Midwifery Research Review™

Making Education Easy

Issue 3 – 2014

In this issue:

Abbreviations used in this issue
BMI = body mass index
CS = caesarean section
OR = odds ratio
RCT = randomised controlled trial

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Welcome to the third issue of Midwifery Research Review.

The review has a significant focus on women's experiences and views, outcomes of midwifery care and the nature of midwifery practice. The first article explores the finding of significantly fewer caesarean sections in women who were assigned a caseloading midwife compared with standard care in a large trial conducted in Melbourne. They found that there was a strong association between admission to hospital in early labour and caesarean section. The second study is a description of the vaginal birth after caesarean (VBAC) rates at Middlemore Hospital. VBAC seems to have become less common in recent years. This study demonstrates that many women could be eligible to confidently consider discussing VBAC as an option for their labour and birth. The next four studies explore women's experiences and feelings in labour and birth, feeling 'In control' during birth, midwives views of the effect of continuous midwifery presence during labour and birth and New Zealand tertiary students' perceptions of midwifery. Throughout these studies aspects of 'how' midwives practice to achieve the good outcomes are reported. A UK trial evaluating the implementation of evidence-based practice for second degree tears is also included, and another from South India assessing the effect of a specifically designed antenatal yoga programme on labour and birth outcomes. An Australian qualitative study exploring women's experiences of gestational diabetes is next and finally a Cochrane review of Midwifery-led care that provides evidence that midwifery-led care should be offered to most women.

Kind regards,

Jackie Gunn
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Influence of timing of admission in labour and management of labour on method of birth: results from a randomised controlled trial of caseload midwifery (COSMOS trial)

Authors: Davey M-A et al.

Summary: This Australian study explored the relationship between the degree to which labour is established on admission to hospital and the method of birth. 1532 women with no previous CS who were at low risk of pregnancy complications and who presented to hospital in spontaneous labour were included. They were randomised to caseload midwifery or to standard care and were assessed for timing of admission in labour, augmentation of labour and use of epidural analgesia. Nulliparous women randomised to standard care were more likely to have labour augmented than those having caseload care (54.2% vs 45.5%, p=0.008), but were no more likely to use epidural analgesia. They were admitted earlier in labour and spent 1.1 hours longer in hospital before the birth (p=0.003 vs caseload care). Parous women allocated to standard care were more likely to use epidural analgesia than those in the caseload arm (10.0% vs 5.3%, p=0.047), but were no more likely to have labour augmented. In nulliparous women, early admission to hospital was strongly associated with CS.

Comment: This study from Melbourne of women with uncomplicated pregnancies is a secondary analysis of the data from the COSMOS trial, which was an RCT that examined caseload midwifery and standard (fragmented) midwifery care in a tertiary maternity facility. The primary study found that the women who were randomised to caseload midwifery care had fewer caesarean sections. This secondary analysis was designed to explore what factors might be associated with the difference in the CS rate. It looked at timing of admission, augmentation of labour and use of epidural anaesthesia from the information collected in the original study. Then the researchers pooled the information for nulliparous women and adjusted the data to account for maternal age and BMI. The data were then examined for predictors for CS using multiple logistic regression analysis, a statistical tool that examines data taking multiple factors into account. The results showed that nulliparous women in the caseload group were admitted to the birthing suite later in labour. Women were 2.4 times more likely to have a CS if admitted before the cervix was 5cm dilated. The researchers conclude that remaining at home longer in early labour may be one of the reasons for the lower CS rate in that arm of the COSMOS trial. While 5cm dilation of the cervix may seem later than usually seen in many settings, continuity of care allows for midwives to assess early labour at a home visit. This trial is important because it is an RCT that shows a statistically significant association that begins to unpack the 'why' of the good outcomes of continuity of midwifery care that have been reported in multiple studies in recent years.

Reference: Midwifery 2013;29(12):1297-1302
Abstract

Independent commentary by Jackie Gunn, MA *Massey* BHSC Ng *C.Sturt* RGON RM

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Factors affecting vaginal birth after caesarean section at Middlemore Hospital, Auckland, New Zealand

Authors: van der Merwe A-M et al.

Summary: This NZ study determined factors associated with vaginal birth after caesarean section (VBAC) in women delivering at Middlemore Hospital. All women presenting to the hospital in 2008–2009 who had a previous CS and were deemed suitable for a trial of labour (TOL) were reviewed. 1543 women had one or more previous caesarean sections. Of these, 806 (52.2%) were deemed suitable for a TOL by an obstetrician and chose to have a VBAC (73% of them had a VBAC). 91% of women who had a previous VBAC delivered vaginally again compared with 64% of those without such a history (OR 3.69). The chances of another vaginal delivery increased with increasing parity. Variables that led to a failed VBAC included BMI ≥25 in women of single parity (OR 0.47), labour augmentation (OR 0.63) and epidural analgesia (OR 0.18). This information is useful for counselling women with a previous CS who are considering a VBAC.

