felt like having a baby at home. There was no smell of hospital. It felt like being in my own bedroom.

One's own bedroom conveys a sense of feeling at home, feeling relaxed, feeling safe. Another woman said:

When I came back here it felt like I was home again. They actually remembered who I was.

To feel culturally safe is to feel valued for who one is. To be welcomed and remembered is a key step towards feeling respected.

Principle seven: Maternity service providers work together in partnership with women to ensure a seamless process throughout the continuum of maternity care

It was the women who described how seamless their care was through the Warkworth Birthing Centre:

The whole experience is amazing, right from the time when I thought "Oh my God I'm pregnant" to the time when she actually came out.

This is a service where the philosophy of care and its actual provision is congruent from the very beginning of pregnancy right through to the birth. And for the women we talked to it mattered that everything happened at the one place:

I come from a long way away. I like having everything here. Antenatally I see my midwife here. I know this is where I come, this is where I have my baby. My family knows this is where I come. My children call this Sue's house. Just having everything here, it's great.

Everything is 'here'. The whole family see the Birthing Centre as the place where one goes for everything about the childbirth experience. It is not a hospital; it is "Sue's house", a safe place where even children feel at home (looking forward to getting to the play ground). And there is a sense that the care takes the woman on to the next step:

They just don't give you a whole lot of information. They give you the right information and they make sure you understand it. Before I left they made sure I had all my contacts, like Plunket and Parent Port and coffee groups. They gave me a big information tree.



The staff made sure this woman knew exactly who could offer her support as a new mother in the community. They did more than just pass the information over. They helped her to understand how to use such information and gave her the confidence to access the support she needed. As another woman said:

They look after you and do what's best for you but they want you to keep on coping when you go home. They not only want you to cope for the first days here but they want you to keep on coping when you go home.

As well as being concerned for the care needed in the moment of now, it seems that the midwives and staff at the Birthing Centre also take seriously their responsibility to equip women for what comes next. In so doing Sally and Sue reported that most women are encouraged to wait and not go home until about day four post birth. In this way breast feeding is well established, mothers are rested and ready for what comes next. There is a real sense of integrated community care arising from this Centre.

Principle eight: Maternity services are equitably and appropriately funded for the provision of an effective range of maternity services

We believe that this service could be even better if there were more funding options available to allow women to receive the care they need in their own community. For example, a woman with hyperemesis can have intravenous fluid replacement at a doctor's surgery but cannot spend a day and a night being cared for at the Birthing Centre. A woman who delivers a preterm baby at a tertiary hospital cannot later be transferred to the Birthing Centre to help her establish breastfeeding because there is no funding to support this. Similarly, a woman once discharged from the Birthing Centre cannot return when breast feeding difficulties arise. If funding was woman-centred, such options would be made possible.

MAKING IT POSSIBLE

We found that birthing at the Warkworth Birthing Centre is only possible because of the committed midwives who practice in the area. However, practice means being on-call 24 hours a day, seven days a week. Labours do not come to schedule. A tired midwife can be called to the next birth just as she falls asleep exhausted. The passion for midwifery and the strong partnership relationship between a midwife and the woman has given rise to a situation where some midwives burnout (Brodie, Warwick, Hastie, Smythe, & Young, 2008). The Warkworth midwives recognised these tensions. One of their key coping strategies was identified as the support they give and receive from each other:

I think there is sense of huge responsibility at times but we are able to share it more easily. We are always there for each other. If we have concerns we can always get help. We can always 'let off steam' to one another.

The midwives are becoming more mindful of the toll of maintaining an on-call lifestyle in order to ensure continuity of care. They are aware of the physical stress on their bodies as they support women through labour. Consequently they are exploring models of practice which give regular days off and allow, for example, two blocks of at least three weeks annual leave.

TOWARDS THE FUTURE

Articulating the strengths of the Warkworth Birthing Centre restores hope and confidence that the Vision expressed in the Maternity Action Plan (Draft) that "Women will experience pregnancy and motherhood as normal life events with confidence in their ability to birth" not only can happen, but is already happening. To protect, preserve and extend such a model of care we suggest there needs to be:

- Community based facilities where women are known, respected and feel at home
- Care for the midwives and staff who care for the women
- Attitudes and ambience that exudes confidence in women's abilities to birth normally
- Decision making re. how funding will be spent left in the control of the care providers
- Postnatal care until breastfeeding is established
- Community involvement and ownership in the form of a Trust Board
- Strong leadership and management skills linked with care provision, under the directorship of midwives
- Flexible funding arrangements that allow women who would benefit from in-hospital care outside the normal range of services to be accommodated
- Robust policies and procedures regarding safety, with efficient, effective transfer strategies

The model and philosophy of care enacted at the Warkworth Birthing Centre demonstrates that many of the factors that make this centre so successful have little to do with money. It does not take extra funding to create an ambience where women feel at home, are able to ask questions, and talk of feeling relaxed. This is rather about attitudes and values. The Maternity Action Plan, in an era in which intervention is on the rise, strives to swing the pendulum back to normal birth. This appreciative inquiry study reveals that at Warkworth Birthing Centre 'normal' birth is what happens, but more than that, women emerge from the experience confident and empowered. It is profoundly simple. It is the way forward.

REFERENCES

- Balaskas, J. (1992). *Active Birth: A new approach to giving birth naturally*. Boston: Harvard Common Press.
- Barlow, A., Hunter, M., Conroy, C., & Lennan, M. (2004). An evaluation of the midwifery services at a New Zealand community maternity unit (birth centre), *New Zealand College of Midwives Journal*, October, 7-12.
- Braun, V. & Clarke, V. (2006). *Using thematic analysis in psychology*, *Qualitative Research in Psychology*, 3, 77-101.
- Brodie, P., Warwick, C., Hastie, C., Smythe, L. & Young, C. (2008). Sustaining midwifery continuity of care: perspectives for managers. In C. Homer, P. Brodie & N. Leap (Eds). *Midwifery Continuity of Care*. Australia: Elsevier.
- Cooperrider, D., & Srivastva, S. (1987). *Appreciative Inquiry in Organisational Life*. In Research in Organizational Change and Development, 1, 129-169. Retrieved April 4, 2008, from www.stipes.com/aichap3.htm
- Davidson, E.J. (2005). *Evaluation methodology basics*. Thousand Oaks: Sage.
- Hammond, S.A. (1998). *The thin book of appreciative inquiry*. Oregon: Thinbook publishers.
- Hammond, S.A., & Royal, C. (2001). *Lessons from the field*. Texas: Thin Book publishing.
- Hunter, M. (2000). *Autonomy, clinical freedom and responsibility: The paradoxes of providing intrapartum midwifery care in a small maternity unit as compared with a large obstetric hospital*, Unpublished masters thesis, Massey University.
- Hunter, M. (2003). *Autonomy, clinical freedom and responsibility*, in Kirkham, M. (Ed). *Birth Centres. A social model for maternity care*. London: Books for Midwives.
- Liebling, A., Price, D., & Elliot, C. (1999). *Appreciative inquiry and relationships in prison*, *Punishment & Society*, 1(1), 71-98.
- Ludema, J., Cooperrider, D., & Barrett, F. (2001). Appreciative inquiry: the power of the unconditional positive question. In P. Reason & H. Bradbury (Eds.), *Handbook of action research*. London: Sage.
- National Women's Annual Clinical Report (2007). Retrieved October 6, 2008, from <http://www.adhb.govt.nz/nwhealthinfo/Gynaecology/Services/gynae%20written%20info/NW%20Annual%20Clinical%20Report%202007.pdf>
- McAra Couper, J. (2007). *What is shaping the practice of health professionals and the understanding of the public in relation to increasing intervention in childbirth?* Unpublished doctoral thesis, Auckland University of Technology.
- Ministry of Health (2008). *Maternity Action Plan 2008-2012: Draft for consultation*. Wellington: Ministry of Health.
- Patterson, J. (2007). Rural midwifery and the sense of difference, *New Zealand College of Midwives Journal*, 37, 15-18.
- Payne, D. (2002). *The elderly primigravida: Contest and complexity. A foucauldian discourse analysis of maternal age in relation to pregnancy and birth*. Unpublished doctoral thesis, Massey University.
- Preskill, H., & Catsambas, T. (2006). *Reframing evaluation through appreciative inquiry*. California: Sage.
- Skinner, J. & Lennox, S. (2006). Promoting normal birth: A case for birth centres. *New Zealand College of Midwives Journal*, 34, 15-18.
- Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health*, 23, 334-340.
- Smythe, L. (2000). Being safe in childbirth – what does it mean? *The New Zealand College of Midwives Journal*, 22, 19-21.
- Vague, S. (2004). Midwives experiences of working with women in labour, interpreting the meaning of pain. *New Zealand College of Midwives Journal*, 31, 22-27.
- Wakelin, K. & Skinner, J. (2007). Staying or leaving: A telephone survey of midwives exploring the sustainability of practice as Lead Maternity Carers in one urban region of New Zealand, *New Zealand College of Midwives Journal*, 37, 10-14.

Accepted for publication August 2009

Smythe, L., Payne, D., Wilson, S., Wynward, S., (2009) Warkworth Birthing Centre: exemplifying the future. New Zealand College of Midwives Journal 41, 7-11.

Report on mapping the rural midwifery workforce in New Zealand for 2008

Author:

- Chris Hendry RM, MPH, D Mid
Executive Director
The Midwifery and Maternity Provider
Organisation (MMPO)

ABSTRACT

In December 2008, the Midwifery and Maternity Providers Organisation commissioned by the Ministry of Health completed the 'mapping' of the rural midwifery workforce in New Zealand. It covered the localities of all 52 rural primary maternity hospitals that were spread throughout the country. Findings indicated that just under a quarter of all birthing women and a quarter of LMC midwives lived closer to a rural primary maternity facility than a base obstetric hospital. With only two facilities having LMC medical practitioners and only 13 having 24/7 medical cover, rural maternity facilities in this country were reliant predominantly on local midwives to maintain their local maternity services. The mapping also highlighted features that appeared to sustain a local midwifery workforce in rural localities as well as identifying some common features of rural localities struggling to retain their midwifery and consequently their maternity workforce.

INTRODUCTION

Midwives form a key workforce within New Zealand maternity services. Legislation outlining health service requirements underpin the expectation that each woman in this country will have a midwife at her birth and that a Lead Maternity Carer (LMC) who is either a general practitioner, obstetrician or midwife, will provide continuity of care throughout the childbearing experience (Ministry Of Health (MOH), 2007 a; MOH, 2005). Over the past eighteen years the midwifery profession has grown and adapted in order to meet these basic maternity service requirements, to a point at which midwives provide at least 80% of LMC services.

Over the past few years there has been increasing concern about the impact of midwifery shortages on women expecting to be able to access maternity care.

This culminated in the Ministry of Health developing a programme for the establishment, implementation and management of a rural midwifery recruitment and retention service (MOH, 2009) which this mapping was planned to inform. While rural areas were declared critically affected, the extent of workforce shortages and localities of greatest service need had not been accurately pinpointed. Without this information, resources to strengthen and grow the workforce could not be effectively allocated.

In 2007 there were 64,503 births in New Zealand (Statistics New Zealand, 2008), 8,023 more than in 2003, representing a 12.5% increase over this time. In early 2008, there were a total of 2,250 core and caseload midwives with active practising certificates, only 144 more than in early 2004, representing a 6.4% increase. The picture for rural communities and rurally practising midwives had not been fully quantified.

In November 2008, the Ministry of Health commissioned the Midwifery and Maternity Providers Organisation (MMPO) to identify rural midwifery workforce and recruitment 'hot spots' throughout New Zealand. In order to achieve this, a mapping process which was based on the concept of contextual scanning (Hendry, 2004) was used to identify the locality of the current midwifery workforce in relation to pregnant populations in rural localities.

METHODOLOGY

The mapping was carried out over an eight week period from December 2008 to the end of January 2009. The process included identifying birthing populations who were living in a rural town(s) which were closer to a primary maternity facility than a base obstetric birthing facility and mapping the number of midwives servicing each of these communities. We then contacted midwives and DHB maternity managers responsible for services in the locality to confirm/identify midwifery workforce vacancies and identify in order of severity, localities where there is little or no access to LMC or midwifery services.

In order to complete this process, publicly available data was obtained from a number of sources. A file

containing registered births by mother's domicile area unit code (2002 – 2007), both live and still births, was obtained from Statistics New Zealand (2008). Statistics New Zealand Geocoding was used to assist with rural ranking of both the mothers and the midwives' domiciles. This also enabled us to match area unit codes to DHB regions. To obtain data on the midwifery workforce, we requested and received an anonymised file of midwives by worktype by area unit code for 2008 from Midwifery Council (Midwifery Council of New Zealand 2009). A list of primary facilities by DHB was obtained from the 2004 Report on Maternity (MOH, 2007b) and Google Maps (www.googlemaps.com) were used to identify area units close to the rural primary facilities. This allowed us to map the number of mothers per domicile code and the number of midwives by work type per domicile code to the localities close to the rural primary maternity facilities. Once this task had been completed, local midwives and maternity managers were contacted by telephone to confirm or correct mapping and quantify rural midwifery recruitment and retention issues.

Rural primary maternity facilities were used as the central mapping point for rural birthing populations and midwives for the following reasons:

- Most of the remaining rural primary maternity facilities seemed to be located within most sizable rural towns throughout the country that had a birthing population of 80 – 100 per year (Statistics New Zealand, 2008).
- Anecdotally, most rural midwives who have primary facilities close by, seemed to have a close working relationship with them; therefore it seemed that the facilities were best used as the base around which the birthing population and midwifery workforce could be measured.
- Those working in and using primary facilities were also best placed to inform the mapping about local conditions, because it was assumed they had a broader perspective of all maternity services in the locality (both hospital and LMC practices).

For those DHBs that did not have a rural primary maternity facility (South Canterbury and Wairarapa), we included births of women who lived in any rural



town that was 45 - 60 minutes or more from an urban or obstetric base hospital. Both Hutt Valley and Auckland DHBs did not have rural births calculated.

It must be noted that actual births in the primary facilities were not used in this mapping process, rather registered births to women who resided in the rural localities. Using the actual births to women who lived in the locality provides a better predictor of LMC midwifery workforce needs than births in the facility. Even if women birth in the city, they still require LMC services from early pregnancy until six weeks following the birth. Currently birthing mothers are entitled to a minimum of seven visits from their midwife in the first six weeks after giving birth, five of them home visits (MOH, 2007). Anecdotally women claimed to miss out on postnatal care if there are no local midwives.

The New Zealand College of Midwives (NZCOM) have identified a full time LMC midwifery caseload as 50 women per year (NZCOM, 2008). The MMPO completed a budget on managing a caseload of 50 women and calculated that the midwife receives about \$100,000 per year in Section 88 payments and the business costs are estimated at about \$45,000 per year, giving the midwife an income before tax of about \$55,000 per year. It is estimated by NZCOM that rural midwives were less likely to manage the same volume of cases as an urban midwife because of the travel time required. However, for the purposes of this exercise, we have maintained the College's benchmark of a full time caseload for midwives practising in the locality of a rural primary facility as 50 women in rural localities (up to 60 minutes from a base hospital) and 40 women for midwives practising in the locality of a remote rural facility (more than one hour from a base facility).

To provide core (hospital) midwifery cover for 24 hours seven days per week, 4.3 FTE midwives would be required if they work three eight hours shifts per day for five days per week. Some facilities have negotiated with core midwives to work a variety of shifts and on call, while others have negotiated a fee or contract with the local LMC's to provide core/hospital cover.

The MMPO LMC midwifery database was used to identify key informants for the mapping exercise and in their monthly newsletter to members, advised that members may be approached to inform the mapping. The MMPO, established by NZCOM in 1997, provides practice management services to over 750 LMC midwives and to a number of trust-owned rural maternity facilities and maternity practices.

THE MATERNITY SERVICE ENVIRONMENT

The DHB service coverage agreements with the Crown expect the provision of primary maternity facilities in rural communities with a catchment of 200 pregnancies where the community is 30 minutes

from a secondary service, or 100 pregnancies where the community is 60 minutes from a secondary service (MOH, 2008/09). A primary maternity facility is defined as a hospital that does not have obstetric services or perform any caesarean sections. Overall DHBs are responsible for funding and providing access for rural communities to obstetric specialist services (by communication with and transfer to a base obstetric hospital), neonatal services (through outreach and retrieval services), continuity of care services for women unable to obtain a LMC and pregnancy and parenting education programmes (MOH, 2008/09).

Using the above criteria, the mapping identified 52 rural primary maternity facilities throughout the country. Most were either managed by the DHBs or by a local trust, and were responsible for ensuring 24/7 midwifery back-up for the facility. Some also provide pregnancy and parenting programmes from the facility and all had procedures for transferring women and babies to their secondary or tertiary facility for specialist obstetric services. A few rural primary maternity facilities had specialist obstetric outpatient consultation clinics provided by obstetricians visiting from the base hospital. Table 1 (following page) indicates that the number of rural maternity facilities vary by DHB. Those in remote rural localities (more than 60 minutes from a base obstetric hospital) are shaded.

For the purposes of this report, rural midwives were identified from data obtained by the Midwifery Council of New Zealand for their annual practising certificate (APC) process. Annually, midwives are surveyed and asked to identify their main form of work (worktype). While midwifery educators, researchers and administrators/managers may take on a small caseload of women, we used the actual self reported first (main) 'occupation type' from the Midwifery Council spreadsheet to determine their worktype. We identified midwives who lived and/or worked rurally by the Territorial Local Authority (TLA) domicile they stated in the survey and placed alongside their main worktype in the spreadsheet from Midwifery Council. These 'rurally located' midwives were then mapped to the nearest primary rural birthing facility to determine the numbers of rural midwives by worktype in each DHB region.

Core midwives provide hospital based midwifery services to women when they are inpatients. All maternity facilities are required to have a midwife on site or on call for the facility 24 hours, seven days a week (24/7) and if a woman is in labour with a LMC, the core/facility midwife is expected to provide back-up support in the facility and provide on call services to women when they stay postnatally. Some LMC midwives provide the core midwifery service to maternity facilities on contract. Caseload or LMC midwives provide maternity care directly to women from early pregnancy until six weeks following the birth. Over the years, most general practitioners have

discontinued providing this service leaving midwives as the main providers. In rural localities the majority of LMC services are provided by midwives who either travel from the nearest city or by those who live locally. The smaller the population, the less likely a locally living midwife is available.

Because LMC midwives provide a mobile service, the rural primary maternity facilities were used as the mapping point and the midwifery workforce was measured in relation to the number of midwives living and working within the catchment of the nearest rural primary maternity facility.

FINDINGS OF THE MAPPING PROCESS

In 2007, there were 14,961 women classified as living rurally, based on our methodology, who had a live or still birth. This represented 23.2% of all women who birthed in 2007 (Table 2 - following page). When viewed by DHB region, the numbers of rurally living birthing women varied considerably. Northland, Counties Manukau, Waikato, Capital and Coast and Canterbury DHBs had the largest numbers of birthing women living rurally (Table 3 - following page). As a proportion of total birthing populations in the various DHB regions, Northland, Waikato, Taranaki, Capital and Coast, South Canterbury and Southland DHBs had the highest proportion of birthing women living rurally in the years 2002 - 2007 (Figure 1 - following page). Over the six years, the proportion of these women had reduced for some DHBs, but the actual number had continued to increase overall, meaning that urban births had increased more rapidly.

MIDWIFERY SERVICES

The main direct providers of midwifery services to women are midwives who work either as core midwives, employed to work on shifts in the hospital or caseload midwives who provide LMC services for individual women. In 2008 (Midwifery Council of New Zealand, 2008) there were 2,529 midwives with current practising certificates. Of those, 1,008 identified caseload midwifery as their main occupation and 1,242 identified as core midwives, 363 of them working in primary maternity facilities.

Of the total 363 midwives in 2008 who identified themselves as core midwives working in a primary facility, 160 lived in rural localities (Table 4). A further 84 rurally living midwives identified themselves as core in secondary or tertiary facilities. These rurally living but urban working midwives represented a potential LMC or core workforce in their locality. Reasons for not choosing this option were not explored in this project. Of the total 1,008 midwives in 2008 who identified themselves as caseload midwives providing LMC services, 285

lived in rural localities (Table 4 - page 16). Of these midwives, the majority, 245 (86%) were self-employed or employed by a local trust or midwifery practice. There were 125 more caseload midwives living in rural localities, than core midwives working in rural primary facilities.

