meet these professional expectations is education. Education can assist midwives to understand the lessons of the past, to articulate their scope of practice and philosophy, and to gain the knowledge and skills necessary for practice in today's context. Midwives today must understand the meaning of autonomy and responsibility and partnership with women as these are defining characteristics of the New Zealand midwifery profession in 2005. Education is a key strategy for the survival of the profession.

References

Clark, H. (1990). Opening address. Proceedings of the New Zealand College of Midwives National Conference – Women in Partnership, Dunedin, August, 17-20.

Donley, J. (1986). Save the midwife. Auckland: New Women's Press.

Hill, A. (1982). The history of midwifery from 1840 to 1979, with a specific reference to the training and education of the student midwife. Unpublished MA thesis, University of Auckland.

Kennedy, S., & Taylor, A. (1987). An evaluation of Advanced Diploma in Nursing courses. Wellington: Department of Education.

Ministers of Health, Education and Women's Affairs. (1987). Press release: Changes to midwife training 7/12/87.

National Midwives Section. (1984). Report of the working party looking into education for the role, scope and sphere of practice for the midwife in New Zealand. Wellington: NZNA.

National Midwives Section. (1987). Minutes of Annual General Meeting 23/9/87. unpublished.

New Zealand College of Midwives. (1990). Direct entry midwifery update. *Newsletter*, 2, (5), February, 11.

New Zealand Nurses Association. (1981). *Policy statement on maternal and infant nursing*. Wellington: Author.

New Zealand Nurses Association. (1984). Nursing education in New Zealand. A review and a statement of policy. Wellington: Author.

New Zealand Nurses Association. (1987). An evaluation of the Advanced Diploma in Nursing courses (Department of Education). What is to be done? NZNA comments on the report. Unpublished paper.

New Zealand Nurses' Association. (1989). *Midwifery Policy Statement*. Wellington: Author.

Pairman, S. (2002). Towards self-determination: the separation of the midwifery and nursing professions in New Zealand. In E. Papps (Ed.). Nursing in New Zealand. Critical issues; Different perspectives. Auckland: Pearson Education New Zealand Ltd.

Papps, E. (1997). Knowledge, Power and Nursing Education in New Zealand. A Critical Analysis of the Construction of the Nursing Identity. Unpublished Doctoral Thesis, University of Otago: Dunedin, New Zealand.

Strid, J. (1987). Maternity in revolt, Broadsheet, 153, 14-17.

Strid, J. (1991). The need for ongoing discussion and debate. Maternity Action and Save the Midwives Newsletter, 26, Autumn, 1.

Tully E. (1999). Doing professionalism differently: negotiating midwifery autonomy in Aotearoa/New Zealand. Unpublished doctoral thesis, University of Canterbury: Christchurch, New Zealand.

Accepted for publication: June 2005

Pairman, S. (2006). From autonomy and back again: educating midwives across a century. Part 2. New Zealand College of Midwives Journal, 34, 11-15.

NEW ZEALAND RESEARCH

Increasing levels of unease about rising

birth intervention rates in western

societies have led to proposals for

alternative ways that maternity care

might be provided, in the hope of

protecting and promoting normal birth.

Research presented in this paper was

undertaken in response to one such

proposal: a community-led initiative to

establish a freestanding birth centre in

Wellington. A birth centre was seen as

a way of offering a community focused,

normal birth environment for healthy

women, who currently have no choice

other than an obstetric unit birth

or a birth at home.

Promoting normal birth: a case for birth centres

Joan Skinner RM MA(Applied) PhD Midwifery Lecturer, Normal Birth Research Unit Graduate School of Nursing and Midwifery Victoria University of Wellington, Wellington

Contact for correspondence: joan.skinner@vuw.ac.nz

Sue Lennox RM MA (Applied) PhD (Cand) Lennox Midwifery Consultancy 12 Konini Street, Eastbourne, Wellington

Contact for correspondence: sue.lennox@xtra.co.nz

Abstract

Interest in birth centres has arisen in response to consumer pressure for a birth centre in Wellington. Recent literature supports claims that birth centres reduce intervention in labour. The twentieth century in New Zealand saw women move from home to hospital to give birth. This transition for many entailed giving birth in small maternity homes. A strategy is proposed encouraging the use and development of primary units and reversing the recent trend to deliver in secondary and tertiary units. There are three areas requiring attention: working for policy changes, involving the com-

munity and supporting midwives to use primary birthing facilities.