Comment: This is a very timely descriptive study. In recent years maternity data from national and local sources have shown a decline in the rate of VBAC. The keys of course, are selection for 'suitability' and the 'trial of labour', unfortunate terms, but important concepts. It is not clinically reasonable for every woman who has had a CS to try for a VBAC. In this study only 52% of women met the criteria used at Middlemore Hospital for VBAC and self-selected to opt for a TOL. However, 73% of those women had a vaginal birth. A previous VBAC increased the likelihood of a second or subsequent VBAC. It is equally important to note the factors that led to a repeat CS so that timely review of the length of the 'trial' can be initiated. Women who meet clinical criteria for VBAC can be confidently supported in their choice. Of course, the frequency of assessment and rate of labour progress that constitutes the TOL is always subject to individualised planning in relation to the reason for previous CS. The obstetric team, the woman and the midwife should all be involved in the discussion and be aware of the agreed plan.

Reference: NZ Med J 2013;126:1383
Abstract

Factors associated with a positive birth experience: an exploration of Swedish women's experiences

Authors: Hildingsson I et al.

Summary: This Swedish study identified factors associated with a very positive birth experience. 1506 women were recruited at their ultrasound examination in mid-pregnancy in 2007. 928 of them responded to questions about their birth experience at 2 months postpartum, and 763 of them also completed the questionnaire 1 year after birth. More than a third of the women reported a very positive birth experience. Their assessment of birth changed over time with 22% of them becoming more positive and 15% becoming more negative. Factors associated with a very positive birth experience included positive feelings about the approaching birth, feeling in control, using no or only cognitive forms of pain management, and achieving a spontaneous vaginal birth. How the women rated their midwifery care was also shown to affect their assessment of their birth experience.

Comment: Most studies of women's perceptions of their labour and birth experiences have used qualitative methodologies, which provide very rich data, but usually a small sample of participants. Multiple smaller qualitative studies published in recent years have reached similar conclusions to this study about what contributes to women's perception of a positive birth experience. Together they build a picture not only of the factors that contribute to women perceiving their labour and birth as positive, but also identify and articulate the elements of midwifery care that facilitate positive experiences and good outcomes. This study is a large prospective longitudinal study that utilised self-administered questionnaires in pregnancy, and at 2 months and 1 year postpartum. It is meticulously reported and the whole article is very readable. The literature reviewed for the study is very concisely described and it is worth reading the article for this alone. It is very clear to the reader how the study was undertaken. All the participants and data are accounted for. The data were analysed to particularly identify the factors that contributed to a *very* positive perception of the experience in order to identify them. Women's confidence in themselves to labour and birth normally, and the statistically significant features of midwifery practice that support women to achieve and maintain that confidence are identified. For New Zealand midwives the practical expression of elements of the Midwifery Partnership philosophy will be very evident and may appear very 'everyday'. However, they are the heart of effective midwifery practice and must be actively practiced and shared with each other so that all midwives can articulate what it is that we do that facilitates the good outcomes and positive perceptions that are consistently demonstrated in this study and previous studies that support the findings reported here.

Reference: Int J Childbirth 2013;3(3):153-164
Abstract

Influence on birthing positions affects women's sense of control in second stage of labour

Authors: Nieuwenhuijze M et al.

Summary: This study investigated whether choices in birthing positions contribute to women's sense of control during birth. 1030 women (from 54 midwifery practices in The Netherlands) who gave birth were surveyed using a self-report questionnaire. Significant predictors for sense of control included influence on birthing positions, attendance of antenatal classes, feelings towards birth during pregnancy, and pain in second stage of labour. 204 women preferred a position other than supine birthing positions. For these women, having an influence on birthing positions in agreement with others had a greater effect on their sense of control than making the decision by themselves. In conclusion, women felt more in control during birth if they had an influence on birthing positions.

Comment: This is also a large descriptive study. It is included because it very clearly identifies that even at the level of assuming a position for birthing; women can feel more or less in control of their experience depending on their opportunity to make decisions for themselves or in discussion with their midwife. The attitudes and approach to midwifery care identified in this study mirror the Swedish study above. Keeping the woman at the centre of focus and negotiating the space in which midwifery care is provided, enables that very important feeling of control to pervade the whole of the woman's maternity experience. Again, in NZ, continuity of care and a known midwife facilitates the development of trust; nonetheless, these two studies provide some evidence that the approach to care that assists women to feel confident and in control of their labour and birth experience can also be achieved in core midwifery service.