If rural localities were reliant on locally living midwives for their maternity service provision, some DHBs appeared to have a theoretical ratio of births per caseload midwife greater than 60 births per year, which is high for a rural midwife. These DHBs

were Northland, Taranaki, Tairāwhiti, Hawke's Bay, Whanganui, Wairarapa, Canterbury and South Canterbury (Table 5 - page 17).

TELEPHONE INTERVIEWS WITH LOCAL MIDWIVES AND MATERNITY MANAGERS.

Throughout January and February 2009, midwives and maternity managers were surveyed by telephone using a structured questionnaire. A project midwife

completed this phase of the mapping. Telephone interviewing was used to ensure the intent of the question was understood and to elicit any further information that could assist in building a picture of the service and its midwifery workforce needs.

Between these 52 facilities there were 226 maternity beds. Most facilities ranged between three and five beds. More than half of the facilities (33) were reported to have medical/aged care beds within the same facility, therefore had a nurse on site 24/7. Core cover was provided on a rostered shift basis in 17 of

Table 1: Rural primary maternity facilities

DHB's	Rural primary maternity facilities									Total
Northland	Kawakawa	Dargaville	Kaitia	Hokianga						4
Waitemata	Wellsford	Warkworth	Helensville							3
Auckland										0
Counties Manukau	Pukekohe									1
Waikato	Waihi	Huntly	Morrinsville	Te Awamutu	Te Kuiti	Thames	Taumarunui	Tokoroa	Matamata	9
Taranaki	Stratford	Hawera								2
Bay of Plenty	Opotiki	Murapara								2
Lakes	Taupo									1
Tairāwhiti	Tē Puia									1
Hawkes Bay	Wairoa	Chathams	Waipukurau							3
Midcentral	Levin	Dannevirke								2
Whanganui	Raetihi	Taihape	Marton							3
Wairarapa										0
Hutt Valley										0
Capital and Coast	Kenepuru	Paraparaumu								2
Nelson / Marlborough	Motueka	Takaka								2
South Canterbury										0
Canterbury	Kaikoura	Waikari	Rangiora	Darfield	Akaroa	Ashburton	Lincoln			7
West Coast	Westport									1
Otago	Oamaru	Alexandra	Ranfurly	Balclutha						4
Southland	Gore	Winton	Tuatapere	Lumsden	Queenstown					5
Total										52

Source: 2004 Report on Maternity (Ministry of Health, 2006).

Shaded areas are more than 60 minutes from a base hospital

Table 2: Birthing women living rurally as a proportion of all births 2002 – 2007.

	2002	2003	2004	2005	2006	2007
Total NZ resident births	54,375	56,480	58,556	58,105	59,563	64,503
Birthing women living rurally	12,771	13,377	13,597	13,636	13,558	14,961
% Birthing women living rurally	23.5	23.7	23.2	23.5	22.8	23.2

Source: Statistics New Zealand (2008)



the facilities. For 21 of the facilities core cover was provided on an on-call basis by either core midwives or local LMC midwives. In 20 of the facilities (38%) LMCs provided the core cover, either on call or as part of a contract with the facility provider. Eight of the facilities had either enrolled nurse or obstetric nursing covering the core shifts. In these cases, the LMCs generally provided the 24/7 midwifery cover for the facility. Back-up for the facility was available in a variety of forms. Fifteen of the facilities (28%) had medical/g.p. back up. Thirty two of the facilities (61.5%) had back up from registered nurses. All were required to have 24/7 midwifery back-up. Twenty (38.5%) of the facilities were reliant on LMC midwives to provide the facility midwifery cover.

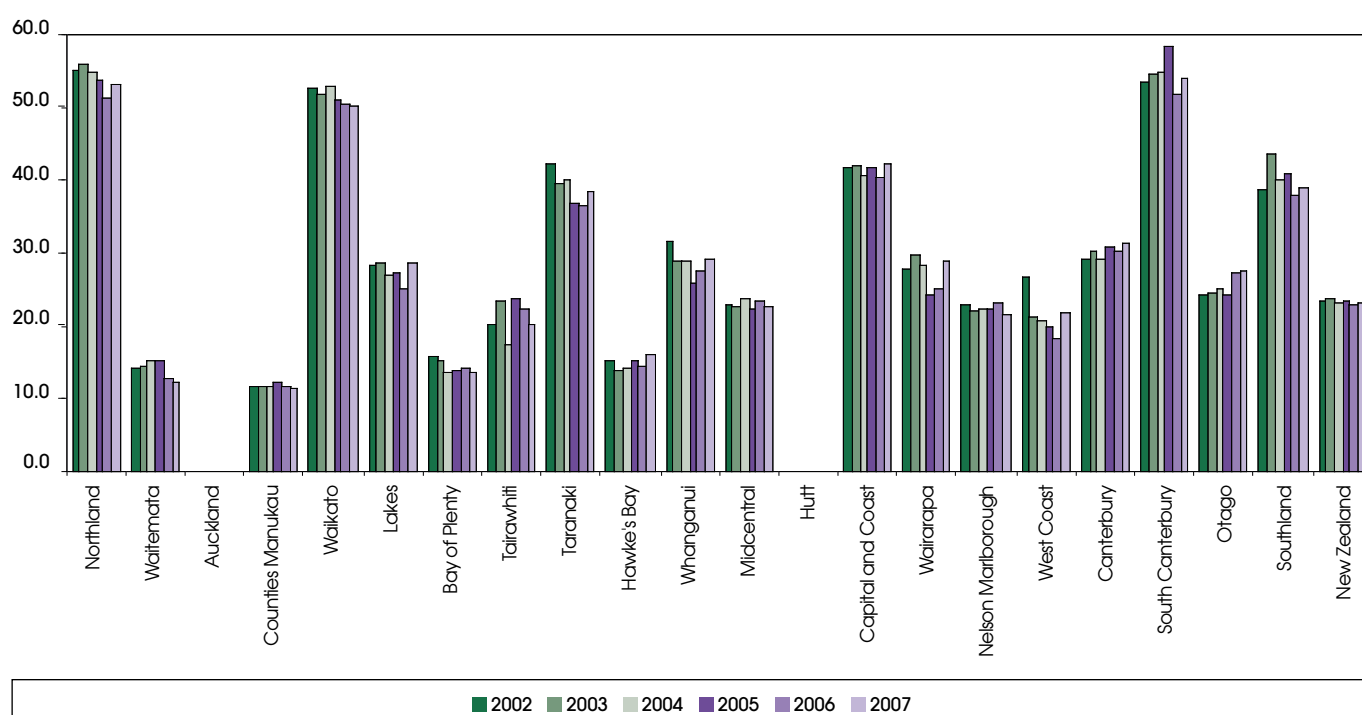
Antenatal education programmes were provided by only 8 (15%) of the facilities. Midwives universally commented on the lack of any other maternity based services in the locality to support their service. The lack of antenatal education meant that the midwives needed to provide a substitute programme to network mothers with each other in the community and reinforce learning about pregnancy and motherhood. These activities were not paid for. Responsibility for management of the facility varied throughout the country. District Health Boards managed 34 (65%) of the facilities, while 10 (20%) were managed by local community trusts and the other 8 (15%) were managed or owned by local midwives or a local business. Waitamata, Waikato, Otago and Southland DHBs between them had the majority of non DHB managed rural primary maternity

Table 3: Live and still births by DHB to women living in rural localities 2002 - 2007

District Health Boards	2002	2003	2004	2005	2006	2007
Northland	1063	1141	1147	1121	1158	1242
Waitemata	918	996	1096	1066	932	962
Auckland	0	0	0	0	0	0
Counties Manukau	840	881	917	974	952	1028
Waikato	2446	2510	2625	2592	2529	2810
Lakes	430	447	448	421	399	476
Bay of Plenty	405	401	377	387	397	412
Tairāwhiti	155	165	131	185	161	161
Taranaki	559	548	536	524	535	624
Hawke's Bay	316	292	308	326	317	376
Whanganui	274	246	236	212	2432	262
Midcentral	452	463	494	498	529	530
Hutt	0	0	0	0	0	0
Capital and Coast	1500	1613	1511	1543	1561	1713
Wairarapa	129	130	150	114	131	157
Nelson Marlborough	333	337	363	338	362	368
West Coast	89	72	83	68	71	89
Canterbury	1563	1729	1774	1858	1877	2162
South Canterbury	295	325	312	345	311	367
Otago	475	466	510	477	538	586
Southland	529	615	579	587	555	636
Total	12,771	13,377	13,597	13,636	13,558	14,961

Source: Statistics New Zealand (2008).

Figure 1: The proportion (%) of rurally living women who birthed between 2002 and 2007 per DHB.



Source: Statistics New Zealand (2008).

facilities. Home birth was reported as less of an option in many rural areas because the only back-up available was the core staff in the primary facility who are not paid/available to provide home birth back-up.

Midwives were asked to rate the status of the local midwifery recruitment and retention situation. Initially they were asked to rank from high to low, but there were clearly some critical areas, which were rated as 'extreme'. The findings revealed that 10 (19%) localities were identified as extreme. The midwives reported that they urgently required more LMC midwives or local services would be in jeopardy. In four of these localities their facility had recently been or was about to be closed. The midwives indicated that closure of a facility led to midwives leaving the area.

The localities of most concern are listed in Table 6. Of the facilities in these localities, 11 (85%) were managed by the DHB provider, and 10 (77%) were situated in remote rural localities. Collectively among these localities there was a total theoretical ratio of 114 births per current LMC midwife. Situations do change rapidly, however. For example, in a rural practice of three midwives, if one leaves, the other two have more problems obtaining cover to take time out. Similarly, if one or two midwives move into the area, an extreme shortage can be resolved immediately.

The midwife informants rated 22 (42%) rural primary maternity facilities as having a low rating for rural midwifery workforce issues (table seven - page 18). Features of the localities included:

- 12 (54.5%) of the facilities were managed by a local trust, local LMCs or a local business.
- 7 were remote rural (32% of the total),
- 10 were rural,
- 1 of the DHB facilities had a maternity resource centre to attract local LMCs,
- Collectively there was a total theoretical ratio of 48 births per current LMC midwife

Even though some of these localities appeared to have a higher ratio of births to midwife, the midwives felt the situation was manageable.

POSSIBLE MANAGEMENT OF MIDWIFERY WORKFORCE SHORTAGES.

Discussion with midwives indicated that some could cope better with short term workforce shortages and higher caseloads, by planning for seasonal fluctuations, working within a geographic boundary (handing over to secondary care on transfer to the base and returning to their locality) and having a collegial relationship with core midwives who may assist with some caseload work during times of increased pressure.

Table 4: Rural living caseload and core midwives with APCs in 2008.

District Health Boards	Caseload Rural		Core Rural	
	DHB	SE/Other	Primary facility	Secondary or Tertiary facility
Northland	1	19	11	1
Waitamata	4	18	5	0
Auckland	4	0	6	3
Counties Manukau	3	19	5	0
Waikato	4	45	19	23
Taranaki	0	7	5	3
Bay of Plenty	0	11	8	7
Lakes	3	6	5	1
Tairāwhiti	0	2	0	0
Hawkes Bay	0	3	8	6
Midcentral	0	11	22	3
Whanganui	1	1	7	2
Wairarapa	0	1	0	5
Hutt Valley	0	1	2	4
Capital and Coast	0	33	15	2
Nelson/Marlborough	4	5	6	0
South Canterbury	3	1	0	5
Canterbury	3	25	26	14
West Coast	3	0	0	0
Otago	3	23	3	5
Southland	4	14	7	0
Total	40	245	160	84
	285		244	

Source: Midwifery Council of New Zealand 2008

In some areas, the distribution rather than shortage of midwives was the problem. For example, there may be more core than LMC midwives or more living in the urban than the rural settings. Some core midwives may be incentivised to move into LMC practice in rural localities. There were 144 core midwives working in rural primary facilities throughout the country and a further 100 with current APCs living in these localities but working in other roles, such as management or teaching. Discussion with DHB maternity managers indicated that they attempted to manage midwifery workforce shortages by employing staff. They had not considered, or did not think it their brief to encourage self-employed LMC midwives to move into an area. They would welcome an opportunity to get together with others, including self-employed LMC midwives to discuss strategies for managing rural midwifery workforce issues.

A number of issues were raised by midwives as needing to be addressed if midwifery was to remain sustainable in rural and remote rural localities. These included:

- Difficulty in obtaining cover for unexpected events such as personal or family illness.
- For rural midwives, travelling for home visits was very costly. These midwives covered large distances. It was not unusual to travel a three hour return trip for one postnatal home visit.
- Waiting time for ambulance services in some areas could be 3 – 4 hours, which increased transfer times for women. Many areas were reliant on the urban ambulance coming out to the rural area then returning to the city with the woman and midwife. On the other hand, rural ambulances were mostly staffed by volunteers and generally had only the driver, leaving the midwife alone in the back to manage any emergencies.
- Some towns were hard to 'sell', particularly those that were isolated, had high unemployment and had social challenges. Often midwives also needed to find a job for their partners before they could move into a locality.

Table 5: Rural living birthing women and midwives in 2007 & 2008.

District Health Boards	Births to women living rurally in 2007	Rurally living core midwives	Rurally living caseload midwives	Total rurally living midwives
Northland	1242	11	20	31
Waitemata	962	5	22	27
Auckland	0	6	4	10
Counties Manukau	1028	5	22	27
Waikato	2810	19	49	68
Lakes	476	5	9	14
Bay of Plenty	412	8	11	19
Tairāwhiti	161	0	2	2
Taranaki	624	5	7	12
Hawke's Bay	376	8	3	11
Whanganui	262	7	2	9
Midcentral	530	22	11	33
Hutt	0	2	1	3
Capital and Coast	1713	15	33	48
Wairarapa	157	0	1	1
Nelson Marlborough	368	6	9	15
West Coast	89	0	3	3
Canterbury	2162	26	28	54
South Canterbury	367	0	4	4
Otago	586	3	26	29
Southland	636	7	18	25
Total	14,961	160	285	445

Sources: Midwifery Council of New Zealand 2008 & Statistics New Zealand 2008.

Auckland and Hutt were unable to identify rural populations

Table 6. Rural localities rated with extreme midwifery workforce shortages in 2009.

DHBs	Rural locality	Midwives Rating *	Births to women living locally in 2007**	Current LMCs***	Managed by
Northland	Bay of Islands	High/extreme	601	8	DHB
	Kaitia	Extreme	347	4	DHB
	Dargaville	Extreme	294	1	DHB
Waikato	Waihi	Extreme	283	2	Private
	Taumaranui	Extreme	177	1	DHB
	Tokoroa	Extreme	346	1	DHB
Lakes	Taupo	Extreme	476	3	DHB
Tairāwhiti	East Coast	Extreme	161	2	DHB
Capital and Coast	Porirua	Extreme	1048	11	DHB
Canterbury	Kaikoura	Extreme	60	0	DHB
	Waikari	Extreme	73	1	DHB
	Darfield	Extreme	191	1	DHB
Otago	Alexandra	Extreme	284	3	Private

Source: Statistics New Zealand & local midwives

* Ratings were made by local midwives in relation to availability of support and back-up.

** 'Births' include both live and still births registered to women who live in these localities.

*** FTE status is hard to determine for LMC midwives. It is likely that the actual number could be less, because well supported LMCs will take on more than 50 women per year if needed.

- Reliance on Enrolled and Obstetric nurses to provide core cover placed pressure on midwives. Most of these nursing programmes ended 20 – 30 years ago, which meant that many of these staff were close to retirement. The midwives were unsure as to who will replace them and were not aware of any attempts to relook at staffing these rural maternity facilities.
- Variable cell phone coverage in many rural areas, particularly mountainous regions leaves midwives very isolated.
- Many trusts and local midwives expressed concern over the cost of recruiting midwives.
- Rural midwives faced extra costs in taking time out for continuing education to maintain their competencies. Many needed to take two days out for a one day workshop because of the travel time required.
- A number of rural facilities had problems retaining core midwives because they expected them to work 'on call' in a similar role to LMC midwives, without paying the caseload midwives rate. This resulted in midwives either refusing to be on call or choosing to resign and work in the locality as a self-employed midwife.

Maternity managers commented that one of the main reasons for closing rural primary maternity facilities was because of the lack of core midwifery cover, particularly when a core midwife had moved out into LMC practice or resigned, during busy times or when staff were sick. Exploration of more flexible arrangements to enable midwives to take responsibility for providing core midwifery cover could be explored. Some very stable localities contracted with the local LMC midwives to provide this service. They then choose to either employ core midwives or provide the services themselves.

CONCLUSION

There has been a 12.5% increase in New Zealand births over the past six years, but the midwifery workforce grew by only half this rate (6.5%). While economies of scale enable shortages of midwives to be 'managed' in urban settings, rural areas are likely to feel midwifery workforce shortages more acutely. This rural mapping exercise was designed to identify the intensity of rural midwifery workforce shortages by mapping the numbers of births to women living and working in rural localities to the number of practicing midwives in these areas.

Findings indicate that rural localities appeared to be dependent on midwives to provide the majority of maternity services in rural localities in this country. Self-employed LMC midwives, who formed 86% of the rural caseload midwifery workforce, had developed informal networks of practices throughout most rural localities in the country. Few DHBs provide caseload midwifery services in rural localities and just under half of them relied on the LMC midwives to provide facility cover in the absence of

Table 7: Rural localities rated low for midwifery workforce shortages in 2009.

DHBs	Rural locality	Midwives Rating *	Births to women living locally in 2007**	Current LMCs ***	Managed by
Waitemata	Wellsworth	Low	85	8	Trust
	Warkworth	Low	300	8	Trust
	Helensville	Low	577	6	Trust
Counties Manukau	Pukekohe	Low	1028	14	DHB
	Huntly	Low	755	8	Private
	Morrinsville	Low	119	9	Midwives
Taranaki	Stratford	Low	181	4	Private
	Hawera	Mod/Low	443	2	DHB
Wanganui	Marton	Low	99	2	DHB
	Raetihi	Low	50	1	DHB
Hawkes Bay	Chathams	Low	11	0	DHB
MidCentral	Levin	Low	319	7	DHB
Nelson Marlborough	Motueka	Low	301	5	Private
	Takaka	Low	64	3	DHB
West Coast	Westport	Low	76	3	DHB
Canterbury	Rangiora	Low	421	11	DHB
	Akaroa	Low	17	1	DHB
Otago	Oamaru	Low	133	7	Trust
Southland	Gore	Low	140	4	Trust
	Tuatapere	Low	46	2	Trust
	Lumsden	Low	98	3	Trust
	Winton	Low	190	5	Trust

Source: Statistics New Zealand & local midwives

* Ratings were made by local midwives in relation to availability of support and back-up.

** Births* include both live and still births registered to women who live in these localities.

*** FTE status is hard to determine for LMC midwives. It is likely that the actual number could be less, because well supported LMCs will take on more than 50 women per year if needed.

employed core midwives. It is likely that many more rural primary maternity facilities would be closed if the self-employed LMC midwives and community trusts did not work out local solutions to keep the services open and available.

The most challenging midwifery workforce 'hot spots' appeared to be situated in remote rural localities where there was unreliable core midwifery coverage and local primary maternity facility services were managed reactively from the base obstetric hospital in the city.

Midwives perception of workforce shortages appeared to be lessened when the midwives themselves had 'control' (flexibility) as a local workforce, by working with the local facility as part of their practice.

This mapping exercise provides a benchmark against which the impact of midwifery workforce recruitment and retention programmes can be measured. There was great willingness by midwives to become involved in solutions to their local midwifery workforce problems. It is unlikely that rural community based

maternity services could be provided for local women as efficiently as they seem to be by LMC midwives. A strong partnership between these midwives and those working within rural primary maternity facilities including core midwives and nurses, appears to mitigate the impact of midwifery workforce shortages. It would seem sensible to involve local midwives in recruitment and retention strategies. The continued provision of rural maternity facilities in these localities would seem to form an important part in attracting midwives to work locally.

The following maps highlight the critical locations of the rural primary maternity facilities, without which large parts of the central North and South Islands would likely have no maternity services at all.