Introduction

Increasing levels of unease about rising birth intervention rates in western societies have led to proposals for alternative ways that maternity care might be provided, in the hope of protecting and promoting normal birth. Research presented in this paper was undertaken in response to one such proposal: a community-led initiative to establish a freestanding birth centre in Wellington. A birth centre was seen as a way of offering a community focused, normal birth

environment for healthy women, who currently have no choice other than an obstetric unit birth or a birth at home.

This article begins with a brief introduction to the history of primary birthing services in New Zealand and then describes where New Zealand women are currently giving birth. It then provides a review of the international literature regarding the outcomes of birth centre care. Using the Wellington region as example, it presents some of the challenges associated with promoting existing primary birthing services, or in establishing new ones. We conclude by proposing ways that midwives might become proactive in the promotion and use of primary birth units or birth centres.

The choice of place of birth

During the 20th century there was a radical shift in the place of birth. This shift was consistent through most of the western world. In New Zealand, for example, according to Mein-Smith (1986) only 35% of births in the 1920s occurred in hospital, and by 1935 the number of hospital births had risen to 78%. Mein-Smith suggests two reasons for this increase in hospitalisation.

Hospital births elevated the status of midwifery within the medical profession. This in turn reinforced the trend towards hospitalisation. Certain forms of meddlesome midwifery!, namely Caesarean section and painless childbirth, became fashionable with both the medical profession and the public in the period from 1920 to 1939. (p.69)

The changes were also based on new understandings about science and safety. As a nurse in the 1960s' in Wellington, Stojanovic (2002) describes the prevailing attitudes of those times:

I had a perception fostered by my eductors, of childbirth prior to medical control and hospitalisation as a wilderness where 'Sairey Gamp' type midwives harmed women with their lack of knowledge, negligence and lack of cleanliness. The view that many women had died because they were not in hospital and did

not have access to hospital was common among the midwives and nurses at the time. (p. 13)

In New Zealand, the shift from birth at home to birth in obstetric units was interspersed with a period during which birth commonly occurred in

continued over...

Promoting normal birth: a case for birth centres

small maternity homes, hundreds of which were spread through New Zealand towns and cities. Despite the importance of these maternity homes in the childbearing experiences of thousands of New Zealand women, their history has not been thoroughly investigated or recorded. Many of these homes were privately owned and run by midwives (Wood & Skinner, 2004). They could be seen as the precursors of today's freestanding birth centres. Prior to the 1960s many women gave birth in such units. At this stage there were fewer specialist obstetricians and paediatricians than at present, and cooperative working arrangements existed between general practitioners and their obstetric colleagues about the requirements for referral (Rosenblatt, 1984).

By the 1960s however, only 25% of women gave birth to their babies in these primary units and in the two decades that followed all the private maternity homes had closed, along with 33 small public maternity hospitals. Twenty nine of these were in rural areas, representing 30% of all rural hospitals (Rosenblatt, 1984). There were many causes for this shift which included increasing urbanisation, a rise in medical technology and an increased number of specialist obstetricians and paediatricians.

By the 1980s there was an even greater push for centralised maternity care. The Auckland Hospital Board's 1984 Strategic Plan, for example, stated that its objective was "[...] to ensure that all births can occur in obstetric units with specialist obstetric and paediatric services and the necessary supporting facilities" (Auckland Hospital Board, Draft Strategic Plan, 1984, cited in Donley, 1986, p.110). This argument for centralisation was also based on a statement that, as women were willing to travel 30 miles for shopping they should not expect to stay in their own areas for giving birth! In relation to the issue of safety however, the Rosenblatt Report (Rosenblatt, 1984) claimed that:

[...] there is a very strong relationship between the size and level of sophistication of maternity units in New Zealand, and the hospital-specific perintal mortality. Small, peripheral units have very few perinatal deaths and very low perinatal mortality rates; perinatal mortality rates rise linearly with the size and complexity of the hospital. (p.113)

Tew (1985) also challenged the assumption that primary birth units were unsafe. Nevertheless the closure of primary birth environments continued unabated.