Reference: Midwifery 2013;29(11):e107-e114
Abstract

Is a midwife's continuous presence during childbirth a matter of course? Midwives' experiences and thoughts about factors that may influence their continuous support of women during labour

Authors: Aune I et al.

Summary: This Norwegian study examined midwives' experiences of providing a continuous supportive presence in the delivery room during childbirth. In-depth interviews were conducted with ten midwives working in two different maternity wards. The midwives identified two important factors for building a relationship with the woman in labour: being mentally present and actively developing mutual trust. They felt that the midwife's first encounter with the woman was a key opportunity for establishing rapport during labour. Successfully providing a continuous presence during labour fostered the midwives' perception of themselves as a 'good midwife', but their workload sometimes made it difficult for them to provide it. The midwives felt inadequate if they had too little time available for the woman in labour.

Comment: In many respects this article is very sad. These midwives are seeking what is usually an everyday normality in NZ; one midwife caring for one woman at a time in labour. The strength of the study is the rich articulation of what continuous midwifery support in labour and birth is and how it can be achieved. In particular, the participants beautifully describe what engaged, active 'presence' is and how it makes a difference to the woman and her family. One participant described an element of the 'how' of presence like this, "One [the midwife] should be there full of oxytocin, not adrenaline". The article is very readable and resonates with findings in other studies and the elements of the NZ Midwifery Partnership philosophy of midwifery practice.

Reference: Midwifery 2014;30(1):89-95
Abstract

A midwife who knows me: women tertiary students' perceptions of midwifery

Authors: Newick L et al.

Summary: This study of young female university students explored their understanding of midwives and maternity care. 11 undergraduates provided their views in two small focus groups. Three themes were identified. Firstly, there was a perception of midwives providing a highly personalised and professional service. Secondly, the midwifery partnership model of practice was embedded in the women's understanding of the maternity system. Finally, storytelling from friends and relatives was found to be the main source of the young women's perceptions, and was considered a more trustworthy source of information than the media. Employing the power of personal storytelling could support and improve knowledge and understanding of midwifery and maternity services in NZ.

Comment: NZ College of Midwives members will be familiar with this study, published in the College Journal. It is included in this review because it rounds out the group of articles describing various viewpoints of maternity services and midwifery care. Given the level of fear of childbirth that appears to pervade some areas of NZ society, this is a timely study that provides findings with direct application to midwifery practice.

Reference: NZ Coll Midwives J 2013;47:5-9
Abstract

Changes in alcohol consumption in pregnant Australian women between 2007 and 2011

Authors: Cameron C et al.

Summary: This Australian study described 5-year trends in the prevalence and distribution of alcohol consumption during pregnancy. Alcohol consumption data were available for 2731 pregnant women enrolled from 2007–2011 in the Griffith Study of Population Health: Environments for Healthy Living, a birth cohort study conducted in south-east Queensland and north-east NSW. A decrease in alcohol consumption was observed over the 5-year period; 52.8% of pregnant women reported alcohol use in 2007 compared with 34.8% in 2011 ($p<0.001$). The proportion of women who drank alcohol after the first trimester declined from 42.2% in 2007 to 25.8% in 2011. However, high-risk drinking patterns did not change and were associated with lower levels of education ($p=0.011$) and single-parent status ($p=0.001$).

Comment: This Australian cross sectional study is of interest as the drinking culture in New Zealand and Australia are broadly similar. The important section of the findings is that despite a general decline in consumption, there are still clusters of high risk drinking populations who will need consideration for more localised strategies to support reduction and elimination of alcohol consumption during pregnancy.

Reference: Med J Aust 2013;199 (5):355-357
Abstract

Perineal Assessment and Repair Longitudinal Study (PEARLS): a matched-pair cluster randomized trial

Authors: Ismail K et al.

Summary: The Perineal Assessment and Repair Longitudinal Study (PEARLS) evaluated the use of an enhanced training programme designed to improve perineal management during birth. The trial enrolled 3681 women who sustained a second-degree perineal tear in one of 22 UK maternity units (clusters), organised into 11 matched pairs. Units in each matched pair were randomised to receive the training intervention early (group A) or late (group B). Outcomes within each cluster were assessed before any training intervention (phase 1), and then after the training intervention was given to group A (phase 2) and group B (phase 3). The primary outcome (the percentage of women who had pain on sitting or walking 10–12 days after giving birth) did not differ significantly between the clusters in phase 2 of the study. The intervention significantly improved overall use of evidence-based practice in the management of perineal trauma. After the training intervention, group A clusters had a significantly reduced number of women reporting perineal wound infections or needing sutures removed.