REFERENCES

- Hendry, C. H. (2004). *The organisation of Maternity services by Midwives 1990 – 2003*. Unpublished Doctoral Thesis, University of Technology, Sydney.
- Midwifery Council of New Zealand. (2008). *Table of midwives with current annual practising certificates by worktype and TLA of work and residence for 2008*. (Personally requested for the project).
- Ministry of Health. (2005). *Maternity Facility Specifications*. Retrieved August 23, 2009 from <http://www.moh.govt.nz/dhbf>.
- Ministry of Health. (2007a). *Maternity Services Notice pursuant to Section 88 of the New Zealand Public Health and Disability Act 2000*. Retrieved August 23 2009, from <http://www.moh.govt.nz/moh.nsf/indexmnh/section88-maternity-notice-2007-feb07>
- Ministry of Health. (2007b). *Report on maternity: Maternal and Newborn information 2004*. Retrieved August 23, 2009 from <http://www.nzhis.govt.nz/moh.nsf/pagesns/73>
- Ministry of Health. (2009). *Tender for the establishment, implementation and management of a rural midwifery recruitment and retention service*. Retrieved August 23, 2009 from www.GETS.govt.nz.
- Ministry of Health, (2008/09). *District Health Boards of New Zealand Service Coverage Agreement with the Crown*. Retrieved August 23, 2009 from <http://www.moh.govt.nz/dhbf>.
- New Zealand College of Midwives (2008) *Midwives Handbook for Practice 3rd ed* NZCOM Christchurch
- Statistics New Zealand. (2008). *Table of Births (Live, Still and Total) by Residence of Mother (Area Unit) 2002 – 2007*. (Personally requested for the project)

Accepted for publication August 2009

Hendry, C., (2009) Report on Mapping the Rural Midwifery Workforce in New Zealand for 2008
New Zealand College of Midwives Journal 41
pages 12-19.

ACKNOWLEDGEMENTS

The MMPO would like to acknowledge the input and support of Joanna Houston and the rural midwives who informed this rural mapping and also the Ministry of Health, particularly Margareth Attwood, who funded this project.

Figure 2: Map of the North Island with Base Obstetric services and rural primary maternity facilities identified.

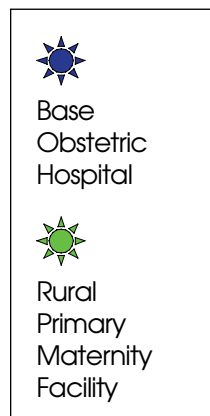
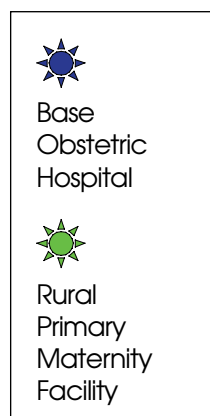


Figure 3: Map of the South Island with Base Obstetric services and rural primary maternity facilities identified.



Midwives care during the Third Stage of Labour:

An analysis of the New Zealand College of Midwives Midwifery Database 2004- 2008

Authors:

- Lesley Dixon RM, BA (Hons) MA Midwifery
PhD Candidate Victoria University,
Wellington
Midwifery Advisor: The New Zealand
College of Midwives.
Email: practice@nzcom.org.nz
- Lynn Fletcher, BSc DipStat MSc
Independent contract Biostatistician
- Sally Tracy DMid MA BNurs RGON RM
Professor of Midwifery
University of Sydney Centre for Women's
Health Nursing and Midwifery
Australia
- Karen Guillard RM, MA Midwifery
Chief Executive Officer
The New Zealand College of Midwives
- Sally Pairman DMid, MA, BA, RGON
Head of School of Midwifery
Otago Polytechnic, Dunedin
- Chris Hendry RM, MPH, D Mid
Executive Director
The Midwifery and Maternity Providers
Organisation (MIMPO)

ABSTRACT:

Background and purpose: The third stage of labour is the period of time following the birth of the baby when the placenta separates and is expelled from the uterus. There are two options or care pathways that can be provided. The first is a physiological pathway for the third stage (also called expectant management). The second is an actively managed third stage pathway. Midwives in New Zealand provide both types of care for women during the third stage of labour. The purpose of this research was to describe, analyse, and compare the outcomes of the two different management pathways for the third stage of labour following a normal physiological birth.

Methods: Aggregated data from a sample of 33,752 women over a period of five years were used to identify the type of third stage provided. Selection criteria were applied so that only normal labour and births were included. Comparisons were made between women who received physiological care in third stage and those who received active management of the third stage of labour. **Results:** There were 16,238 (48.1%) women who received physiological management and 17,514 (51.9%) who received active management. Women who gave birth at home or in a primary birthing unit were more likely to have a physiological third stage than those who gave birth in a secondary or tertiary unit. Overall, the majority of women had a blood loss of less than 500 mls following birth. For those women who lost less than 500ml of blood, more women received physiological management (96.3%) than active management (93.1%), $Z=12.7$, $p<0.05$). A physiological third stage took longer than an actively managed third stage with a length of more than 40 minutes for 11.3% of the physiological managed group compared to 5.4% of the actively managed group. For women in the active management group a longer time to the delivery of the placenta was associated with an increased blood loss ($\chi^2=221$, $df=2$, $p,0.001$).

Conclusions: The data demonstrates that following a physiological labour and birth, physiological care for the third stage results in less blood loss than active management and a lower incidence of post partum haemorrhage of between 500mls and 1000mls (3.1% compared to 5.3%) and more than 1000mls (0.5% compared to 1.5%).

KEY WORDS:

Midwifery care, physiological (expectant management) third stage, active management, third stage of labour, home birth, place of birth, blood loss, length of third stage.

INTRODUCTION

The New Zealand College of Midwives (NZCOM) defines the third stage of labour as "the period from the birth of the baby until the complete birth of

the placenta/whenua and membranes" (NZCOM, 2006). There are two pathways of care that can be followed during the third stage of labour. The first is a physiological third stage (also called expectant management). The second is active management of the third stage. The physiological third stage involves supporting the woman's physiology during the third stage, with the major and important difference that a prophylactic uterotonic is not given and controlled cord traction is not used (NZCOM, 2006). Instead the midwife watches and waits for the placenta to separate and deliver spontaneously or with maternal effort alone (Festin et al., 2003; Gyte, 1994a; Henderson & MacDonald, 2004; McDonald, 2007; Thorpe & Anderson, 2006). Active management of the third stage of labour includes the use of a prophylactic uterotonic drug (prior to the delivery of the placenta), clamping and cutting of the umbilical cord and controlled cord traction to aid delivery of the placenta (International Confederation of Midwives (ICM) & International Federation of Gynaecology and Obstetrics (FIGO), 2006).

Brucker (2001) suggests that the difference in approaches between active and expectant management of the third stage of labour reflects the difference between two paradigms; the 'normal birth' paradigm and the 'birth is normal in retrospect' paradigm. Physiological management of the third stage of labour is situated within the paradigm that considers childbirth a normal physiological process that does not require routine intervention. This approach supports the woman's own body to provide endogenous oxytocin by encouraging skin to skin contact, warmth and calm. It is based on the assumption that protecting physiology promotes safety for both the woman and the baby because the woman's body has been designed to give birth successfully. The aim of care is to enhance the physiological processes that protect and support health holistically and only to intervene with treatment if and when required.

Active management is situated within the paradigm that sees childbirth as normal only in retrospect and where interventions are required to prevent the possibility of an adverse event. It is based on an



assumption that safety is increased by the provision of exogenous oxytocin to increase contractility of the uterus and shorten the time length for the third stage, thereby minimising blood loss (Brucker, 2001). Active management became widely used in Europe during the 1950's and 60's following the introduction and widespread availability of uterotonic drugs (Begley, 1990) with controlled cord traction advocated as a method of separating the placenta when there was a delay in placental delivery (Kimbell, 1968).

In New Zealand it is recognised that when a woman has had a physiological labour and birth, a physiological third stage can be expected and midwives need to be competent in both care options (NZCOM, 2006). For the majority of women, giving birth is a normal physiological process in which the woman's body adapts to the changes required for the pregnancy and birth. The midwifery philosophy is to work with women to enhance the physiology of the labour and birth which includes the third stage of labour.

When considering which option of third stage of labour to provide, the evidence to date has suggested that active management of the third stage is the optimum approach for women in hospital settings (Prendiville, Elbourne, & McDonald, 2000). Both internationally and nationally, many hospital policies and professional guidelines recommend the use of active management for the third stage of labour (ICM & FIGO, 2006; National Collaborating Centre for Women's and Children's Health, 2007; Schuurmans, MacKinnon, Lane, & Etches, 2000; The WHO Reproductive Health Library, 2009; World Health Organisation, 2007). These recommendations have been based on the results of a systematic review of active versus expectant management of the third stage of labour (Prendiville et al., 2000). There has, however, been criticism of the randomised control trials that were part of the review, with the suggestion that alternative interpretations could be made and that in many of the trials there was a piecemeal approach to the third stage, with components of both active and expectant management applied in each arm of the studies (Gyte, 1994b; Soltani, 2008). The Cochrane review (Prendiville et al., 2000) has subsequently been withdrawn and a protocol for a new review has been set up and is underway.

PRACTICE REALITIES

Whilst there are moves to standardise components of active management so that all health professionals are providing standardised care, the reality in practice is that there are a variety of interpretations of active management of the third stage. In a survey of 14 European maternity hospital policies on active management of the third stage, Winter et al. (2007) found variations in the pharmacological agents used,

the timing of cutting and clamping of the cord and the use of controlled cord traction. A global survey and observational study of 15 university-based obstetric hospitals in both developing and developed countries, found only 24.6% of the births observed utilised all three components of active management of the third stage (Festin et al., 2003). Furthermore, observational research in an Egyptian teaching hospital found that only 15% of the births observed used all three components of active management. The most common deviation was the giving of a uterotonic after the expulsion of the placenta (65%) and not using controlled cord traction (49%) (Cherine et al., 2004). An Australian study found high use of prophylactic uterotonics (91%) and controlled cord traction but variations in the type of uterotonic used along with differences in the timing of administration (Roberts, Lain, & Morris, 2008). The outcomes of the various individual components of active management of the third stage have not been fully evaluated so it is difficult to assess which components are most effective.

In practice, and when midwives are able to work autonomously, it appears they are more likely to facilitate a physiological approach to the third stage. For example, a survey of 497 maternity practitioners in British Columbia found that midwives were less likely to use prophylactic oxytocin routinely when compared to family physicians and obstetricians (Tan, Klein, Saxell, Shirkoohy, & Asrat, 2008), and a survey of Dutch midwives found that only 10 percent used prophylactic oxytocin routinely during the third stage compared to 55 percent of obstetricians (de Groot, van Roosmalen, & van Dongen, 1996). Two small studies conducted in the United Kingdom found that midwives were more likely to use physiological third stage care when providing care in birth centres or if providing continuity of care to women (Benjamin, Walsh, & Taub, 2001; Kanikosamy, 2007). Furthermore, focus group research with 32 Swedish midwives found that the midwives felt confident in evaluating the physiological labour and birth and endeavoured to leave the third stage undisturbed when there were no apparent risks (Jangsten, Hellstrom, & Berg, 2009).

In New Zealand, women have a Lead Maternity Carer (LMC), usually a midwife, providing continuity of care in a variety of settings. Women can choose to give birth at home, in a primary birthing unit/facility, a secondary hospital maternity facility or a tertiary hospital maternity facility and LMC midwives are able to provide care in any of these settings¹. Access to a birthing unit or hospital is often dependent on where the woman lives as availability of both primary and secondary or tertiary maternity facilities varies between regions. When options are available women will make informed decisions about where to give birth.

Women are also provided with evidence and are encouraged to make choices for care based on their own circumstances and requirements and in collaboration with their caregiver. Therefore, care will be individual to each woman depending on her circumstances. In New Zealand, when the labour and birth have progressed normally and without intervention, the choice of care pathway for the third stage of labour lies with the woman in partnership with the midwife. When presented with the available research evidence and the subsequent critiques, women may choose physiological third stage care. The midwifery partnership recognises that midwives make professional judgements about care, so if, for example, a labour is no longer normal and required intervention then it is unlikely that physiological third stage will remain appropriate. Women are therefore involved in the decision making but if there are clinical reasons for differing from the decision the midwife will inform the woman as to the reasons for the change in care. Third stage care provision is an individual decision made by each woman in partnership with her midwife.

The purpose of this study was to assess and compare the two care pathways options for managing the third stage of labour for all normal physiological births in the NZCOM dataset from 2004 to 2008. In particular differences between where women gave birth, the amount of blood they lost, the time it took to birth the placenta and the influence of pain management during labour on the third stage, was analysed. Ethical approval was received in March 2009 from the Multi-region Ethics Committee of the Health and Disability Ethics Committee of New Zealand (MEC/09/016/EXP).

METHOD

The NZCOM database is an aggregated collection of clinical data from all midwife LMC's who are members of the Midwifery and Maternity Provider Organisation (MMPO). The MMPO was established and is supported by the New Zealand College of Midwives to provide an efficient maternity practice management system for midwives. The majority of LMC's are self employed and use the MMPO to organise and support their practice. Each midwife LMC has a set of maternity notes for each client that comprises the contemporaneous and permanent record of maternity care outcomes, as required for quality assurance and review purposes. Each woman has her full maternity episode recorded and managed by her LMC, from registration with the midwife in pregnancy to four to six weeks postpartum. The LMC enters the woman's data (either electronically or manually) in the woman's maternity notes at each contact with the women. At the birth, the midwife records whether the third stage

¹ Primary birthing facilities provide labour, birth and postnatal care (midwife led); secondary maternity facilities provide antenatal, labour, birth and postnatal care with obstetric, anaesthetic and paediatric services available; tertiary maternity facilities are as per secondary facilities with the addition of a Neonatal Intensive Care Unit.

has been physiological or actively managed as part of the labour summary, along with the blood loss volume. As each page is completed it is forwarded to the MMPO for entry into the MMPO claiming system and the NZCOM clinical database. There are various checks and balances built into the system that ensures data is entered accurately and appropriately. Each woman's data forms an anonymised database of clinical information about the mother and baby at various stages of the childbearing process that can, if necessary, be checked manually for accuracy. This study has used the aggregated data from the MMPO database for all women under the care of midwife LMC members of the MMPO for the years 2004 to 2008 inclusive.

A physiological third stage can be expected when there has been a physiological labour and birth so an extensive exclusion criterion was applied to ensure that only physiological labour and birth were included in the study cohort. Over the five year period 88,781 women under the care of midwife members of the MMPO had their data included in the NZCOM database. Once the inclusion/exclusion criteria were applied the study cohort was reduced to 33,752 women. All women who had a normal vaginal birth (spontaneous onset of labour after 37 completed weeks of pregnancy with a cephalic presentation of a single live baby) between the years 2004 to 2008 inclusive, and had data provided to the MMPO database by a midwife during this time, were included in the sample. Women were excluded if they were identified as having a multiple pregnancy, a history of previous post partum haemorrhage, a previous caesarean section, a breech birth (non-cephalic presentation), an intrauterine death, an instrumental or operative birth, induction or augmentation of labour.

Data analysis was completed using the data from the NZCOM database. Descriptive statistical analysis and comparative analysis was then used to describe and compare the type of third stage management used by the midwives during the third stage. All data has been analysed using SPSS v16. Chi-square, Z-tests and Mann-Whitney tests have been used to analyse the data.

FINDINGS

There were 33,752 women in the NZCOM study cohort who met the inclusion criteria and of these 16,238 (48.1 percent) received physiological management of the third stage and 17,514 (51.9 percent) received active management. The 16,238 women who had a physiologically managed third stage included 990 women who declined an uterotonic when recommended by the midwife. The majority of the cohort were of New Zealand European ethnicity (69.9%) with 19.5% identified as Maori, 4.1% as Pacific Islanders, 3.8% as Asian, 2.2%

Table 1: Ethnicity and third stage management

	Physiological		Active	
	No.	(%) (48.1)	No.	(%) (51.9)
Ethnicity				
NZ/European	11789	(50)	11805	(50)
Maori	3029	(46.1)	3544	(53.9)
Pacific Island	488	(35)	906	(65)
Asian	513	(40)	771	(60)
Other	342	(45.1)	416	(54.9)
Not stated	77	(51.7)	72	(48.3)
Total	16238		17514	

Figure 1: Place of birth and third stage care

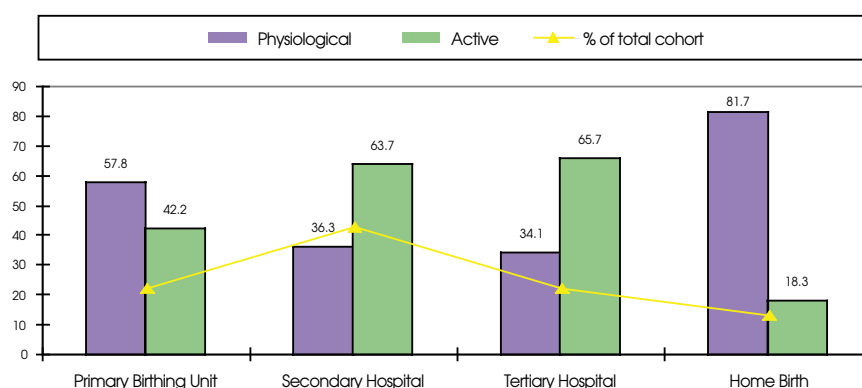
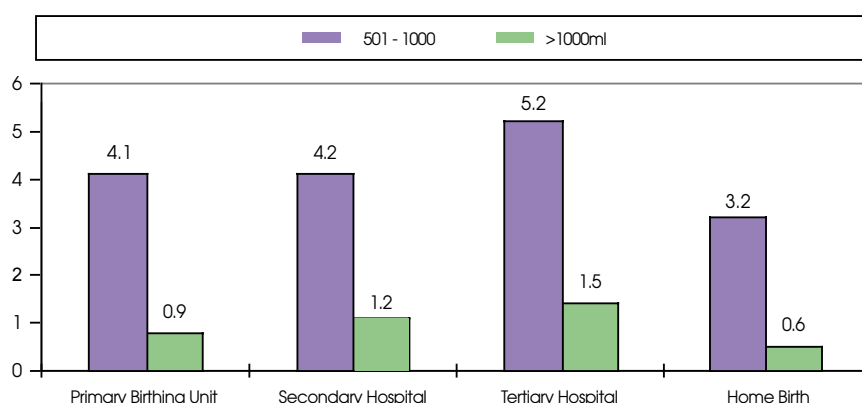


Table 2: Est. Blood Loss volume by Birth Place setting

Blood Loss Volume	Primary Facility	Secondary Facility	Tertiary Facility	Home Birth	Total	χ^2 P-value df=3
1 - 500 ml	6907 95.0%	12928 94.7%	6645 93.3%	4313 96.2%	30793 94.7%	0.167
501 - 1000ml	299 4.1%	569 4.2%	372 5.2%	144 3.2%	1384 4.3%	< 0.001
1000ml+	62 0.9%	158 1.2%	105 1.5%	25 .6%	350 1.1%	< 0.001
Total	7268	13655	7122	4482	32527	
	100.0%	100.0%	100.0%	100.0%	100.0%	

*Excludes 990 women who declined an uterotonic and missing data of blood loss volume.

Figure 2: Estimated blood loss volumes more than 500mls and place of birth



other and 0.4% not stated. More Maori, Asian and Pacific Island women had active management of the third stage but New Zealand European women were divided equally in their choice (Table 1).

In the study cohort (which included only physiological births), the majority of women gave birth in a secondary hospital maternity facility (42.5%) with primary units and tertiary hospitals having similar percentages (22.2 and 22.1 respectively) and 13.1 percent gave birth at home. For women who gave birth at home 81.7% had physiological care for the third stage of labour with only 18% having an actively managed third stage. Women who gave birth in a tertiary hospital or a secondary hospital had a higher incidence of active management for the third stage (65.7% and 63.7% respectively) with fewer women (34.1% and 36.3%) having physiological care. For women who gave birth in a primary unit 57.8% had physiological care compared to 42.2% who had active management (Figure 1).