What the research says about birth centre outcomes

With increasing intervention rates, the focus of the

debate has returned to investigate whether there are fewer interventions when care is provided in these woman-centred, home-like environments. There is no doubt that women show improved levels of satisfaction when care is provided in a birth centre (Stewart, McCandish, Henderson & Brocklehurst, 2004). There are three key pieces of recent work related to birth centre outcome, which are important to consider when investigating birth centre care. These studies are systematic reviews that have sourced and critiqued the results of most of the birth centre studies conducted internationally.

The first to consider is the systematic review prepared for the Cochrane Collaboration by Hodnett, Downe, Edwards and Walsh (2005). This review identified six randomised controlled trials (RCTs), which evaluated the effects of care in home-like birth centre settings compared with care in a conventional labour ward. These RCTs were undertaken in the United Kingdom, the United States, Sweden, Scotland and Australia. The birth settings were all situated either in, or alongside hospitals. There were no RCTs found that were conducted in free-standing birth centres. The review concluded that the benefits of delivering in a home-like setting were consistent. There were lower rates of epidural anaesthesia, and an increased incidence of spontaneous birth. This review also suggested the possibility of an increase in perinatal mortality although this did not reach statistical significance. The authors concluded that "policies and practices must address the dual challenge of supporting an orientation towards normality concurrently with vigilance in detecting and prompt intervention in the presence of abnormality" (Hodnett et al., 2005, p.6). They recommended that further clinical trials be conducted, alongside qualitative studies, examining the impact of transfer and the decision-making processes leading to intervention.

The second study is a structured review of freestanding birth centre outcomes and was conducted by two of the same reviewers who undertook the systematic review cited above (Walsh & Downe, 2004). They assessed five controlled, but not randomised, studies. There was a mixture of retrospective and prospective studies in their review. Although there were concerns expressed about the quality and heterogeneity of the studies, every study that they examined reported benefits of birth centre care, thus challenging the use of secondary and tertiary units for low-risk women. There were definitional difficulties between the studies about what a 'normal' vaginal delivery was (some included augmentation and epidural), so they recommended that future studies needed to differentiate between these types of births.

They supported the contention however, that although quality research was lacking and that the current research results could not be generalised, that birth centres should be considered safe unless proved harmful and that there was no evidence to reject them on the grounds of potential adverse outcomes.

The third piece of research to present is a structured review of birth centre outcomes, undertaken recently in the United Kingdom (Stewart et al., 2004). This comprehensive report looked at clinical, psychosocial and economic outcomes for women with straightforward pregnancies who planned birth centre care. The reviewers concluded that the research into birth centre care was in general of poor quality, and that although women clearly supported birth centre care, there was no reliable evidence either about benefit or harm. The reviewers recommended that perinatal mortality must be monitored by effective clinical surveillance and management. None of the studies used a robust design which could demonstrate causality (well-conducted RCTs) nor are they large enough to give confidence in their findings. What has tended to happen is an over-interpretation of the meaning of the data. This debate has been ongoing in the recent literature (see Fahy & Colyvas, 2005; Gottvall, Gruneweald & Waldenstrom, 2004).

It would appear that despite the findings that suggest improved outcomes for birth centre care in descriptive and randomised controlled studies, further research is required in order to provide definitive evidence. In New Zealand we are now starting to see the emergence of midwifery research looking at midwifery and birth outcomes in the primary birth environment (Barlow, Hunter, Conroy & Lennan, 2004; Hendry, 2003; Hunter, 2003; Stojanovic, 2003). A large scale multi-centre study needs to be conducted and New Zealand is in an excellent position to participate in such a study.

Where do NZ women currently give birth to their babies?

In 2002, 16% of New Zealand births occurred in primary birth facilities. Forty percent of births occurred in secondary hospitals and 44% occurred in one of the five large tertiary hospitals (New Zealand Health Information Service, 2004)². There are a considerable number of women with uncomplicated pregnancies being cared for by midwives in facilities that have complex maternity care as a key part of their focus. Many of these women may be better served in a primary unit.