Comment: This large UK matched-pair cluster RCT is of interest because the focus of the study was firstly an assessment and repair of secondary perineal tears, rather than the more usual examination of episiotomy/3rd degree perineal tears. Secondly, it is an evaluation of the implementation of an assessment and skills training package designed to promote evidence-based practice. The study is comprehensively described with clear diagrams and tables. The study method is clear and concisely described. This is a good example of a study where the primary outcome did not show a statistically significant effect, but the secondary outcomes do show clinically significant improvement in the rates of infection and suture removal. Both being important for women. It also showed significant improvement in evidence-based practice, which is the probable reason for the reduction in the infection rate, and the success of the training package in improving the quality of practice.

Reference: BMC Medicine 2013;11:209
Abstract

Pregnant women's knowledge about the prevention of gestational diabetes mellitus

Authors: Poth M and Carolan M

Summary: This study investigated the understanding of at-risk pregnant women about the role of lifestyle and diet in the prevention of gestational diabetes mellitus (GDM). Six women aged over 30 years old underwent conversational interviews at a large Australian Hospital. The women were asked about their knowledge of GDM and its effect on mother and baby. They were also asked about their knowledge of diet and exercise as part of a healthy lifestyle, and how to prevent GDM. Transcript analysis showed gaps in the women's understanding of GDM, including misconceptions about the cause of GDM, limited awareness of its effects, and limited understanding of GDM preventative measures.

Comment: This Australian study illustrates the value of in-depth interviews that qualitative studies can provide when not a lot is known about the area being examined. Given the increasing rate of diagnosis of GDM and the current Ministry of Health focus on obesity and diabetes prevention and the promotion of healthy eating and activity, this study forms part of the research that informs understanding about women's experiences, views and understandings.

Reference: Brit J Midwifery 2013;21(10):692-700
Abstract

The effect of integrated yoga on labor outcome

Authors: Maharana S et al.

Summary: This study evaluated the effects of antenatal yoga on labour outcome. 96 women with a normal pregnancy were randomised to practice integrated yoga or to practice standard antenatal exercises (controls) for 1 hour per day from weeks 18 to 20 of gestation until term. The first stage of labour was 4.71h and 6.19h in yoga and control groups, respectively ($p<0.001$); the second stage was 23.41 min and 55.19 min in the respective groups ($p<0.001$); and the third stage took 9.07 min and 12.96 min, respectively ($p<0.001$). Fewer women in the yoga group required epidural analgesia ($p<0.001$). The rates of CS ($p=0.004$) and pregnancy complications ($p=0.01$) were lower in the yoga group, while babies' birth weight ($p<0.001$) and Apgar scores ($p<0.001$) were higher.

Comment: There was a considerable amount of literature produced in the late 1980s and early 1990s about the benefits of specifically designed antenatal yoga programmes. Since then, the practice in the western world has somewhat fallen out of fashion insofar as there have been fewer publications about antenatal yoga in the general 'books about pregnancy' market. This South Indian study is a well-designed prospective RCT that is well described in the article. The size of the sample groups appears quite small (51 in the yoga group and 45 controls) but the authors undertook a power analysis process to determine how many women were needed to produce a statistically significant effect. As seen in the summary above, statistically significant effects are reported. Considering the yoga and control exercise package required a one hour commitment every day from 18 to 39 weeks gestation, the women's compliance with the requirements was extraordinary. It should be noted that the yoga package was comprehensive, including meditation as well as physical exercise and attention to breathing patterns, and was taught by a trained instructor. Nonetheless, the outcomes are good, in particular the CS rate is 25% less in the yoga group than in controls.

Reference: Int J Childbirth 2013;3(3):165-177
Abstract

Midwife-led continuity models versus other models of care for childbearing women

Authors: Sandall J et al.

Summary: This review compared outcomes associated with midwife-led continuity models and models of medical-led care and shared care for childbearing women. 13 studies involving 16,242 women at both low and increased risk of complications were identified. Midwife-led continuity of care had several benefits for mothers and babies compared with models of medical-led care and shared care. These included a reduction in the use of epidurals, fewer episiotomies and fewer instrumental births. Women's chances of being cared for in labour by a midwife she knew and having a spontaneous vaginal birth were also increased. The number of caesarean births did not differ between the models. Women who received midwife-led continuity of care were less likely to have a preterm birth or lose their baby before 24 weeks' gestation. In conclusion, most women should be offered a midwife-led continuity model of care.

Comment: This Cochrane Review reports a meta-analysis of the research that has been undertaken about the effect on outcomes for women and babies of the midwife led and other models of midwifery care. This is the review that provides the evidence that midwifery-led continuity of care is beneficial for most women. The article is freely available in the Cochrane library and can be accessed through ordinary internet connection using everyday search engines such as Google. The plain language review is provided above.

Reference: Cochrane Summaries 2014; published online 21 Aug
Abstract