Regardless of third stage management or place of birth 94.7% of all the women had a blood loss of less than 500mls (Table 2). However, for women who gave birth at home 96.2% had a blood loss of less than 500mls compared to 93.3% for women who gave birth in a tertiary facility. Primary and secondary facilities had similar outcomes (95% and 94.6%) for blood loss of less than 500mls ($P = NS$). Of clinical interest are the women who have a blood loss of greater than 500 mls. For the women who gave birth at home 3.2% ($n=144$) had a blood loss of between 500mls and 1000mls and 0.6% ($n=25$) had a blood loss of more than 1000mls. Of the women who gave birth in a tertiary hospital 5.2% ($n=372$) had a blood loss of between 500 and 1000 mls and 1.5% ($n= 105$) had a blood loss of more than 1000mls. Birth place settings with the highest level of blood loss of more than 1000 mls were the tertiary facilities (1.5%, $n=105$) followed by secondary facilities (1.2%, $n=158$), then primary facilities (0.9%, $n=62$) and then home births (0.6%, $n=25$) (Figure 2). A separate, weighted chi-squared test was performed within each blood loss category to investigate whether the proportions of women within each birthing facility differed significantly from expected. For women in the less than 500ml category there was no significant difference between the proportions observed within each facility and those expected. For women who lost 501-1000ml of blood there were significantly more than expected in the tertiary facility and less than expected having a home birth ($\chi^2 = 28$, $df=3$, $p<0.001$). This pattern was also seen for women in the highest blood loss group ($\chi^2 = 26$, $df=3$, $p<0.001$).

The length of the third stage and type of third stage care given was examined in more detail looking at the length of time for the placenta to be delivered along with the estimated blood loss and type of third stage care provided (Table 3). Overall the majority of

Table 3: Third stage Management Group Blood Loss (ml)

Duration of Third Stage	Physiological				Active			
	<500	501 - 1000	1000 +	Total	<500	501 - 1000	1000 +	Total
0 - 10 mins	5069 96.6%	154 2.9%	27 0.5%	5250	11231 94.7%	500 4.2%	127 1.1%	11858
11 - 20 mins	4845 96.3%	168 3.3%	19 0.4%	5032	2948 93.1%	179 5.7%	40 1.3%	3167
21-30 mins	2232 96.3%	72 3.1%	13 0.6%	2317	628 90.1%	55 7.9%	14 2.0%	697
31-40 mins	1177 96.7%	34 2.8%	6 0.5%	1217	262 90.7%	21 7.3%	6 2.1%	289
>40 mins	1688 95.4%	56 3.2%	26 1.5%	1770	711 76.4%	147 15.8%	73 7.8%	931
Missing	9	0	0	9	7	1	0	8
Total	15020	484	91	15595	15787	903	260	16950
%	96.3	3.1	0.5	100	93.1	5.3	1.5	100

Figure 3: Duration of third stage, blood loss of less than 500 mls and type of care provision

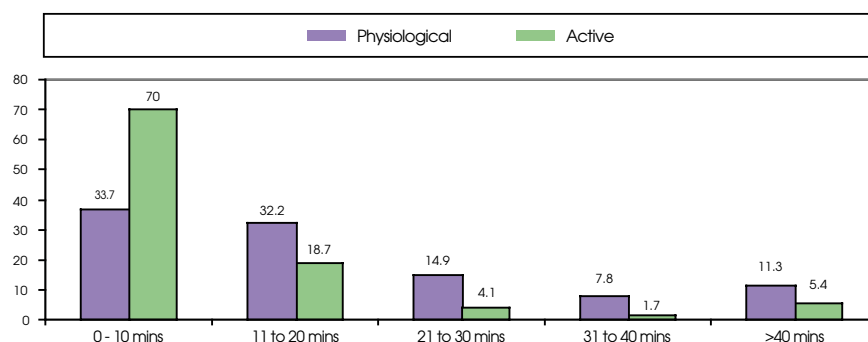


Figure 4: Blood loss 501mls to 1000mls, duration and third stage care provision

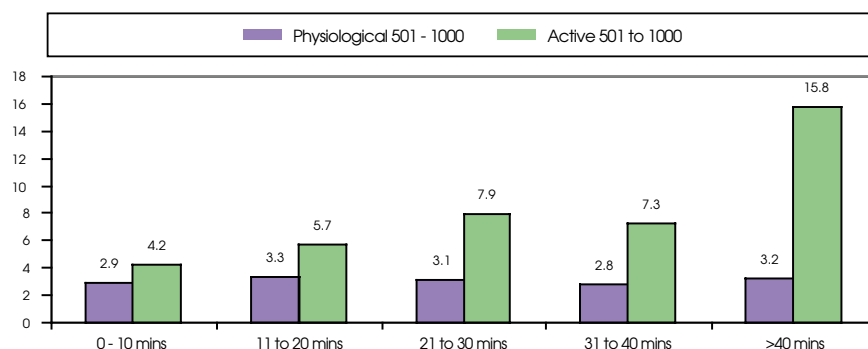
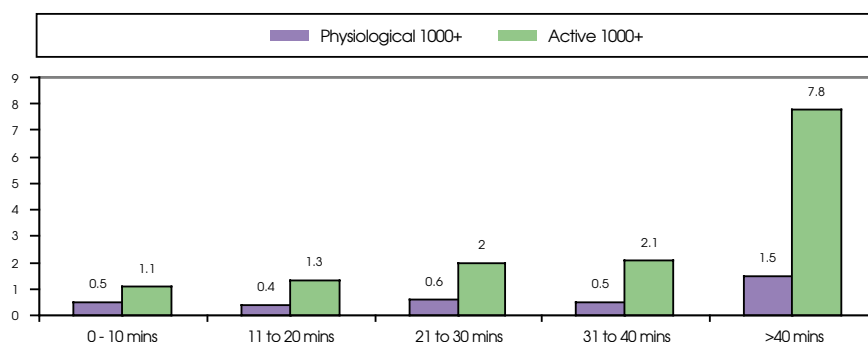


Figure 5: Blood loss of more than 1000mls, duration and third stage care provision



women had a blood loss of less than 500 mls. Of the women who had physiological third stage, 96.3% (15,020) had a blood loss of less than 500mls compared to 93.1% (15,787) of women who had an actively managed third stage ($Z=12.7$, $p<0.05$).

When comparing the time span for the third stage those in the active management group were more likely to have the placenta delivered within 10 minutes (70.0%) with a further 18.7% delivered within 20 minutes and only 5.4% taking over 40 minutes. For the physiological group the time span was more widespread with 33.7% being delivered within 10 minutes, 32.3% within 20 minutes, 22.7% between 20 and 40 minutes and a further 11.3 % over forty minutes (Figure 3 - previous page). For women who had a blood loss of more than 500mls and less than 1000mls, a significantly higher proportion fell into the active management group 5.3% ($n=903$) than in the physiological group 3.1% ($n=484$); $Z=9.9$, $p<0.001$). Looking at this in more detail it appears that as time increases there are more women who experience blood loss between 500mls and 1000mls in the actively managed group when compared to the physiological group (Figure 4 - previous page).

There were a small number of women in both management groups who had a blood loss of more than 1000mls (351 women) but it is again worth comparing the length of time for the third stage (Figure 5). For those women who had a blood loss of more than 1000mls there were significantly less in the physiological group 0.5% ($n=91$) compared to the actively managed group 1.5% ($n=260$); $Z=8.2$, $p<0.001$). However, when looking at the length of time of the third stage it becomes apparent that for women in the active management group a longer time to the delivery of the placenta was associated with an increased blood loss ($X^2=221$, $df=2$, $p<0.001$). Of the women who had active management, and a time to delivery of the placenta of more than 40 minutes, 147 (15.8%) had a blood loss between 500ml and 1000mls with a further 73 (7.8%) who had a blood loss of more than 1000mls.

All of the women in the study cohort had physiological labour and birth and some had epidural, pethidine or water immersion for pain management. The type of pain management was explored in relation to third stage care and outcomes. The timing of when the pain management was provided was not explored. Only a very small proportion 2.9% ($n=992$) of women in the study cohort had an epidural for pain management. There was no significant difference in blood loss for those women who had an epidural between management groups ($p=0.06$) (Table 4). There were 7.2% ($n=2409$) who used Pethidine to help with pain management during labour. Analysis

Table 4: Pain management and third stage care

	Physiological		Active		Total of cohort	
Pain relief in labour	No.	(%)	No.	(%)	No.	(%)
Epidural	126	(0.7)	866	(4.9)	992	2.9
Pethidine	667	(4.1)	1742	(9.9)	2409	7.2
Water Immersion	4388	(27.0)	3346	(19.1)	7734	23.3
None of the above	11057	(68.1)	11560	(66.0)	22617	67.0
Total	16238	100	17514	100	33752	100

Table 5: Percentiles of blood loss for women who used water as pain management.

Water	Percentile Blood Loss (ml)											
	Active (N=17,212)						Physiological (N=16,036)					
	10th	25th	Median 50th	75th	90th	95th	10th	25th	Median 50th	75th	90th	95th
Yes (N=7,734)	100	200	250	350	500	700	100	150	200	300	400	500
No (N=25,514)	100	150	200	300	450	600	100	150	200	300	400	500

of blood loss volume found no significant difference between management groups in blood loss volumes for those women who were given pethidine ($p=0.06$). A total of 7734 (23.3%) of women used water immersion for pain management in this cohort. For women who used water, those in the active group had a significantly higher mean rank of blood loss than those in the physiologically managed group ($p<0.0001$) (Table 5).

DISCUSSION

This research has explored the care practices of LMC midwife members of the MMPO in relation to the third stage of labour. The midwives in the NZCOM database have recorded the use of either physiological or active management of the third stage. This data when aggregated over a period of five years have demonstrated that a similar proportion of women are having a physiological and active management of the third stage. This is a significant finding and one that may be impossible to replicate in other countries where some form of active management of the third stage management is usual practice. With the majority of midwives in the MMPO database being self employed there is increased autonomy and accountability for clinical practice. This study suggests that when women are given information and empowered to make

informed decisions by health professionals, a large proportion will choose physiological third stage when it has been preceded by a physiological labour and birth.

In this study 35.3% of women gave birth either at home or in a primary unit. Availability of a birthing facility may also have influenced the woman's options and while not explored in this research the lack of access to alternative birthing options may be reflected in the high number of women who gave birth in a secondary hospital. Unsurprisingly the highest rate of physiological third stage was seen in women giving birth at home, followed by those who gave birth in a primary unit. These are areas in which midwives work together and there is little input from medical colleagues. However, midwives also provide midwife-led continuity of care in secondary and tertiary hospitals. The settings with the highest rate of active management were the tertiary hospital followed closely by secondary facilities, suggesting that the policies and expectations within these hospitals may influence midwifery care provision. This research has not been able to examine the differences between midwifery practice and whether there are changes to practice depending on place of birth. Of interest though was that women who gave birth in a tertiary hospital had higher rates of blood loss volumes more than 500mls than those women in secondary, primary

and home births. This may be related to the higher incidence of active management in these hospitals or equally could be related to other stressors and practices that may occur within these institutions.

The findings show that there was a very low level of epidural (2.9%) and Pethidine (7.2%) use as a pain management method with water immersion the most commonly used pain management technique (23.3%). There appears to be no differences in outcomes for blood loss during the third stage, when epidural or pethidine has been used, regardless of the third stage care provided. However, for those women who used water as pain management, active management resulted in a statistically significant increase in blood loss. This is an interesting finding and one that requires further research and analysis to explore the reasons why. For all pain management techniques there was no ability to determine at what time during labour the pain management was provided and timing to birth may have an impact on results that this research has not been able to uncover.

Unsurprisingly the length of the third stage was found to be longer when physiological third stage care was provided, taking twice as long for women having physiological care when compared to women who received active management. However, despite a longer third stage duration there was no apparent increase in the number of women who had a blood loss of more than 500 mls when compared to active management. The data demonstrates that following a physiological labour and birth, physiological care for the third stage results in less blood loss than active management and a lower incidence of post partum haemorrhage of between 500mls and 1000mls (3.1% compared to 5.3%) and more than 1000mls (0.5% compared to 1.5%).

LIMITATIONS

Blood loss volumes described in this research have been estimated by the attending midwife immediately following birth and documented in the woman's maternity notes. It is possible that blood losses have been underestimated and underestimation is more likely with higher blood loss volumes (Bose, Regan, & Paterson-Brown, 2006; Glover, 2003). Third stage care is a self report by the midwife directly following care provision. Other than the use or non use of an uterotonic there was no ability to know how the midwives provided the active or physiological care or which components of active or physiological care were used.

IMPLICATIONS

Whilst there are methodological flaws in any descriptive research the size of this sample and ability to make comparisons provides support to midwives to continue to offer physiological third stage care to women following a physiological labour and birth. The findings suggest a need to re-evaluate physiological

third stage care and a need for further prospective research to clarify which components of physiological third stage care are important in care provision.

CONCLUSION

In New Zealand midwifery care is provided in partnership with the woman and each woman's right to informed decision making is promoted and protected through the provision of continuity of care (NZCOM, 2008). The NZCOM data has demonstrated that midwives in New Zealand are providing choices for women regarding third stage care with as many women choosing to have physiological care following a normal physiological labour and birth as have chosen active management. The results of this research suggest that active management of the third stage following a physiological labour and birth results in higher blood loss when compared to physiological care. Patience is required when providing physiological third stage care with the data suggesting that a physiological third stage takes longer than an actively managed third stage. Despite this physiological care resulted in lower blood loss volumes. The outcomes of this research demonstrate that provision of physiological care during the third stage of labour to women who have had a physiological labour and birth results in reduced blood loss volumes.

REFERENCES:

- Begley, C. (1990). A comparison of 'active' and 'physiological' management of the third stage of labour. *Midwifery*, 6(1), 3-17.
- Benjamin, Y., Walsh, D., & Taub, N. (2001). A comparison of partnership caseload midwifery care with conventional team midwifery care: labour and birth outcomes. *Midwifery*, 17, 234-240.
- Bose, P., Regan, F., & Paterson-Brown, S. (2006). Improving the accuracy of estimated blood loss at obstetric haemorrhage using clinical reconstructions. *BJOG: An International Journal of Obstetrics and Gynaecology*, 13(8), 919-924.
- Brucker, M. (2001). Management of the third stage of labor: an evidence-based approach. *Journal of Midwifery & Women's Health*, 46(6), 381-392.
- Cherine, M., Khalil, K., Hassanein, N., Sholkamy, H., Breebaart, M., & Elnoury, A. (2004). Management of the third stage of labor in an Egyptian teaching hospital. *International Journal of Gynecology & Obstetrics*, 87(1), 54-58.
- de Groot, A., van Roosmalen, J., & van Dongen, P. (1996). Survey of the management of the third stage of labour in The Netherlands. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 66(1), 39-40.
- Festini, M., Lumbiganon, P., Tolosa, J., Finney, K., Ba-Thike, K., Chipato, T., Gaitan, H., et al. (2003). International survey on variations in practice of the management of the third stage of labour. *Bulletin of the World Health Organization*, 81(4), 286-291.
- Glover, P. (2003). Blood loss at delivery: how accurate is your estimation? *Australian Midwifery Journal*, 16(2), 21-24.
- Gyte, G. (1994a). Evaluation of the meta-analyses on the effects, on both mother and baby, of the various components of 'active' management of the third stage of labour. *Midwifery*, 10, 183 - 199.
- Gyte, G. M. L. (1994b). Evaluation of the meta-analyses on the effects, on both mother and baby, of the various components of 'active' management of the third stage of labour. *Midwifery*, 10(4), 183-199.
- Henderson, C., & MacDonald, S. (2004). *Majes Midwifery: A textbook for midwives* (13th Edition ed.). London: Bailliere Tindall.
- ICM, & FIGO. (2006). Prevention and treatment of post-partum Haemorrhage: New Advances for Low Resource Settings. Retrieved 28/4/09, from http://www.pphprevention.org/files/FIGO-ICM_Statement_November2006_Final.pdf
- International Confederation of Midwives, & International Federation of Gynecology and Obstetrics. (2006). Prevention and Treatment of Post-partum Haemorrhage New Advances for Low Resource Settings: ICM & FIGO.
- Jangsten, E., Hellstrom, A., & Berg, M. (2009). Management of the third stage of labour - focus group discussions with Swedish midwives [Electronic Version]. *Midwifery*, doi:10.1016/j.midw.2008.12.004. Retrieved 4th April 2009.
- Kanikosamy, F. (2007). Third stage: the 'why' of physiological practice. *Midwives: the official journal of the Royal College of Midwives*, 10(9), 422-425.
- Kimbell, N. (1968). Brandt-Andrews technique of delivery of the placenta. *British Medical Journal*, 203-204.
- McDonald, S. (2007). Management of the Third Stage of Labor. *American College of Nurse-Midwives*, 52(3), 254-261.
- National Collaborating Centre for Women's and Children's Health. (2007). *Intrapartum care: care of healthy women and their babies during childbirth*. London: RCOG Press.
- NZCOM. (2006). *NZCOM Practice Guidelines: The Third Stage of Labour*. Retrieved 01/03/07, 2007, from <http://www.midwife.org.nz/index.cfm/consensus>
- NZCOM. (2008). *Midwives Handbook for Practice*. Christchurch: New Zealand College of Midwives.
- Prendiville, W., Elbourne, D., & McDonald, S. (2000). *Active versus expectant management in the third stage of labour* (Publication no. CD000007). Retrieved 14/2/07, from Cochrane Database of Systematic Reviews 2007 Issue 3:
- Roberts, C., Lain, S., & Morris, J. (2008). Variation in adherence to recommendations for management of the third stage of labor. *International Journal of Gynecology & Obstetrics*, 103, 172-184.
- Schuurmans, N., MacKinnon, C., Lane, C., & Etches, D. (2000). Prevention and Management of Postpartum Haemorrhage. Ottawa: SOGC.
- Schuurmans, N., MacKinnon, C., Lane, C., & Etches, D. (2000). Prevention and Management of Postpartum Haemorrhage. *Journal Society Obstetrics & Gynecology Canada*, 22(4), 271-281.
- Soltani, H. (2008). Global implications of evidence 'biased' practice: management of the third stage of labour. *Midwifery*, 24, 138-142.
- Tan, W., Klein, M., Saxell, L., Shirkooohy, S., & Asrat, G. (2008). How do Physicians and Midwives Manage the Third Stage of Labor? *Birth*, 35(3), 220-229.
- The WHO Reproductive Health Library. (2009). *Active versus expectant management in the third stage of labour* (Publication no. http://www.who.int/rhl/pregnancy_childbirth/childbirth/3rd_stage/cd000007_abalose_c). Retrieved 3/3/2009, from WHO:
- Thorpe, J., & Anderson, J. (2006). Supporting women in labour and birth. In S. Pairman, J. Pincombe, C. Thorogood & S. Tracy (Eds.), *Midwifery: Preparation for Practice*. Sydney: Elsevier Australia.
- World Health Organisation. (2007). *WHO Recommendations for the Prevention of Postpartum Haemorrhage*. Geneva: World Health Organisation.
- Winter, C., Macfarlane, A., Deneux-Tharaux, C., Zhang, W., ZAlexander, S., Brocklehurst, P., Bouvier-Colle, M., et al. (2007). Variations in policies for management to the third stage of labour and the immediate management of postpartum haemorrhage in Europe. *British Journal of Obstetrics & Gynecology*, 114(7), 845 -854.

Accepted for publication August 2009

Dixon, L., Fletcher, L., Tracy, S., Guillard, K., Pairman, S., Hendry, C., Midwives Care During the Third Stage of Labour: An analysis of the New Zealand College of Midwives Midwifery Database 2004- 2008. New Zealand College of Midwives Journal, 41, 20-25.

ACKNOWLEDGEMENTS

The New Zealand College of Midwives and the Midwifery Maternity Provider Organisation would like to thank all the midwives and women who have contributed to the MMPO database.

The cost of healthy eating

for pregnant and breastfeeding women in Otago

Authors:

• Renee Boland
Midwifery Student – School of Midwifery,
Otago Polytechnic
Email: bolanrm1@student.op.ac.nz

• Megan Gibbons
Senior Lecturer – School of Midwifery,
Otago Polytechnic
Bachelor of Consumer and Applied
Science, Post-graduate Diploma in
Dietetics (Dist) - Otago

Masters of Nutritional Science (1st Class
Honors) – Massey University

PhD candidate – University of Auckland

Email: megang@tekotago.ac.nz

ABSTRACT

Having access to sufficient, safe and nutritious food is important for all New Zealanders, but it assumes an even greater importance for women when they are pregnant or breastfeeding. There are a number of barriers to accessing a healthy diet; these include cost, availability and affordability within the family budget.