New Zealand's primary birth facilities are predominantly rural. Only 10 of the 65 primary birth units could be described as urban, and six of these are situated at the edges of large cities, at some distance from an obstetric unit. These facilities, as they exist in New Zealand, in the main provide a local birth place for women who live at a distance from obstetric units, rather than to provide an alternative birth environment. There are some exceptions to this, including such places as River Ridge Birthing Centre in Hamilton and Birth Care, Auckland. The facilities are also quite diverse in the way they are owned and funded, and in the services they provide. They are called by a variety of names: primary facilities, birthing centres, birth units, health centres, maternity hospitals and community hospitals (New Zealand Health Information Service, 2004). Stewart et al. (2004) recommended a consistent definition for birth facilities.

A birth centre is an institution that offers care to women with a straightforward pregnancy and where midwives take primary professional responsibility for care. During labour and birth medical services including obstetric, neonatal and anaesthetic care are available should they be needed, but they may be on a separate site, or in a separate building, which may involve transfer by car or ambulance. (p.8)

Renaming our primary birth facilities as birth centres may go some way in achieving clarity of purpose and definition.

Another aspect of maternity care in New Zealand to be considered is that many midwives provide care across all spectra of the maternity service. Midwives can cross birthplace boundaries. They can provide care at home, in primary birthing units and in secondary and tertiary facilities. Where there is a change in the planned place of delivery, usually from a primary unit to a secondary service, midwives can follow the woman and continue to provide care. One New Zealand study has revealed that midwives who lived more than 20kms from an obstetric unit (those most likely to be using primary birth facilities), continued to provide midwifery care for 73% of women whose clinical responsibility for care had been transferred to an obstetrician (Skinner, 2005). Midwifery care in New Zealand then has had a strong focus on continuity of carer. Being 'with women' is valued. What needs to become valued now is being 'with women' in an appropriate birth place.

The Wellington situation

The Wellington situation exemplifies this challenge and the maternity services provided in the Wellington region reflect the difficulty associated with making a case for a birth centre. The Wellington region has both a secondary and a tertiary maternity service operated by separate District Health Boards (DHBs). The Hutt Valley District

Health Board (HVDHB) serves a population of 138,000. It has a secondary maternity facility but no primary birth facility. The Wellington DHB (Capital and Coast DHB) has the region's tertiary unit but also operates two primary units, one in the Porirua basin (Kenepuru) and one on the Kapiti coast (Paraparaumu). Within the tertiary hospital there are also two labour and birth rooms designed to offer a 'home like' atmosphere for low risk women. In a sense these rooms might be regarded as an 'in hospital' birth centre. One of the most significant factors about the region's two primary facilities is that they are considerably underutilised and are therefore expensive to maintain. The number of births in these units is also showing a steady decline (See Table 1).

It would appear then, that women are not given enough opportunity to give birth in primary birth units, and that where they are, many do not avail themselves of this choice. This then poses a particular problem for any group wishing to set up a birth centre in the region, as there is at present clearly little demand for one. If a community wishes to set up birth units in urban areas they are faced with some real barriers, the most problematic of which is getting access to ongoing financial support from the DHBs, in the form of a facility fee. Despite strong community protest, the Hutt DHB closed its last remaining primary birth facility in 1989, based on claims that it was expensive and underutilised. The Wellington DHB continues to provide primary

| Table 1 – Place of delivery in C&CDHB (numbers of mothers) | | | | | | | |
|--|------|------|------|------|------|------|------|
| Name of Facility | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
| Wellington | 3064 | 3329 | 3301 | 3389 | 3293 | 3305 | 3541 |
| Kenepuru | 320 | 370 | 342 | 334 | 352 | 277 | 263 |
| Paraparaumu | 120 | 135 | 107 | 111 | 125 | 106 | 99 |
| TOTAL | 3504 | 3834 | 3750 | 3834 | 3770 | 3688 | 3903 |

(Source: K Fisher, C&CDHB, Personal Communication)

The Paraparaumu maternity unit is situated in the Kapiti Coast area, about 50 kilometres from Wellington and serves a population of 42,000. The unit has one delivery bed and although it could theoretically be used for 300 births a year it actually does only 1/3 of this number. Only 20% of women who are pregnant in the area give birth at the unit. It is currently used principally as a postnatal ward for women who are transferred to it after having given birth at the tertiary hospital. Ironically labouring women who wish to give birth there are sometimes diverted to the tertiary unit, because there are no postnatal beds for them.