The aim of this investigation was to determine whether or not the recommended nutritional guidelines for pregnant and breastfeeding women set out by the New Zealand Ministry of Health (MOH) are realistically affordable for women in today's economic climate.

Using the Ministry of Health guidelines for healthy eating in pregnancy and breastfeeding sample menus (MOH, 2008) a shopping list was developed and priced at three Dunedin Supermarkets and one rural Otago general store. The final costs were compared to the University of Otago (Department of Human Nutrition, 2008) estimated food costs for adult Dunedin women to determine whether the guidelines are realistic and affordable. In addition the number of foods available for purchase in each location provided data on the accessibility of the food.

The cost of purchasing the food in all locations was prohibitive when compared to the University of Otago estimated costs and only 65% of the food items were available for purchase in the

rural location. The cost was also expensive when compared to household estimated expenditure by Statistics New Zealand (2008).

This study provides information for midwives and other health professionals working with women during pregnancy and breastfeeding about the affordability of healthy eating. There is a challenge to consider the food and nutrition guidelines in the relation to the individual circumstances of the woman. Of further concern is the difficulty for woman in rural locations to have access to the foods recommended in the sample menus from the Ministry of Health.

Further research is required into the actual barrier to health, particularly during pregnancy and breastfeeding, so that guidelines can be met. From this research it can be recommended that the MOH, dieticians and midwives collaborate to produce a more realistic sample menu.

INTRODUCTION

Having access to sufficient, safe and nutritious food is important for all New Zealanders, but it assumes an even greater importance for women when they are pregnant or breastfeeding. During this time food from a variety of sources, carbohydrates, fats, and proteins are required to facilitate the growth and development of maternal and fetal tissue (Elias, 2006). Pregnancy is a time when nutritional needs are higher and meeting those needs has a positive effect on the health of both the mother and the developing baby (MOH, 2008). It is the maternal diet that provides the energy and nutrients (see table 1) that are necessary to meet both the mothers usual requirements as well as those of the growing fetus (Williamson, 2007).

Research shows that in developed countries, like New Zealand (NZ), there are people who have limited access to a healthy diet (Palmero, Walker, Hill, & McDonald, 2008; Ni Mhurchu & Ogra, 2007). The main barriers identified are food costs, availability and affordability (Tsang, Ndung'u, Coveney, & O'Dwyer, 2007; Rush, Puniani, Snowling & Paterson, 2007). Pregnancy is an event that occurs universally across all classes. Therefore, as this study is focusing on pregnant and breastfeeding women, it is important to note that when discussing the affordability of good nutrition, we are including women from the entire socioeconomic spectrum.

A recent social report for Dunedin, called Voices of Poverty 2008 found that of those surveyed; food was regarded as the only 'discretionary' item in the participants' budget (Presbyterian Support Otago, 2008). This is despite the importance of good nutrition in maintaining health and well being. The 1997 National Nutrition Survey found 14% of the NZ population eat less because of a lack of money (Russell, Parnell & Wilson, 1999) and in June 2007, a measure of poverty line stated that 13 percent of NZ population had incomes too low to prevent impoverishment (Ministry of Social Development, 2008). Consequently, it is imperative that midwives and health care providers understand whether or not New Zealand's pregnant and breastfeeding women can afford to adhere to the nutritional guidelines set out by the MOH, which they may be provided with during their pregnancy.

The aim of this present investigation was to determine whether or not the recommended nutritional guidelines for pregnant and breastfeeding women set out by the New Zealand MOH are realistically affordable for women in today's economic climate.

METHODS

A shopping list was compiled using sample menus suggested in the NZ Food and Nutrition Guidelines for Healthy and Breastfeeding Women (MOH, 2008). The list included only the grocery items necessary to complete the seven day sample meal plan which had been developed to meet all daily nutritional requirements for pregnant and breastfeeding women. The shopping list consisted of 65 items (see Table 2). The items were costed at four stores in Otago (one region of NZ). Both urban and rural areas were included in order to determine the total food cost per week in each outlet. A rural location was included to ascertain whether women in rural locations faced any additional difficulties in terms of cost, variety and access.

Total food costs for the seven day menu were surveyed at urban branches of three major supermarkets and one rural general store. Before price surveying began, verbal consent was requested from either a store manager or supervisor on duty, and anonymity was assured.

The three larger supermarkets in the urban setting allowed for variance in cost effective shopping, availability and variety. The rural store gave an accurate depiction of the limited options and selection available to women who live rurally.



To allow for comparison, the cheapest brand name available on the day was chosen, and items that were on sale were always selected over regular priced items. For items sold in bulk, (meats, fruits and vegetables) the price was recorded as price per kilogram and calculated to same size servings for each outlet. Accessibility of the food items was noted.

The data was analysed by comparing the difference in total cost of each grocery store. The affordability of these foods was calculated by comparing these costs to the estimated food costs for a female adult living in Dunedin as estimated by The Department of Human Nutrition at Otago University (2008). This study recognised three categories of cost. The Basic cost category assumes all food preparation occurs at home. This category includes the most readily available and most commonly consumed fruits and vegetables as well as the lowest priced items within each food group. The Moderate cost category allows for a greater variety of meats, fish, fruits and vegetables and some convenience foods. The moderate category is calculated by increasing the basic cost category by 30 percent. At the luxury end of the food cost spectrum is the Liberal cost category which accounts for imported foods, specialty foods, exotic fruits and vegetables, more expensive cuts of meat and convenience food purchases (Department of Human Nutrition, 2008).

RESULTS

Of the three grocery stores surveyed in Dunedin, all far exceeded the basic, moderate and even the liberal cost categories estimated by the University of Otago for 2008 (Table 3). According to these categories most healthy individuals will meet their nutritional needs when spending the amount of money specified as the basic cost. In Dunedin a woman whose diet is characterised by the basic cost category will spend approximately fifty two dollars a week on groceries. A woman whose diet is more moderate will spend about sixty seven dollars per week on groceries. And a woman who shops more liberally will spend on average of eighty dollars a week on groceries. The cost for a pregnant woman to follow the sample menu suggested by the MOH is therefore roughly the same as meeting the basic nutritional weekly requirements for an entire family of three.

Statistics New Zealand has suggested that most households spend 16 cents in every dollar on food (Statistics NZ, 2004). If we calculate this as 16% of the median household income (\$1103) for Dunedin in 2008 (Statistics NZ, 2008) then the median cost of food per household per week is \$176.48. This is similar to the costs of purchasing food for one rural pregnant or breast feeding woman. While all other stores were lower in cost, we still need to consider that this is the food cost for the household and not one individual.

With regard to accessibility all items could be found in each of the urban stores. However only 65% of items on the list were available in the rural store. In addition

Table 1: The food groups: advice on servings and nutrients for pregnant and breastfeeding women (MOH, 2008) .

Food group	Advice per day	Nutrients provided
Vegetables and fruits (included fresh, frozen, canned and dried)	Pregnant & breastfeeding • 6 servings	Carbohydrates, dietary fibre, vitamin a & c, folate, magnesium phosphate
Breads and cereals (including grains and rice)	Pregnant • at least 6 servings Breastfeeding • 7 servings	Carbohydrates, dietary fibre, protein, vitamin b & e, calcium, iron, zinc, selenium
Milk and milk products (included cheese, yoghurt and ice cream)	Pregnant & breastfeeding • 3 servings	Protein, fats, vitamins b12, a, & d, riboflavin, zinc, iodine, calcium
Lean meat (meats, eggs, poultry, seafood, nuts, seeds , legumes)	Pregnant & breastfeeding • 2 servings	Carbohydrates, protein, fats, iron, niacin, zinc, thiamine, vitamin b12, magnesium, potassium, copper, selenium

Table 2: Grocery list containing items required to meet the nutritional guidelines (MOH 2008) for healthy pregnant and breastfeeding women for 7 days.

Grocery List		
7 Tomatoes	1 Avocado	1 Kiwi Fruit
1 Box Weet Bix	2 Fruit Buns	1 Cottage Cheese
Tomato Sauce	200ml Strawberry Milk	1 Pkt Berries
2 Whole Grain Rolls	1 Bag of Spinach	1 Lt. Ice Cream
1 Lettuce	1 Box Museli	2 Tsp Dried Apricots
1 Box Water Crackers	1 Pkt. Custard Powder	1 Dozen Eggs
1 Cup Steak and Kidney	1 Cauliflower	2 Tsp Sultans
1 Pumpkin	1 Raisin Bun	1 Milo
1 Can Beans	1 Kumara	1 Can Peaches
3 Potatoes	1 Vegemite	1 Box Tea Bags (60)
2 Bags of Whole Grain Bread	1 Bag of Frozen Peas	1 Can Pears
1 Bulb of Garlic	1 Peanut Butter	1 Coffee
1 Broccoli	100g Sliced Lamb	1 Can Stewed Apples
1 Currant Bread	1 Red Pepper	30g Raw Nuts
1 Crumbed Fish	1 Margarine	1 Lt. Apple Juice
1 Bag of Carrots	5 Oranges	300g Skinless Chicken
1 Pkt Dried Pasta	4 Lt. Trim Milk	1 Lt. Orange Juice
120g Grilling Beef	6 Bananas	200g Sliced Roast Beef
1 Silver Beet	6 Yoghurt (small)	1 Jam
1 Whole Grain Pita	5 Apples	1 Tin Tuna
1 Pc. Prepared Lasagna	1 Pkt. Sliced Cheddar	1 Marmalade

Table 3: Total cost, from four different stores, of items that meet nutritional recommendations for pregnant and breastfeeding women (MOH 2008) for 7 days.

Grocery Store	Total cost of menu	Grocery Store	Total cost of menu
Urban Store A	\$167.40	Urban Store C	\$143.20
Urban Store B	\$158.80	Rural Store X*	\$174.10

*Only 43 of the 65 items on the list could be purchased at Rural Store X.

when an item was found, there was little or no choice of brand or size. It would appear from this study that obtaining the variety of nutritional requirements in a rural setting is difficult. Rural and isolated stores are less likely to carry a variety of fresh foods and availability of fresh foods is sporadic. For a woman in a rural region it is likely that both accessibility and quality decrease, while costs increase.

DISCUSSION

There is a well recognised relationship between maternal and hence fetal health and nutrition. The importance of a healthy, well balanced diet can never be overstated. Midwives must have a sound understanding of nutrition as it relates to pregnancy and childbirth (Elias & Stewart, 2005) and will need to have adequate and appropriate information and guidance to pass on to pregnant and breastfeeding women. In some cases, it may also be important for midwives to establish collaborative links with dietitians in order to provide best practice and to enhance care of the woman (Mulliner, Spiby, & Fraser, 1995). Examples of this are such situations as in gestational diabetes mellitus or obesity.

Midwives have nutrition knowledge specifically related to pregnancy and one of the standards of practice developed by the New Zealand College of Midwives (NZCOM) is that the midwife develops and shares this knowledge (NZCOM, 2005, NZCOM, 2008). It is important for midwives to have a clear understanding of the degree to which that advice can and will be taken and that she has resources and information to pass on to the woman. This study shows that the cost of following the MOH guidelines is essentially unrealistic for many women in Otago. The inability to attain what the MOH has declared as 'meeting nutritional needs' should be explored. Perhaps it is unrealistic to include items such as avocado, sliced lamb, muesli and fresh berries in a diet that will be recommended to women in a low-income bracket or who live in a rural or isolated area. It may be more beneficial to make nutritional suggestions based around the woman's circumstances (financial and geographical) rather than based on general parameters. It would seem important, from these findings, that the MOH, dietitians and midwives review these guidelines in order to provide helpful and realistic information for women.

This study was not without limitation. First, it was assumed that women buy food from supermarkets or local stores (rural). Clearly there are a number of other options; these include farmers markets, butchers, fish mongers, specialty shops, corner stores, takeaways and wholesale outlets. Secondly, seasonal change was unaccounted for. To attain a more accurate depiction of food costs, this study would need to be repeated over four seasons and then averaged. Another limitation of this study was in the assumption of exclusive home preparation of meals. In a climate with increased expectation that women are active in the workforce, convenience meals are unaccounted for.

However, although the guidelines meet and exceed good nutritional health, they do not give representation of different diets; vegetarian, vegan, gluten-free, lactose intolerant. Alternative diets are usually more expensive (Cade, Upmeyer, Calvert, & Greenwood, 1999). Finally, the weekly price does not allow for non-food items which are often purchased with weekly groceries, nor does it account for occasional buys such as condiments, and treats.

The key finding of this study is that the nutritional advice given to women, although accurate and ideal, needs to be reassessed in terms of clinical application. For example, Cooper and Nelson (2003) found that many of the economy line foodstuffs are nutritionally as good as branded equivalents. This may be the sort of advice that is more useful for women. According to the Social Report for New Zealand Health (2008), people with low incomes are likely to have disproportionately poorer health. Midwives may need to be creative in suggesting more cost effective nutritional recommendations for women of lower income and limited access.

This study has provided information that has important implications. Primarily, midwives need to continue being vigilant in educating women on the benefits of good nutrition and must also realise the limitations facing women which may prevent them from achieving this. Most importantly they need to be provided with helpful and realistic information and resources in order to support women who face economic difficulties in achieving a healthy diet.

CONCLUSION

Understanding nutritional requirements is critical for health care professionals, particularly in the past decade as obesity and malnutrition reach unprecedented levels globally (Tanumihardjo, Anderson, Kaufer-Horwitz, Bode, Emenaker, Hagg et al. 2007). The findings in this study provide useful information on what would be the actual cost of following the MOH's nutritional recommendations. This information is invaluable for health professionals responsible for the care of pregnant women. In New Zealand, over 70 percent of women choose midwives as their lead maternity caregiver (New Zealand Health Information Service, 2007). The New Zealand Food and Nutrition Guidelines for Healthy and Breastfeeding Women clearly state that health care professionals have a responsibility to ensure women receive appropriate nutritional information (MOH, 2008). However, it is crucial that midwives also have a clear perspective on the ability of women to financially adhere to these recommendations. In conclusion, this study has shown that the recommendations given for pregnant and breastfeeding women, by the MOH (2008), although nutritionally healthy, are out of reach for a number of women and completely unaffordable for women of low income.

REFERENCES

- Cade, J., Upmeyer, H., Calvert, C., & Greenwood, D. (1999). Costs of a healthy diet: analysis from the UK Women's Cohort Study. *Public Health Nutrition* 2(4):505-512
- Cooper, S., & Nelson, M. (2003). 'Economy' line foods from four supermarkets and brand name equivalents: a comparison of their nutrient contents and costs. *Journal of Human Nutrition and Dietetics*, 16(1) 339-347.
- Department of Human Nutrition. (2008). *Information Package for Users of the Estimated Food Costs 2008*. Dunedin, New Zealand: University of Otago.
- Elias, S. and Stewart, S. (2005). Developing nutrition within the midwifery curriculum. *British Journal of Midwifery*, 13(7):456-460.
- Elias, S. (2006). Nutritional foundation for pregnancy, childbirth and lactation. In Paiman, S., & Pincombe, J., Thorogood, C., & Tracy, S. (Eds.), *Midwifery Preparation for Practice* (pp.327-337) Australia: Elsevier.
- Ministry of Social Development. (2008). *The Social Report*. Retrieved 21 May 2009 from <http://www.msd.govt.nz/about-msd-and-our-work/newsroom/factsheets/social-report/>
- Ministry of Health. (2008). *Food and nutrition guidelines for healthy pregnant and breast feeding women- a background paper*. Wellington: Ministry of Health.
- Mulliner, C. M., Spiby, H., & Fraser, R. B. (1995). A study exploring midwives' education in, knowledge of and attitudes to nutrition in pregnancy. *Midwifery* 11(1):37-41
- New Zealand College of Midwives Inc. (NZCOM). (2005). *Midwives handbook for practice*. New Zealand College of Midwives: Christchurch
- New Zealand College of Midwives *Standards for Practice*. Retrieved 21 May 2009 from <http://www.midwife.org.nz/index.cfm/1,181.html>
- New Zealand Health Information Service. (2007). *Report on Maternity: Maternal and Newborn Information 2004*. Wellington: Ministry of Health
- Ni Mhurchu C., & Ogra, S. (2007). The price of healthy eating: cost and nutrient value of selected regular and healthier supermarket foods in New Zealand. *New Zealand Medical Journal* 120(1248):U2388
- Palmero C. E., Walker, K. Z., Hill, P., & McDonald, J. (2008). *The cost of healthy food in rural Victoria*. Rural and Remote Health 8(online):1074 <http://www.rmh.org.au/articles/showarticle.asp?ArticleID=1074>
- Presbyterian Support Otago. (2008). *Voices of Poverty: Dunedin 2008*. Dunedin, New Zealand: Presbyterian Support Otago.
- Rush, E., Puniani, N., Snowling, N., & Paterson, J. (2007). Food security, selection and healthy eating in a Pacific community in Auckland, New Zealand. *Asia Pacific Journal of Clinical Nutrition* 16(3):448-454
- Russell, D. G., Parnell, W. R., & Wilson, N.C. (1999). *NZ Food: NZ People. Key results of the 1997 National Nutrition Survey*. Ministry of Health: Wellington
- Statistics New Zealand. (2004). *Household economic survey: year ended 30 June 2004 - household spending increases*. Retrieved 21 May 2009 from <http://www.stats.govt.nz/store/2006/06/household-economic-survey-Ye30jun04-mr.htm>
- Statistics New Zealand. (2008). *Median weekly household income by region*. Retrieved 21 May 2009 from <http://wdmzpub01.stats.govt.nz/wds/TableViewer/tableView.aspx>
- Tanumihardjo, S. A., Anderson, C., Kaufer-Horwitz, M., Bode, L., Emenaker, N.J., Hagg, A. M., Satia, J. A., Silver, H. J., & Stadler, D. D. (2007). Poverty, obesity, and malnutrition: an international perspective recognising the paradox. *Journal of the American Dietetic Association* 107(11):1966-1972
- Tsang, A., Ndung'u, M., Coveney, J., & O'Dwyer, L. (2007). Adelaide Healthy Food Basket: A survey on food cost, availability and affordability in five local government areas in metropolitan Adelaide, South Australia. *Nutrition and Dietetics*, 64(1):241-248.
- Williamson, C. (2007). *Nutrition in pregnancy. BNF Briefing Paper*. British Nutrition Foundation, London. Retrieved January 10, 2009, from <http://www.tinyurl.com/6n8am>

Accepted for Publication August 2009

Boland, R., Gibbons, M., (2009) The Cost of Healthy Eating for Pregnant and Breastfeeding Women in Otago New Zealand College of Midwives Journal, 41, 26-28.

ACKNOWLEDGEMENTS

Thank you to all the managers and supervisors of the surveyed grocery stores who participated in the study. The study was funded and supported by an HRC Summer Studentship. Thank you for the opportunity.



To suture or not to suture second degree perineal lacerations: What informs this decision?

Authors:

- Robin Cronin RCPN, RM, IBCLC, BA, PGDipMid
LMC Midwife, Tauranga
robincronin@xtra.co.nz
- Robyn Maude RN, RM, MA (Midwifery), PhD candidate
Lecturer Graduate School of Nursing, Midwifery and Health
Victoria University of Wellington
Midwife Leader, C&CDHB
Robyn.Maude@vuw.ac.nz

ABSTRACT

This literature review examines the body of knowledge of perineal care that influences midwives' decision making. Women's informed choice depends on the midwife's assessment of her perineum. The critical skill is accurate assessment of the tear to determine need for suturing. Midwives must justify and document their decision making clearly.

KEYWORDS

Perineal care, suture, decision-making, midwifery, literature review

INTRODUCTION

The quality of perineal care given to birthing women affects them physically and emotionally, both in the short and longer term (Steen, 2007). Perineal assessment skills and expertise of those who care for the birthing woman can have a considerable effect on her entry into motherhood (Baston, 2004). Thus it is significant that one of the most common clinical decisions midwives are required to make is whether or not to suture perineal lacerations.