The Kenepuru birth facility is situated about 20 kilometres from the tertiary hospital and serves a population of 50,000. It has two birth rooms and 4 postnatal beds so, as in the case of the Paraparaumu unit, is also significantly underutilised. It too functions largely as a postnatal service for women transferred after having given birth at Wellington hospital. Neither unit is financially self-sufficient and thus are heavily subsidised from other DHB funding sources. The two birth rooms situated within the tertiary unit itself are also similarly under-utilised and can be used as a 'nice place to be' before moving rooms for the planned epidural.

birth facilities, which are also underutilised. It seems unlikely that, without a clear policy change, any DHB would release funding for a service for which there was little exhibited demand, and at the expense of its already underutilised primary birth facilities.

Reinvigorating primary units and midwifery

Given the concern for rising rates of unnecessary intervention, and the evidence that giving birth out of obstetric units is likely to reduce the incidence of these interventions, it is worthwhile to attempt to promote increased utilisation of primary birth facilities. Reversing the current pattern of overuse of secondary and tertiary maternity facilities and promoting the use of primary units is an exciting and challenging prospect.

In the Wellington area there are a number of possibilities to be considered which may be of interest to others wishing to encourage the use of existing primary birth facilities or the opening of new ones. There are three areas that require attention: working for policy change, involving the community, and supporting midwives to provide care away from obstetric units.

continued over...

continued...

Promoting normal birth: a case for birth centres

Working for policy change

- Developing a national strategy to promote birth in primary birth centres.
- Working to put normal birth and primary birth centres on the policy agenda for local DHBs, and at a national level. Participating in any local meetings where the provision of maternity services is being discussed.
- Becoming actively involved with the running of existing birthing units. Reviewing admission criteria and transfer policies. Proposing that there is a name change of any local primary birth facility to 'birth centre'.

Involving the community

- Working in partnership with existing consumer groups or community representatives in the planning for and implementation of new and existing primary birth centres.
- Putting 'Place of Birth' on the agenda at all antenatal classes. Women need to become aware that the place where they choose to give birth to their babies, has implications for birth outcome.
- Each existing or proposed primary birth centre should have an advisory group of community members, with direct input into policy and promotion. The community needs to own 'its' centre.
- Get the community into the birth centresantenatal visits, antenatal classes, new mothers support groups, information centres, centre support workers and any other forum that might be appropriate.

Supporting midwives to use the centres

- Developing a mentoring or 'buddying' process, whereby those midwives comfortable using primary birth centres offer to work alongside midwives who have not been using them.
- Holding skills workshops at existing primary facilities, focusing on competencies required to work away from obstetric units, including how to provide informed choice for women regarding place of birth.
- Implications about place of birth could be discussed at the annual practice review of midwives' standards of practice and in the training of midwifery and consumer reviewers.

This article is arguing for a rethink about the place of birth for healthy pregnant women. Although women are free, within the boundaries of their level of complexity, to choose the place of delivery, questions must be asked about the part played by the midwife in this decision. Shifting the attitudes of women and midwives will require a concerted effort at a variety of levels. Midwives' perceptions of managing risk outside secondary or tertiary hospitals have been explored in New Zealand by Hunter (2003). She showed that midwives felt

they practised differently in the different contexts. In small units they felt they could practice 'real midwifery' but when they worked in the bigger obstetric units they felt pressured to watch the clock, to control the noise and use technology. There are challenges for midwives then across the spectrum of care.

These ideas regarding the choice of place of birth are in keeping with the New Zealand College of Midwives' recent innovation to increase normal birth rates. This NZCOM project focuses on collecting evidence for best practice at critical decision points of the pregnancy, birth and the postpartum period. The first of these decision points is choosing the place of birth. This project holds the promise that midwives will be reassured and encouraged to reduce intervention rates and that women will have the confidence to trust the evidence, their bodies and their midwives. We would like to suggest 10 steps to hasten the change to an appropriate place of birth for all women.