The Royal College of Obstetricians and Gynecologists (RCOG) estimate that 85% of women who have a vaginal delivery will have some degree of perineal trauma and that 60 to 70% will require suturing (RCOG, 2004). In New Zealand (NZ) there were

64,160 births in the year to March 2009 (Statistics New Zealand, 2009) and all these births have a midwife in attendance, with the majority (75.3%) having a midwife Lead Maternity Carer (LMC) (Ministry of Health, 2007). In an uncomplicated birth, the responsibility for the assessment and management of perineal tears rests with these midwives (New Zealand College of Midwives [NZCOM], 2005).

Recognition that carefully selected second degree tears can and do heal without suturing or risk of harm to the woman has been tacit midwifery knowledge for many years in the United Kingdom (UK) (Walsh, 2007). This may also be the case in New Zealand, as Christchurch Womens' Hospital in 2004 reported 16 women (from the 409 primiparous women who birthed vaginally) experienced a second degree tear which was coded as 'not sutured' (Soh, 2004). The report noted, "This is surprising, as it is usual practice to suture second degree tears...this may reflect incorrect classification, a coding error, a data entry error, or clinical practice" (ibid, p.34). Yates (2002) gives an opinion that NZ midwives have tended to leave minor perineal tears to heal spontaneously. She suggests this is because research and clinical practice have shown that women can suffer when sutured. However she also expressed concern that there is little evidence, and some potential negative consequences, with a decision to leave a significant second degree tear unsutured (Yates, 2002).

Walsh (2007) says the debate on not suturing second degree tears was not raised in the UK public arena until the early 1990's. Head (1993) performed an audit describing non-suturing of second degree tears as common midwifery practice with equivalent healing and less pain. Following this, another UK study by Clement and Reed (1999) also found no problems with perineal healing in a one year retrospective audit of women, cared for by independent midwives, who had second degree tears left unsutured.

However it is of some concern that recent research indicates that unless midwives have received additional and specific training in perineal assessment they are not good at accurately assessing and appropriately treating perineal tears (Andrews, Sultan, Thakar,

& Jones, 2006; Groom & Paterson-Brown, 2002; Langley, Thoburn, Shaw, & Barton 2006; Smallldridge, 2003; Tohill & Metcalfe, 2005). That being said, just what constitutes best care of the perineal tears is an area that until recently has been subjected to limited examination. Furthermore what information is available can be confusing and contradictory.

This article reviews the research which has examined the influences on midwives decision making on suturing and non-suturing of second degree perineal tears. It looks at the impact on outcomes for both midwives and women. Finally, recommendations to aid in midwifery decision making for perineal care will be presented.

REVIEW OF LITERATURE

A review of the literature was performed with a search strategy to assess the outcome of healing in the population of women who experience second degree perineal tears, with the intervention of non-suturing and the comparison of suturing. There was no minimum length of follow-up. The information being sought also included classification and incidence of second degree perineal tears, risk factors, and current repair practice.

Electronic database searches of the Cochrane Library, Medline, and CINAHL were conducted to identify recent publications. Search terms were initially limited to publication dates in the last 10 years. However where there was an overlap of significant key studies cited within the body of the paper or bibliography over 10 years old, these were also retrieved. Research that was limited to suturing techniques was excluded. The review was restricted to literature available in English.

Articles were sorted according to the RCOG (2004) levels of evidence. The traditional hierarchy of evidence provides an understanding of why one methodology carries more weight over another. This ranking system demonstrated in Table 1 (page 30) is a standard notation for the relative weight carried by different types of study when decisions are made about the effectiveness of clinical interventions. The RCT is the 'gold standard' and represents the only true means of

evaluating the effectiveness of an intervention (in this case, non-suturing) in terms of improving outcomes. However where studies had descriptive information that added to knowledge on the subject, despite not meeting the level of evidence standards, these were also included. All identified documents were examined and those that were relevant were retrieved for inclusion in the review. Reference lists of retrieved documents were then scanned to identify any additional articles of interest. Studies and information were assessed for their appropriateness to the NZ maternity setting.

The Cochrane Library and Medline were searched using the relevant MESH terms and imposing the limits of English, female and adult. The terms 'second degree' and 'non-suture' were removed as they were not recognised, leaving search terms of perineum, tear, and suturing. While there were no relevant Cochrane Reviews, three applicable Randomised Controlled Trials (RCT) were found (Fleming, Hagen, & Niven, 2003; Langley, Thoburn, Shaw, & Barton, 2006; Lundquist, Olsson, Nissen, & Norman, 2000). CINAHL located two relevant prospective cohort studies (Leeman, Rogers, Greulich, & Albers, 2007; Metcalfe, Bick, Tohill, Williams, & Haldon, 2006) and a range of other articles (e.g. Cioffi, Arundell, & Swain, 2009; Dahlen & Homer, 2008; Layton, 2004; McCandlish, 2001).

Additional papers were identified, and key papers confirmed, via the evidence-based information website resources of Turning Research into Practice (<http://www.tripdatabase.com>), National Health Service Evidence Health Information Resources (<http://www.library.nhs.uk>) provided by National Institute for Health and Clinical Excellence (NICE), and British Medical Journal Clinical Evidence (<http://clinicalevidence.bmj.com>). Practice guidelines from NZ, such as NZCOM consensus statements (<http://www.midwife.org.nz/>) and the NZ Guidelines Group (<http://www.nzgg.org.nz/>), did not have information related specially to perineal care. Thus UK RCOG guidelines on perineal treatment (RCOG, 2004), NICE Intrapartum Care guideline (NICE, 2007), and the Royal College of Midwives

(RCM) Midwifery Practice Guideline (RCM, 2005) were accessed. Current evidenced based midwifery textbooks from NZ, Australia and the UK also provided relevant information (Crabtree, 2004; Hendry, 2006; Raynor & Bluff, 2005; Walsh, 2007). Reports published by NZ health authorities (e.g. National Women's Hospital, 2007; Soh, 2004) and professional and government sites (e.g. Finn, 2008; Ministry of Health, 2007) further assisted in creating a picture of midwifery perineal tear treatment.

CURRENT PRACTICE

Current practice highlighted in a recent midwifery practice article from the office of the NZ Health and Disability Commissioner advised NZ midwives that there is ongoing debate on the benefit of suturing tears (Finn, 2008). Finn counsels that the decision to refrain from suturing can be appropriate but she precedes this statement with a cautionary tale of a complaints process initiated against a midwife who did not suture a tear.

In Crabtree's (2004) examination of the competing influences on NZ midwives decision making, medicalisation is described as the default mode. Under the default mode, suturing could be considered the appropriate method of treating all perineal tears but also may be a basis of fear for midwives. From a lawyer's perspective, Pearse (2000) suggests that midwives' fear "means that we start doing things for the wrong reasons that can result in harm" (p.10). One of the things we may be doing for the wrong reasons is making a decision about suturing or non-suturing of second degree perineal tears without true consideration of the significance.

In NZ, there has been a tradition of suturing of second degree tears (Soh, 2004). McCandlish (2001) observes that suturing second degree trauma to the perineum has also been standard practice in the UK for many years. Yet there has been a gradual shift since the 1990's towards midwives leaving second degree tears to heal naturally without suturing. This

has been brought to light by information from UK, Sweden, America, Australia and NZ (Clement & Reed, 1999; Dahlen & Homer, 2008; Finn, 2008; Fleming et al., 2003; Head, 1993; Langley et al, 2006; Layton, 2004; Leeman et al., 2007; Lundquist et al., 2000; Metcalfe et al., 2006; Miller, 2008; Soh, 2004).

CLASSIFICATION AND ASSESSMENT OF PERINEAL TEARS

Sultan's (1999) classification of perineal tears into four categories has been adopted as standard by the RCOG (2004). Tears are grouped according to severity and number of tissue layers involved: First degree – injury to skin only, second degree – injury to the perineal muscles but not the anal sphincter, third degree – injury to the perineum involving the anal sphincter (further divided into 3a: less than 50% of external sphincter thickness torn; 3b: more than 50% of external sphincter thickness torn; 3c: internal anal sphincter torn) and fourth degree – injury to the perineum involving the anal sphincter complex and anal epithelium. Second degree tears are the most frequently occurring perineal trauma (Albers, Garcia, Renfrew, McCandlish, & Elbourne, 1999).

However there is no universal classification system to measure the severity or the grade of second degree perineal tears. This has led to a lack of consensus on evaluation of perineal trauma among doctors as well as among midwives (Jackson, 2000; Metcalfe et al., 2002; Mutema, 2007). This lack of consensus also causes difficulties when trying to assess practice implications as, by definition second degree tears may range from a shallow split in the superficial perineal muscle to an extensive three way vaginal tear involving deep perineal muscles (Metcalfe et al., 2002; Ullman, Yiannouzis, & Gomme, 2004). Variations in perineal length may also affect impressions of severity (Rizk & Thomas, 2000).

A UK survey (Sultan, Kamm, & Hudson, 1995) exposed concerns of junior doctors and midwives about the quality of their training in perineal anatomy and repair. In 2002, a NZ audit of knowledge of superficial perineal muscles revealed that only 7% of midwives and doctors were able to identify the perineal muscles correctly (Robinson & Beattie, 2002). Smallldridge (2003) describes a dramatic increase in the diagnosis of major perineal tears in a large NZ hospital after instigating a programme of every tear being checked by a senior midwife or doctor. Research conducted in the UK demonstrated that major perineal tears, including anal sphincter injuries, were missed on clinical examination by midwives and doctors (Andrews, Sultan, Thakar, & Jones, 2006; Groom & Paterson-Brown, 2002). Certainly UK NICE guidelines (2007) recommend rectal examination if there is any suspicion perineal muscles are damaged, followed by referral to a senior midwife or doctor if there remains any uncertainty.

Table 1: Traditional Hierarchy of Evidence (Greenhalgh, 1997, p. 48)

1	Systematic reviews and meta-analyses.
2	Randomised controlled trials with definitive results (that is, a result with confidence intervals that do not overlap the threshold clinically significant effect).
3	Randomised controlled trials with non-definitive results (that is, a point estimate that suggests a clinically significant effect but with confidence intervals overlapping the threshold for this effect).
4	Cohort studies.
5	Case-control studies.
6	Cross sectional surveys.
7	Case reports.



What is more, detection of perineal tears appears to be enhanced by thorough physical exploration of the extent of the tear (Langley et al., 2006). A measuring and assessment tool, the 'Peri-Rule' (Metcalfe et al., 2002), has been designed to assess the complexity of second degree perineal tears by midwives in the UK but does not appear to be in common use. Unexpected findings of a 2005 study found UK midwives consistently underestimated the degree of trauma when using only a visual examination (Tohill & Metcalfe, 2005). In 2006, Langley et al. had similar concerns, warning that the perception of severity of perineal trauma appeared to be influenced by the more detailed examination required during the act of suturing. Midwives were advised that these findings had important implications for postpartum examination, leading Langley et al. to recommend the damaged perineum is examined closely and carefully.

INCIDENCE

Australian statistics (Laws & Hilder, 2008) gave figures of 23.6% of women sustaining a second degree tear, whereas the American second degree perineal tear rate was estimated at around 20% (Leeman et al., 2007). Interestingly there are no NZ perineal tear statistics in the Ministry of Health Maternity Report (2007). However NZ Midwifery and Maternity Providers Organisation (MMPO) midwives data for 2004 revealed 17.2% of the nearly 10,000 women (16.9% of total NZ births in 2004) who had an MMPO midwife had second degree perineal trauma. Primiparous women experienced the highest rate of second degree perineal tears at 23% (NZCOM, 2008a).

MMPO data did not reveal how many NZ women had their tears sutured or not sutured, and who made this decision, although this data may be available in the future (NZCOM, 2008a). A NZ study of a small group of Wellington LMC midwives (combined caseload of 225 women) in 2008, demonstrated that LMC midwives were doing the majority (82.5%) of perineal assessment and suturing for their clients (Miller, 2008). Miller (2008) also found LMC midwives are more likely to suture perineal tears in a hospital environment (66.7% of tears sutured) as opposed to a home birth setting (50% of tears sutured).

RISK FACTORS FOR PERINEAL TEARS

Risk factors for perineal tears include first vaginal birth, birth weight over four kg, persistent occipitoposterior position in first time mothers, induction of labour, epidural, second stage longer than one hour, shoulder dystocia, midline episiotomy and forceps delivery (RCOG, 2007). Of concern with increasing rates of obesity in our society, is that obese women who gained more than 18 kilograms

during pregnancy had elevated rates of genital tract lacerations (Albers, Greulich, & Peralta, 2006). Maternal education at high school level and beyond is associated with increased risk of perineal trauma (Albers, Sedler, Bedrick, Teaf, & Peralta, 2006). Increasing age was also identified as a risk factor for perineal morbidity (Williams, Herron-Marx, & Carolyn, 2007).

Kettle and Tohill's (2007) systematic review of perineal care, advised that continuous labour support compared with usual care, reduces assisted vaginal birth, but overall rates of perineal trauma remain the same. This differs from recent UK research (Symon, Winter, Inkster, & Donnan, 2009) reporting that women who booked under an independent midwife in the UK were more likely to avoid perineal trauma. Furthermore, Miller (2008) found that in the NZ continuity of care model, there were no differences in the number of perineal tears between women who birthed at home or in hospital. Miller's findings contrast with recent Swedish research that concluded women birthing at home were less likely to sustain pelvic floor injuries (Lindgren, Radestad, Christensson, & Hildingsson, 2008).

Research on the anatomy of the perineum and the impact on perineal trauma rates indicates that a short perineum with a reduced distance between anus and perineum (a common variant of the normal anal anatomy) are associated with more perineal trauma (Deering, Carlson, Stitely, Allaire, & Satin, 2004; Rizk & Thomas, 2000). Several studies have concluded that being of Asian ethnic origin is a perineal tear risk factor. They suggest this may be due to shorter perineal bodies, but also may be due to difficulties in communicating effectively. (Dahlen, Ryan, Homer, & Cooke, 2007; Hopkins, Caghey, Glidden, & Laros, 2005; Williams & Chames, 2006; Williams et al. 2007).

NZ maternity statistics demonstrate that Asian women had more risk factors for perineal tears than other ethnic groups. Asian women tended to be older, have less children and more likely to have obstetrician care, epidural, episiotomy and instrumental birth (Ministry of Health, 2007). This has implications for the NZ maternity services; as while Asian women only make up only 9.3% of the birthing population (Ministry of Health, 2009) they are projected to have the largest percentage growth of all ethnic groups, up about 120 percent to 600,000 in 2021 (Statistics New Zealand, 2008).

There are no national figures currently available relating to rates of perineal laceration for Māori women. However, Māori women gave birth at a younger age, with a birth rate second only to Pacific women. They were also more likely to have a normal birth, without induction or epidural, compared with women of other ethnicities (Ministry of Health, 2009). In addition Māori mothers were more likely to register with a

midwife (81.9 percent) and less than one percent registered with an obstetrician (Ministry of Health, 2007). This means that they have the lowest risk factors for perineal tears of all ethnicities in NZ.

RESEARCH ON WHETHER TO REPAIR OR NOT

The British Medical Journal performed a systematic review on perineal repair in 2007 (Kettle & Tohill, 2007). One of their questions concerned the effects of non-suturing of muscle and skin in first and second perineal tears. Based on two RCTs, Lundquist et al. (2000) and Fleming et al. (2003), it was reported that there is limited evidence regarding benefits and harms of non-suturing of first and second degree tears. It was also pointed out that it is impossible to blind assessors to the allocated treatment, and this may bias results (Kettle & Tohill, 2007).

Lundquist et al. (2000) from Sweden performed the first RCT on the outcomes of suturing or non-suturing of first and second degree tears. Their results, measured to six months after birth, showed no significant differences in healing. The study used a specially trained team of midwives to care for the women. An unexpected finding was that the unsutured women enjoyed a more positive breastfeeding experience. They concluded that first degree, and small second degree perineal lacerations (no larger than two cm x two cm, well-approximated and not bleeding) can be left to heal without needing suturing. It was noted that a limitation of this study was the small sample size of 80. In addition it did not differentiate between first and second degree lacerations and used non-standardised data collection instruments and procedures, causing difficulty in interpreting validity of results (Fleming et al., 2003; Kettle & Tohill, 2007).

The most cited RCT in this area, the SUNS trial, was undertaken by Fleming et al. in Scotland in 2003. They compared outcomes up to six weeks postpartum, assessing perineal pain and healing of sutured and unsutured first and second degree tears (regardless of size and complexity). Trained midwives collected the data. The Redness Edema Ecchymosis Discharge Approximation (REEDA) tool (Davidson, 1974) was used to assess perineal healing. Pain scores were similar in both groups but there was poorer approximation of the unsutured tears at six weeks. A higher rate of breastfeeding in the non-sutured group was noted throughout the study. Their recommendation was for continuation of suturing due to poorer wound healing in the unsutured group. Kettle and Tohill, (2007) reported that this RCT had 'reasonable methodological quality'. A sample of 340 was needed to detect 20% difference in pain and wound healing with 80% power based on a significance level of 1%. However due to recruitment difficulties it had a small sample size of 74 women in total (of which 56

sustained a second degree tear). A further limitation of this trial was that it included both first and second degree tears and it ceased at six weeks postpartum.

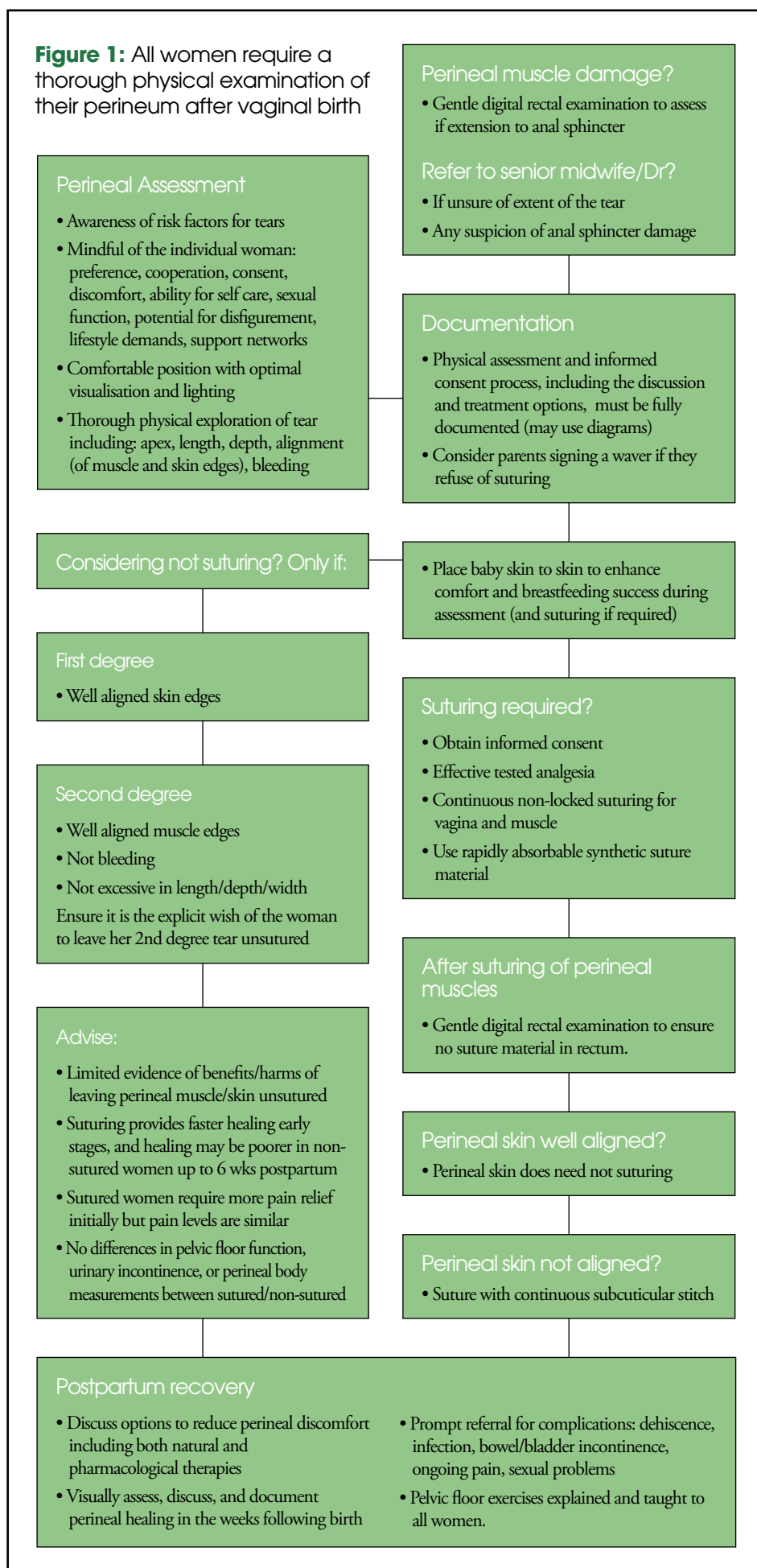
Langley et al. (2006) performed the most recent and the largest RCT to date. The healing of sutured and non-sutured second degree tears (regardless of size and complexity) were assessed by a proforma and questionnaire to four to six weeks administered by the trial midwife, and later via a qualitative postal survey at intervals of six weeks, six months and one year. Long-term healing and pain between the sutured and non-sutured groups was equivalent. There was no difference between the sutured group and the unsutured group in urinary stress incontinence and resumption of sexual activity although the non-sutured group was more likely to practice pelvic floor exercises. Langley et al. (2006) concluded that the benefits of not suturing second degree perineal tears are not straightforward. They comment that suturing produces faster healing in the early stages but not in the longer term when the groups were equivalent. However they advocate initial faster healing in the sutured group must be balanced against the need for more pain relief due to the sutures. They also reported that while infection is argued to be a possible consequence of non-suturing, the results of their research demonstrate very low rates of infection and no difference attributable to suturing. It was noted that there was a change in suture practice during the study, although comparison of both methods showed no difference in outcome by method. The study was powered to detect a 20% difference in quality of healing with 80% power, based on a significance level of 5% and the sample size was 200 women. In contrast to the RCTs of Lundquist et al. (2000) and Fleming et al. (2003), Langley et al. (2006) looked at second degree tears only.

In 2004, a year long quantitative survey of 80 Welsh women by Layton (2004) found midwives decision for non-suturing of selected first and second degree tears did not affect the incidence of dyspareunia and urinary incontinence. However Layton in critiquing her own survey, observed that it was small with unknown variables. She cautiously concluded that decisions on non-suturing should only be reached after careful consideration of perineal damage.

Metcalfe et al. (2006) performed a prospective cohort study for one year, involving 282 women in the UK. They found that there was no difference in perineal pain, but there was increased self referral for perineal problems and increased Edinburgh postnatal depression scores in the unsutured group. Metcalfe et al. did not advocate a change in practice to non-suturing due to these findings.

A 2007 American prospective cohort study by Leeman et al. over three months, found that of the

Figure 1: All women require a thorough physical examination of their perineum after vaginal birth



172 women in their study, those in the sutured group used more pain relief during hospital stay, but there was no difference between pain scores and similar healing at six weeks. Despite commonly expressed concerns, at twelve weeks they found no difference in pelvic floor function, incontinence or perineal body measurements between the sutured and unsutured group. Consequently they reported that there was no benefit in suturing second degree lacerations and advised suturing should be deferred because of the pain of suturing. Midwives in this study had received additional specialised training on perineal assessment, repair and pelvic floor function.

GUIDELINES

While there are no national New Zealand guidelines for midwifery perineal care, many DHBs and individual hospitals have their own policies. However two major UK clinical guidelines, RCOG (2004) and the Royal College of Midwives (RCM) Midwifery Practice Guideline (2005), provide specific perineal treatment instruction. The RCOG (2004) perineal suturing guidelines are now incorporated into the UK NICE guidelines (2007), and these state that women with second degree trauma should be advised that the muscle should be sutured to improve healing. Perineal repair should be with a continuous non-locked suturing technique for the vaginal wall, muscle and perineal skin as this causes less pain and greater satisfaction with their repair than women who had interrupted sutures. If the perineal skin is opposed following suturing of the muscle, the advice is that there is no need to suture the skin as this results in less pain and dyspareunia, and fewer removals of sutures at three months after birth than women who had perineal skin sutured (NICE, 2007). Non-suturing of second degree tears is not offered as an option in the NICE guidelines and this is based solely on the RCT of Fleming et al. (2003).

The Royal College of Midwives (RCM) Midwifery Practice Guideline (RCM, 2005) advises that studies of non-suturing of the perineum have conflicting findings in respect of impact on perineal healing. They base their advice on two RCTs of Lundquist et al. (2000) and Fleming et al. (2003) and suggest that additional research is required. They also recommend that small follow-up studies offer a psychological and social point of view which may assist in informed decision making.

INVOLVEMENT OF WOMEN IN DECISION MAKING

Women need to be actively involved in all decisions regarding their perineal treatment. In a case investigated by the NZ Health and Disability Commissioner in 2002, Yates as an expert midwifery advisor, advocates that it is unsatisfactory to leave a woman's perineum unsutured "without discussing fully all options of repair and possible consequences" (Yates, 2002 p. 34).

Frye (1995) suggests that if a woman refuses perineal suturing for extensive tears that she may not fully understand the consequences of her decision. She recommends the midwife use deeper questioning to uncover any negative feelings and beliefs about suturing that may be resolved prior to birth. This would appear to be endorsed by the recommendations of Finn (2008), who reports that there are a small but increasing number of complaints made about midwifery care in NZ. While only a limited number are related to perineal issues, the morbidity is apparent from reports on NZ Health and Disability Commissioners website (Health and Disability Commissioner, 2008).

The best time to provide information to women about perineal treatment is debatable. Langley et al. (2006) reported difficulties in antenatal recruitment for their perineal suturing trial as women were unwilling to be randomised. They found women tended to be certain that either suturing or non-suturing was preferable as result of previous experience or on the advice of others. Clement and Reed (1999) cautioned that the vast majority of women, when offered the opportunity, found it easy to decide not to be stitched. Lundquist et al. (2000) also advised that women described great relief when they know that suturing can be avoided. This fits with the findings of Fleming et al. (2003) who discovered that many women previously informed and consented in the antenatal period appeared to be changing their minds about participating in the study following birth and instead chose not to be sutured. They suggested that the midwife may have influenced the women's decision but they also felt women were obviously capable of making informed decisions about their care immediately postnatally. Certainly postnatal informed consent is an approach that has been used successfully in the past (Davidson, 1974; Metcalf et al., 2006).

DeSouza (2006) suggests it is difficult for midwives to have an appropriate balance between giving enough information to assist the woman to make a choice but not overwhelming her or creating anxiety. She also points out that while midwives are expected to appear neutral in their advice, they may in fact have strong feelings regarding care which will impact on how the advice is offered. This may conflict with the care plan that midwives are advised to complete with the women around 36 weeks of pregnancy (NZCOM, 2005). Women can and do change their minds in their labour and the postpartum period, including their plans for perineal care, and this must always be a consumer's prerogative. This suggests that perineal assessment, discussion and treatment be fully documented, using diagrams if needed (NICE, 2007). Frye (1995) goes a step further, advising midwives to get women to sign a waiver if they refuse suturing of a tear that may potentially result in serious morbidity.

Understandably women prefer to be sutured by the same professional who assisted with the birth.

Then they are less likely to have to wait for repair (Ho, 1985) and receive more understanding care (Hulme & Greenshields, 1993). Feedback from women also appears to influence midwives decisions regarding perineal repair and reduce perineal repair rate. One study reported rates of non-suturing rose from 20% to 80% due to midwives being able to reflect upon their practice in relation to the woman's experience (Lewis, 1995). Perhaps, suggest Clement and Reed (1999), this is because women appeared to view having or not having stitches from a holistic perspective and weighed up perceived short and long term psychosocial and physical factors.

DISCUSSION

According to Raynor and Bluff (2005), midwives have not historically been recognised for making use of evidence to inform decision making. Consequently, it is not surprising that Australian and UK researchers report that when some midwives' make the choice to not suture some second degree tears it is seen as concerning and lacking good evidence (Dahlen & Homer, 2008; Fleming et al., 2003; Metcalf et al., 2006). However the decision to suture or not suture has historically had little researched evidence for guidance, leaving midwives having to rely on past knowledge and experience (Cioffi, Arundell, & Swain, 2009).

Raynor and Bluff (2005) suggest that in the UK, maternity culture is changing and the expectation is that midwives today will use their professional judgment within evidenced based guidelines to make decisions. A recent study has found Australian midwives see the key to making the suturing verses non-suturing decision as being deep within the experience of a midwife in having the ability to see difference between small, aligned, not bleeding tears and large, ragged, misaligned and bleeding tears (Dahlen & Homer, 2008). From a NZ perspective, Jackson (2002) says it is understandable if a midwife leaves a second degree tear to heal without being sutured at a woman's specific request. She also reminds midwives that visualising the full extent of a second degree tear, and digital rectal examination, is essential to the decision making process (Jackson, 2002). Nevertheless there are valid concerns that while some midwives may describe second degree tears as small or uncomplicated to justify non-suturing, these may be subjective, inconsistent and often poorly informed definitions and decisions (Jackson, 2000; Metcalf et al., 2002; Mutema, 2007; Robinson & Beattie, 2002; Sultan et al., 1995; Ullman, Yiannouzis, & Gomme, 2004). Furthermore incomplete perineal assessments may lead midwives to state they have very few tears (Frye, 1995).

Cioffi et al. (2009) advise that a full appreciation of cues (such as bleeding and birth trauma), in addition to women-centred factors (such as the ability for self care, cooperation, consent, discomfort,

disfigurement, and sexual function) ensures that a more comprehensive perineal assessment occurs. They suggest it is this holistic assessment on which the decision to not suture or suture depends for best practice decisions. Awareness of the sum of these cues appears to be what informs midwives decisions regarding the need to suture or not.

Reassuringly, overseas midwives appear to be keen to get information on perineal care (Dahlen & Homer, 2008; Mutema, 2007). It has also been observed that workshops on perineal issues at NZ midwifery conferences have standing room only, although it has to be said that the information given tends to focus on avoiding episiotomies and on suturing skills. Indeed, the Midwifery Council New Zealand (MCNZ) website places optional workshops on midwifery perineal care under the heading 'Epidurals, Suturing and other Surgical' (MCNZ, 2008). Certainly in the past, perineal repair courses were often sponsored by the companies marketing suture material and perhaps this influence still creates expectations today.

NZ LMC midwives have the advantage over many overseas midwives of seeing the longer term results of their perineal treatment with the provision of continuity of care for six weeks after birth (NZCOM, 2005). This may also include providing care to the same woman in subsequent pregnancies. It could be expected that direct verbal and visual feedback from women on their outcomes as a result of suturing or non-suturing assists to hone midwifery skills and experience. This is aided by the compulsory biennial reflection process of NZCOM Midwifery Standards Review (NZCOM, 2007). Certainly NZCOM (2005) considers perineal assessment and repair to be a requirement for both training and qualified midwives. Unfortunately there are no NZ midwifery guidelines or consensus statement to facilitate how midwives can make best practice decisions in this area. This is also the case in Australia where in the absence of specific guidelines, education on perineal treatment varies between different organisations and models of care (Dahlen & Homer, 2007). On the other hand, the NZ Midwifery Council (MCNZ) incorporated perineal suturing into the first round of compulsory three yearly Technical Skills Workshops (MCNZ, 2008) and awards perineal suturing workshops offered by District Health Boards and educational institutions desired recertification 'Elective Education' points.

The key concepts of this article are summarised in a flowchart (Figure 1 - page 32). The concepts characterise the midwifery practices that are best supported by evidence, and most likely to provide optimal perineal care.

CONCLUSION

From this literature review, it is apparent that studies of non-suturing of second degree perineal tears have

conflicting findings in respect of impact on perineal healing based findings from a systematic review, three RCT's, two large prospective cohort studies, UK guidelines, and a variety of other evidence. This would not be surprising to NZ midwives as what constitutes a second degree tear varies from a shallow skin and muscle abrasion right through to cavernous, forked perineal wounds just short of a third degree tear. It is also apparent that midwives are influenced by the environment in which they practice, whether home or hospital. In addition the views and needs of the women are an important consideration for midwives, especially in the continuity of care model where the midwifery partnership and women's feedback is a fundamental and required component of practice.

Of fundamental importance for midwives in NZ today is that our midwifery care continues to be safe, effective, efficient, culturally appropriate, holistic, and in partnership with women (NZCOM, 2005). Our constant challenge is to not just identify when this does and does not occur, but to make changes that improve midwifery practice through integration of experience and research. Most NZ midwives would agree that second degree perineal tears should be sutured if they need it. The critical skill is the assessment of the tear to determine 'need'. To enable midwives to achieve this critical skill requires quality midwifery education and information to be readily available. In addition, legitimising practice by some midwives of non-suturing of uncomplicated second degree perineal tears by continuing and specific research in the NZ midwifery context is vital.

NZ midwives are uniquely placed within our continuity of care LMC model to assemble data on the realities of perineal care for NZ birthing women, looking at both day to day clinical practice and longer term outcomes. Using an appropriate sample size across a spectrum of midwifery 'ways of being' and experience would genuinely reflect the views and experience of NZ midwives and women. Furthermore the information would allow further shaping and evaluating of NZ midwifery knowledge and ultimately be to the benefit of women and normal birth.

Wickham's (2000) challenge is that birthing women may well have different individual needs for protection and treatment of the perineum and the midwife should find answers to suit her practice and the needs of the women she is with. This midwifery experience should be informed by past and present practice, evidenced based research and perhaps most importantly, the views and needs of the women who are the recipients of the care. The final word rests with Frye (1995); who reminds us that women will be depending on the midwife's assessment of their perineum to make an informed choice but that ultimately the decision rests with the woman.

REFERENCES

- Albers, L., Garcia, J., Renfew, M., McCandish, R., & Elbourne, D. (1999). Distribution of genital tract trauma in childbirth and related postnatal pain [Electronic version]. *Birth*, 26, 11-17.
- Albers, L., Greulich, B., & Peralta, P. (2006). Body mass index, midwifery intrapartum care, and childbirth lacerations [Electronic version]. *Journal of Midwifery Women's Health*, 51(4), 249-253.
- Albers, L., Sedler, K., Bedrick, E., Teaf, D., & Peralta, P. (2006). Factors related to genital tract trauma in normal spontaneous vaginal births [Electronic version]. *Birth*, 33(2), 94-100.
- Andrews, V., Sultan, A., Thakar, R., & Jones, D. (2006). Occult anal sphincter injuries—myth or reality [Electronic version]? *BGOG: An International Journal of Obstetrics and Gynecology*, 113(2), 195-200.
- Baston, H. (2004). Midwifery basics: postnatal care. Perineal repair. *The Practising Midwife*, 7(9), 12-15.
- Cioffi, J., Arundell, F., & Swain, J. (2009). Clinical decision making for repair of spontaneous childbirth trauma: Validation of cues and related factors [Electronic version]. *Journal of Midwifery and Women's Health*, 54, 65-72.
- Clement, S., & Reed, B. (1999). To stitch or not to stitch. *The Practising Midwife*, 2(4), 20-28.
- Crabtree, S. (2004). Midwives constructing normal birth. In: S. Downe (Ed.), *Normal Birth: Evidence and Debate*, (pp. 97-113). UK: Churchill Livingstone.
- Dahlen, H., & Homer, C. (2008). What are the views of midwives in relation to perineal repair. *Women and Birth*, 21(1), 27-35.
- Dahlen, H., Ryan, M., Homer, C., & Cooke, M. (2007). An Australian prospective cohort study of risk factors for severe perineal trauma during childbirth. *Midwifery*, 23(2), 196-203.
- Davidson, N. (1974). REEDA: evaluating postpartum healing [Electronic version]. *Journal of Nurse - Midwifery*, 19, 6-9.
- Deering, SH., Carlson, M., Stitley, M., Allaire, AD., & Satin, AJ. (2004). Perineal body length and lacerations at delivery [Electronic version]. *Journal of Reproductive Medicine*, 49(4):306-10.
- DeSouza, R. (2006). *Becoming informed health care consumers: Asian migrant mothers in New Zealand*. In S. Tse, M.E. Hoque, K. Rasanathan, M. Chatterji, R. Wee, S. Garg, & Y. Ratnasabapathy (Eds.), *Prevention, protection and promotion. Proceedings of the Second International Asian Health and Wellbeing Conference*, November 11, 13-14, (pp. 196-207). Auckland, New Zealand: University of Auckland.
- Finn, E. (2008). *Midwifery practice - learning from complaints*. Retrieved May 1, 2009, from <http://www.hdc.org.nz/publications/articles/Midwifery%20Practice%20-%20Learning%20from%20Complaints>
- Fleming, V., Hagen, S., & Niven, C. (2003). Does perineal suturing make a difference? The SUNS trial [Electronic version]. *BGOG: An International Journal of Obstetrics and Gynecology*, 110, 984-989.
- Frye, A. (1995). *Healing passage: A midwife's guide to the care and repair of the tissues involved in birth*. 5th edition. Portland, USA: Labrys Press.
- Greenhalgh, T. (1997). *How to read a paper. The basics of evidence based medicine*. London: British Medical Journal Publishing Group.
- Groom, K., & Paterson-Brown, S. (2002). Can we improve on the diagnosis of third degree tears [Electronic version]? *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 101, 19-21.
- Head, M. (1993). Dropping stitches. *Nursing Times*, 89(33), 64-65.
- Health and Disability Commissioner. (2008). *Complaints resolution*. Retrieved January 5, 2009, from <http://www.hdc.org.nz/complaints/complaints-intro>
- Hendry, S. (2006). Maintaining the integrity of the pelvic floor. Chp 25. In S. Paiman, J. Pincombe, C. Thorogood, & S. Tracy (Eds.), *Midwifery: Preparation for Practice* (pp.444-455). Sydney, Australia: Churchill Livingstone, Elsevier.
- Ho, E. (1985). Should midwives be repairing episiotomies? *Midwives Chronicle and Nursing Notes*, 98,296.
- Hopkins, L., Caughey, A., Glidden, D., & Laros, R. (2005). Racial/Ethnic differences in perineal, vaginal and cervical lacerations [Electronic version]. *American Journal of Obstetrics and Gynecology*, 193(2), 455-459.
- Hume, H., & Greenshields, W. (1993). *The Perineum in childbirth: a survey conducted by the National Childbirth Trust*. London: National Childbirth Trust.