- Personal action by midwives in changing their own and others' attitudes.
- 2. Working closely with consumer groups.
- 3. Accurate information for women in order to offer them real choice.
- 4. Supporting existing primary maternity centres.
- 5. Making use of the places in hospitals currently designed for uncomplicated births.
- 6. Buddying midwives, especially the new ones, who are unfamiliar with supporting birth out of secondary and tertiary settings.
- 7. Creating a demand by putting normal birth in primary units on your agenda.
- 8. Creating or being part of an activity in your region to reduce intervention.
- Research is needed in order that accurate and useful data is collected and analysed. New Zealand midwives need to collaborate in any international birth centre research.
- Support the NZCOM "Keeping Birth Normal" initiative which is happening through the local branches of the NZCOM.

Birth centre research suggests that there is an increased chance of a woman achieving a birth without intervention, if she plans to give birth away from secondary or tertiary maternity hospitals. There is a growing understanding both about the importance of the birth environment, and of the implications of the attitudes of women and midwives towards birth. However there remains a lag in changing practice. It would seem a worthwhile project to attempt to encourage both midwives and women to look at the evidence and reassess the appropriateness of the place of birth.

Accepted for publication: January 2006

Skinner, J. & Lennox, S. (2006). Promoting normal birth: A case for birth centres. New Zealand College of Midwives Journal, 34, 15-18.

References

- 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, 31, 7-12.
- Donley, J. (1986). *Save the midwife*. Auckland, New Zealand: New Women's Press.
- Fahy, K., & Colyvas, K. (2005). Safety of the Stockholm birth center study: A critical review. *Birth*, 32 (2), 145-150.
- Gottvall, K., Grunewald, C., & Waldenstrom, U. (2004). Safety of birth centre care: Perinatal mortality over a 10year period. British Journal of Obstetrics and Gynaecology, 111, 71-78.
- Hendry, C. (2003). The organisation of maternity services by midwives in rural localities within the South Island of New Zealand. New Zealand College of Midwives Journal, 28(1), 20-24
- Hodnett, E. D., Downe, S., Edwards, N., & Walsh, D. (2005). Home-like versus conventional settings for birth. The Cochrane Database of Systematic Reviews, Issue 1. Art. No.:CD000012.pub2. DOI: 10.1002/14651858. CD000012.pub2.
- Hunter, M. (2003). Autonomy, clinical freedom and responsibility. In M. Kirkham (Ed.). Birth centres. A social model for maternity care (pp.239-248). Cheshire, England: Books for Midwives.
- Mein Smith, P. (1986). *Maternity in dispute: New Zealand* 1920-1939. Wellington: Historical Publications Branch Department of Internal Affairs.
- New Zealand Health Information Service. (2004). Report on maternity 2002. Maternal and newborn information. Wellington: Author.
- Rosenblatt, R. (1984). Regionalisation of obstetric and perinatal care in New Zealand -a health analysis. Washington, USA: University of Washington.
- Skinner, J. (2005). Risk and the midwife: A descriptive and interpretive examination of the referral for obstetric consultation practices and attitudes of New Zealand midwives. Unpublished doctoral thesis, Victoria University of Wellington, Wellington, NZ.
- Stewart, M., McCandish, R., Henderson, J., & Brocklehurst, P. (2004). Report of a structured review of birth centre outcomes. United Kingdom: Commissioned by The Maternity Research Group of the National Service Frame work for Children, Young People and Maternity Services.
- Stojanovic, J. (2002). Leaving your dignity at the door: Maternity in Wellington 1950-1970. Unpublished masters thesis, Victoria University of Wellington, Wellington, NZ.
- Stojanovic, J. (2003). Otaki Birthing Centre- He Whare Kohanga Ora. New Zealand College of Midwives Journal. 28(1), 24-26.
- Tew, M. (1985). Place of birth and perinatal mortality. Journal of the Royal College of General Practitioners, 35, 390-394.
- Walsh, D. & Downe, S. (2004). Outcomes of free-standing, midwifery-led birth centres: a structured review. *Birth*, 31(3), 222-229.
- Wood, P., & Skinner, J. (2004). A labour of love: 100 years of midwifery registration in New Zealand. Wellington: Exhibition at Archives New Zealand (co-curated with Alison Hadfield and Carly Hall) until October 2005. Retrieved January 9, 2006, from http://www.archives.govt. nz/exhibitions/currentexhibitions/midwifery/index.html.
- The term meddlesome midwifery is an historical term referring to unnecessary medical intervention.
- No home births are reported.

Copyright of New Zealand College of Midwives Journal is the property of New Zealand College of Midwives and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.