- Jackson, K. (2000). Postnatal perineal care and the effects on sexuality. *British Journal of Midwifery*, 8(12), 739-743.
- Jackson, R. (2002). *A Report by the Health and Disability Commissioner (Case 99/10489)*. Health and Disability Commissioner [Electronic version]. Health and Disability Commissioner.
- Kettle, C., & Tohill, S. (2007). *BMJ Clinical Evidence: Perineal repair*. BMJ Publishing Group Ltd 2008. Retrieved June 1, 2009, from <http://clinicalevidence.bmj.com/ceweb/conditions/pac/1401/1401.jsp>
- Langley, V., Thoburn, A., Shaw, S., & Barton, A. (2006). Second degree tears: to suture or not? A randomized controlled trial. *British Journal of Midwifery*, 14(9), 550-554.
- Laws, P., & Hilder, L. (2008). *Australia's mothers and babies 2006*. Perinatal statistics series no. 22. Cat. No.PER 46 [Electronic version]. Sydney: Australian Institute of Health and Welfare National Perinatal Statistics Unit.
- Layton, S. (2004). The effect of perineal trauma on women's health. *British Journal of Midwifery*, 12(4), 231 - 236.
- Leeman, L., Rogers, R., Greulich, B., & Albers, L. (2007). Do unsutured perineal lacerations affect postpartum functional outcome [Electronic version]? *The Journal of the American Board of Family Medicine*, 20(5), 451-457.
- Lewis, L. (1995). Are you sitting comfortably? *Midwifery Matters*, 66, 3-5.
- Lindgren HE., Rådestad JJ., Christensson K., Hildingsson IM. (2008). Outcome of planned home births compared to hospital births in Sweden between 1992 and 2004. A population-based register study. *Acta Obstet Gynecol Scand*, 87(7), 751-9. Abstract retrieved Aug 1, 2009, from PubMed database.
- Lundquist, M., Olsson, A., Nissen, E., & Norman, M. (2000). Is it necessary to suture all lacerations after a vaginal birth [Electronic version] *Birth*, 27, 79-85.
- Metcalf, A., Tohill, S., Williams, A., Haldon, V., Brown, L & Henry, L. (2002). A pragmatic tool for the measurement of perineal tears. *British Journal of Midwifery*, 10, 412-417.
- Metcalf, A., Bick, D., Tohill, S., Williams, A., & Haldon, V. (2006). A prospective cohort study of repair and non-repair of second degree perineal trauma: results and issues for future research [Electronic version]. *Evidence Based Midwifery*, 4(2), 60-64.
- McCandlish, R. (2001). Perineal trauma: prevention and treatment [Electronic version]. *Journal of Midwifery Women's Health*, 46(6), 396-401.
- Midwifery Council of New Zealand (MCNZ). (2008). *Recertification programme: competence based practicing certificates for midwives*. Retrieved March 1, 2009, from <http://www.midwiferycouncil.org.nz/main/Recertification/>
- Miller, S. (2008). *First Birth at Home or in Hospital in Aotearoa/ New Zealand: Intrapartum Midwifery Care and Related Outcomes*. Retrieved from researcharchive.vuw.ac.nz/handle/10063/851
- Ministry of Health. (2007). *Report on Maternity, Maternal and Newborn Information 2004*. New Zealand Information Service. Wellington, New Zealand: Ministry of Health.
- Ministry of Health. (2009). *Maternity Snapshot 2007* (Provisional data). Wellington. Ministry of Health. Retrieved June 1, 2009 from [http://www.nzhis.govt.nz/moh.nsf/pagesns/580/\\$File/maternity-snapshot-2007.xls](http://www.nzhis.govt.nz/moh.nsf/pagesns/580/$File/maternity-snapshot-2007.xls)
- Mutema, E. (2007). 'A tale of two cities': auditing midwifery practice and perineal trauma. *British Journal of Midwifery*, 15(8), 511-513.
- National Institute for Health and Clinical Excellence. (2007). *Intrapartum Care. Care of health women and their babies during childbirth*. NICE clinical guideline 55. London: National Collaborating Centre for Women's and Children's Health.
- National Women's Hospital (2007). *National Women's Hospital Annual Clinical Report*. Auckland: Auckland District Health Board.
- New Zealand College of Midwives. (2005). *Midwives handbook for practice*. Christchurch: New Zealand College of Midwives.
- New Zealand College of Midwives. (2007). *Midwifery standards review*. Christchurch: New Zealand College of Midwives.
- New Zealand College of Midwives. (2008). *Report on MMPO midwives. Care activities and outcomes 2004*. Christchurch: New Zealand College of Midwives.
- Petrou, S., Gordon, B., Mackrodt, C., Fern, E., Ayers, S., Grant, A., Truesdale, A., & McCandlish, R. (2001). How cost-effective is it to leave perineal skin unsutured. *British Journal of Midwifery*, 9(4), 209-214.
- Pearce, J. (2000). Legal advisors column. *Midwifery News*, New Zealand College of Midwives, 19, 10-11.
- Raynor, M., & Bluff, R. (2005). Introduction. In: M. Raynor, J. Marshall, A. Sullivan (Eds.), *Decision Making in Midwifery practice*. (pp.1-7). UK: Elsevier Churchill Livingstone.
- Rizk, DE., & Thomas, L. (2000). Relationship between the length of the perineum and position of the anus and vaginal delivery in primigravidae [Electronic version]. *International Urogynecology Journal and Pelvic Floor Dysfunction*, 11(2):79-83.
- Robinson, P., & Beattie, P. (2002). Perineal anatomy and episiotomy. Are episiotomies and repairs being performed correctly in NZ hospitals [Letter to the editor of the NZ Medical Journal]? *Midwifery News*, NZCOM, 25, 26.
- Royal College of Midwives. (2005). *Evidence based guidelines for midwifery-led care in labour*. Midwifery practice guideline. London: Royal College of Midwives.
- Royal College of Obstetricians and Gynecologists (RCOG). (2004). *Methods and materials used in perineal repair, guideline no.23*. London: RCOG.
- Royal College of Obstetricians and Gynecologists (RCOG). (2007). *Management of third and fourth degree perineal tears used in perineal repair, guideline no.29*. London: Royal College of Obstetricians and Gynecologists.
- Smallbridge, J. (2003). *Tear repairs: broadening an educational initiative* [Electronic version]. O&G, 5(4), 273-275.
- Soh (2004). Lower Genital Tract Trauma Report. In *Women's Health Division Annual Clinical Report 2004* [Electronic version]. Christchurch Women's Hospital. Canterbury District Health Board.
- Statistics New Zealand. (2008). *National Ethnic Population Projections: 2006 (base) – 2026* – Media Release. Retrieved June 1, 2009, from <http://www.stats.govt.nz/products-and-services/media-releases/national-ethnic-population-projections/national-ethnic-population-projections-2006-base-mr.htm>
- Statistics New Zealand. (2009). *Births and deaths, March 2009 quarter*. Retrieved June 1, 2009, from <http://www.stats.govt.nz/products-and-services/hot-off-the-press/births-and-deaths/births-and-deaths-mar09qtr-hotp.htm>
- Steen, M. (2007). Perineal tears and episiotomy: how do wounds heal. *British Journal of Midwifery*, 15 (5), 273-280.
- Sultan, AH. (1999) Editorial: obstetric perineal injury and anal incontinence. *Clinical Risk*, 5, 178-80.
- Sultan, AH., Kamm, M., & Hudson, C. (1995). Obstetric perineal trauma: An audit of training [Electronic version]. *Journal of Obstetrics and Gynaecology*, 15, 19-23.
- Symon A., Winter C., Inkster M., Donnan PT. (2009). Outcomes for births booked under an independent midwife and births in NHS maternity units: matched comparison study [Electronic version]. *BMJ*, 11, 338.
- Tohill, S., & Metcalfe, A. (2005). Perineal tear assessment and the development of the Peri-Rule. In G. Henderson & D. Bick. D (Eds.), *Perineal Care: an International issue*. London: Quay Books.
- Ullman, R., Yiannouzis, C., & Gomme, C. (2004) Testing a tool to assess perineal trauma. *British Journal of Midwifery*, 12(2), 93 - 100.
- Walsh, D. (2007). *Evidence-based care for normal labour and birth. A guide for midwives*. London: Routledge.
- Wickham, S. (2000). Perineal pampering -before, during and after birth. *MIDIRS Midwifery Digest*. 11(1), S23-S27.
- Williams, M., & Chames, M. (2006). Risk factors for the breakdown of perineal laceration repair after delivery [Electronic version]. *American Journal of Obstetrics and Gynecology*, 195(3), 755-759.
- Williams, A., Herron-Marx, S., & Carolyn, H. (2007). The prevalence of enduring postnatal perineal morbidity and its relationship to perineal trauma. *Midwifery*, 23(4), 392-403.
- Yates, A. (2002). *A Report by the Health and Disability Commissioner (Case 99/10489)*. Health and Disability Commissioner [Electronic version]. Health and Disability Commissioner.

Accepted for publication August 2009

Cronin, R., Maude, R., (2009) To suture or not to suture second degree perineal lacerations: What informs this decision? New Zealand College of Midwives Journal 41, 29-35.

<h2 style="color: white;">Breastfeeding: <i>A lifetime investment</i></h2> <p>I-day conference with 4 international speakers Thomas Hale (USA), Kerstin Hedberg Nyqvist (Sweden), Magda Sachs (UK), Lisa Amir (Australia).</p> <p>Christchurch 14 May Auckland 15 May</p> <p>5.75 L and .75 R CERPS Approval No. C21000</p> 	<h2 style="color: white;">KEEPING BIRTH NORMAL & GRIEF AND LOSS: THE CRYING TIME</h2> <p>Two I-day Workshops for midwives and other health professionals with experienced midwives Hannah Dahlen and Shea Caplice.</p> <p>Christchurch 15-16 June Auckland 18-19 June</p>	<h2 style="color: white;">Breastfeeding Update and Ethics in Lactation Practice</h2> <p>with Carol Bartle</p> <p>Dunedin 12-13 June Wellington 14-15 October Auckland 16-17 October</p> <p>CERPS application will be submitted to IBLCE as usual. The NZ Midwifery Council has approved the program as a Professional Activity and participants are entitled to 5 points.</p>
<div style="display: flex; justify-content: space-between; align-items: center;"> <div> <h3 style="color: red;">CAPERS 2010 events in New Zealand</h3> <p>Registration and further details will be on our website. Subscribe to eNews for special offers and updates on new items and events.</p> </div> <div style="text-align: center;">  <h2 style="color: green;">CAPERS bookstore</h2> <p>www.capersbookstore.com.au</p> </div> <div> <p>Tel +61 3 9318 0151 Fax +61 3 9318 0158 office@capersbookstore.com.au</p> </div> </div>		

BOOK REVIEWS

Fetal monitoring in practice.

3rd Edition. (2008)

Authors: Donald Gibb and
Sabaratnam Arulkumaran

- Publisher: Elsevier: London
- ISBN: 978-0-443-10004-8

Reviewed by: Robyn Maude,
Midwife Leader and Midwifery
Lecturer. PhD candidate, MA
(midwifery), BN, RM, RN

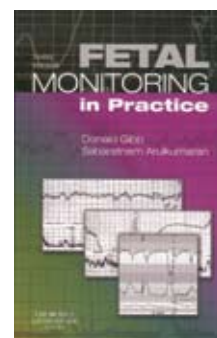
This great little fetal monitoring primer, first published in 1992, updated in 1997 and now again in 2008, at 232 pages in length is a must read for all involved in intrapartum care. The book has an unbelievable 174 references (40 more than the previous book)

however only 25 of the total references are from the year 2000 on. It is easy to read and simple to use, if not occasionally medically biased language ("obstetric cases are unique in that they are not sick"). Although it is focused on hospital based care and electronic fetal monitoring there are examples of a 'back to basics' approach from these two obstetricians. Throughout the writing are pearls of wisdom in bold text that we should heed such as, "Abdominal examination is performed before vaginal examination" and "Always use the fetal stethoscope before applying the machine". There is a paragraph on admission test by auscultation introducing 'intelligent auscultation'. This notion was introduced to me by Professor Arulkumaran at a fetal monitoring conference in Newcastle in Feb. 2007 and is the focus of my PhD research.

This book provides the reader with a systematic description of the main features of fetal heart rate (FHR) monitoring in different contexts and supported

by plenty of examples of actual CTG strips. Although the main thrust of this book is in pattern recognition there is a section on control of the fetal heart (ch. 4) that introduces a physiological approach to interpretation of FHR findings. This approach is increasingly accepted as being a better-quality method for the interpretation of CTG's.

The authors conclude that electronic fetal monitoring is here to stay despite its many shortcomings (failure to interpret CTG traces, failure to incorporate the clinical picture, delay in taking action and poor communication and documentation standards). Better formal education in trace interpretation and ongoing research are needed as are using EFM appropriately, knowing its limitations, incorporating the clinical picture and using our common sense.



The Midwives' Guide

to Key Medical Conditions in Pregnancy and Birth (2008)

Authors: Linda Wylie and Helen Bryce

- Publisher: Churchill Livingstone
ELSEVIER USA
- ISBN: 978-0-443-10387-2

Reviewed by: Rachael Lumsden,

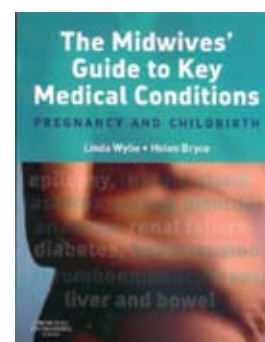
Registered midwife (ADHB). BHSc
Midwifery; Diploma of Natural
Therapeutics, Diploma of Herbal
Medicine; Certificate in Natural
Fertility Management

The Midwives' Guide to Key Medical Conditions is an excellent resource for understanding the most commonly encountered high risk conditions in pregnancy. The information is easy to read and presented in a clear succinct format. Contents include hypertensive disorders, cardiac conditions, thromboembolic disorders, anaemias and haemoglobinopathies, asthma, renal disorders, epilepsy and other neurological disorders, diabetes mellitus, thyroid disorders, eating disorders and disorders of the gastrointestinal system.

This book has an impressive layout with each of the major conditions explored in a succinct format which is typically followed throughout the book. Each chapter begins with an extensive overview of relevant anatomy and physiology including useful diagrams and illustrations. The discussion through each chapter largely covers pathophysiology while incorporating midwifery

management, however in most cases the whole midwifery scope is considered including postnatal care and a comment on neonatal outcomes and breastfeeding. The text also includes some pharmacological management, outlining the mechanism of action, which further enhances the understanding of the relevant condition. Recent references are used to support the discussion throughout the book.

I would thoroughly recommend this book to all midwives, particularly student midwives and those working in high risk settings. This is an invaluable resource offering understanding of typical high risk conditions in modern day midwifery.





NEW ZEALAND COLLEGE OF
MIDWIVES (INC) JOURNAL

Guidelines for Contributors to the New Zealand College of Midwives Journal

The NZCOM Journal is published in April and October each year. It focuses on midwifery issues and has a readership of midwives and other people involved in pregnancy and childbearing, both in New Zealand and overseas. The Journal welcomes original articles, which have not previously been published in any form. In general, articles should be between 500–4000 words.

FORMAT

Articles should be written with double spacing and a left margin of 3 cm. Authors should use section headings and label any diagrams or tables which are included. Diagrams, tables or photographs should be supplied as computer generated items. The word count for the article should be stated. Articles should be supplied as an electronic copy in a WORD document or RTF file. All articles should have an abstract of 100 words maximum.

In addition, authors are requested to provide the following details on a separate file which is not sent to the reviewers. Name, occupation (current area of practice/expertise), qualifications, address for correspondence during the review process including day time phone number, contact details such as email address which can be published if the journal accepts the article. Where the article is co-authored, these details should be provided for all authors. ALL authors of the article should state in an accompanying letter that they wish to submit it for publication.

SUBMISSION

Articles should be submitted electronically via email to joan.skinner@vuw.ac.nz

CONTENT

Any article, which reports a piece of research, needs to note the processes undertaken for ethical approval.

REFERENCES

Authors are responsible for providing accurate and complete references. The Journal uses the American Psychological Association (APA) format. Some details of this format are available on the APA website at www.apastyle.org. The 5th edition of the APA Publication Manual was published in 2001. In the text, authors' names are followed by the date of publication such as "Bain (1999) noted" or "this was an issue in Irish midwifery practice (Mary, 2000)". Where there are three or more authors, all the names should appear in the first citation such as "(Stoddart, Mews, Neill and Finn, 2001)" and then the abbreviation "(Stoddart et al., 2000)" can be used. Where there are more than 6 authors then "et al." can be used throughout.

The reference list at the end of the article should contain a complete alphabetical list of all citations in the article. It is the responsibility of the author

to ensure that the reference list is complete.

A comprehensive range of examples are provided on the APA website. Two examples are included here.

Journal article

Pairman, S. (1999). Partnership revisited: Towards a midwifery theory. *New Zealand College of Midwives Journal*, 21 (4), 6–12.

Book

Page, L. (Ed.). (2000). *The new midwifery*. London: Churchill Livingstone.

COPYRIGHT

It is the responsibility of authors to ensure that any necessary permission is sought for copyright material. This relates to articles, which include substantial quotations, diagrams, artwork and other items, which are owned by other authors. Further details and examples are included in the APA Publication Manual. Written evidence of copyright permission must be sent to the journal if the article is accepted for publication. Please contact the Editor if you wish to have clarification of copyright material.

REVIEW PROCESS

All articles are sent out for external review by two reviewers who have expertise relevant to the article content. In addition, the Editor acts as a reviewer and collates feedback from the two external reviewers.



LAKES DISTRICT HEALTH BOARD
ROTORUA AND TAUPO HOSPITALS



We currently have
Midwifery positions
available. Please
visit our website for
further details.

Lifestyle Balanced with Professional Excellence!

www.lakesdhb.govt.nz
E: vacancy@lakesdhb.govt.nz T: 07 349 7855

Join us in being first to
see the light



GISBORNE IS CALLING ALL MIDWIVES!!!

Are you looking for a change of pace?
We are actively recruiting in order to bring our maternity team numbers up to full strength. Whether it be a full-time, part-time, permanent or fixed term position you are interested in, we would welcome an enquiry from you!

Our Region
With golden beaches, warm temperatures and a vibrant local economy developed largely around wineries, agriculture and tourism, Gisborne is one of New Zealand's fastest growing districts. It's little wonder that Tairāwhiti District Health is the work destination of choice for many health professionals.

Our Service
There are about 750 births per year in our culturally rich region. Our Maternity Unit boasts a relaxed atmosphere, friendly staff and, with five birthing suites and eight ante/post natal rooms, is well resourced to provide quality care. These suites/rooms are situated together so midwives work across all areas. You will be working in partnership with the women of Tairāwhiti and their families, alongside their LMCs. We provide primary and secondary care within a collegiate and supportive environment.

Our Support package
Relocation support is available and a comprehensive orientation package will be tailored to your needs.

For further information about this opportunity, please contact Anna Vita phone +64 6 869-0500 ext 8024, email anna.vita@tdh.org.nz or visit www.nzmidwives.com



Visit the TDH website www.tdh.org.nz for application details or contact the Human Resource Department on +64 6 869-0500 ext 8268

www.tdh.org.nz



**BABIES, BABIES
AND MORE
BABIES!**

Medacs Nursing can offer you casual shifts in both the public and private sectors in Auckland and national wide. Work as few or as many shifts as you would like each week.

- Excellent pay rates • Sign on bonus for October*
- Weekly incentive bonuses* • Paid sick leave*

Call our friendly team at Medacs Nursing today for more details. Alternatively, you can email your CV to the team.

*Conditions apply

P: (09) 630 8300
E: nurses@medacs.co.nz
www.medacs.co.nz

medacs
NURSING



**Need to book an
ultrasound scan?**

We scan for:

- Pregnancy
 - all trimesters
 - nuchal translucency
- Sports injuries
- Other medical conditions or problems

Call Cambridge Ultrasound for an appointment on 07 823 1090, or visit www.mskimaging.co.nz for a referral form

14 Dick St Cambridge
Email ultrasound@mskimaging.co.nz
Fax 07 823 1091

ACC accredited. No ACC surcharge.



4th Biennial Australasian
Midwifery Expo in
conjunction with the
12th Biennial National
Association of Childbirth
Educators (QLD Branch)
present:

Bump, Birth and Beyond: a road to discovery

20th - 22nd October 2010

Venue
Brisbane Convention and
Exhibition Centre

Call for Abstracts

Bump, Birth & Beyond: a road to discovery



CALL FOR ABSTRACTS

You present, we all discover!

- mother, baby and child,
- professionals and peers,
- support staff,
- partners and others.

Discovery starts with one-self. You are invited to present and share the discovery process! All with a shared goal of midwifery and childbirth education excellence are welcome!

Come, and be a part of the body of knowledge and on the road to discovery with the next Expo/Conference in October 2010.

Forward your abstracts to us at C&N project people:

PO Box 82, Seacliff Park 5049

Email: cnprojectpeople@hotmail.com

Phone: 08 82988279 **Mobile:** 0415 256 130

For further information about the Expo, please visit our website
www.cnprojectpeople.com.au

Confirmation of receipt of your abstract will be made by return mail. Please note that acceptance of papers, posters and workshops are contingent on registration for the Expo.

Due date for abstracts - 30th November 2009. Maximum length 350 words.



**Midwives, Allied
Health Professionals,
Academics Management
Staff, Researchers and
Student Midwives**

Platinum Sponsor



For excellence in midwifery education.

Want to develop your knowledge and practice further in 2010?

Our flexible, practice-focused programmes and courses are specially designed to meet the needs of midwives and the requirements of the Midwifery Council of New Zealand.

We offer the following seven-week postgraduate online papers – all with a strong clinical focus:

February to April

- Nutrition for the Childbearing Woman
- Evidence Based Practice (1)

May to June

- Diabetes in Pregnancy
- Evidence Based Practice (2)

July to September

- Clinical Topic: Promoting normal birth
- Preceptorship for Midwives

September to November

- Special Topic: Medicalisation
- Hypertension in Pregnancy

We also offer courses for midwives registering in New Zealand from overseas.



OTAGO
POLYTECHNIC
Te Kura Matatini ki Otago

0800 762 786

www.otagopolytechnic.ac.nz