Midwifery RESEARCH REVIEW™

Making Education Easy

Issue 26 – 2021

In this issue:

Abbreviations used in this issue
BMI = body mass index
COVID-19 = coronavirus disease 2019
NICE = National Institute for Health and Care Excellence
SGA = small for gestational age
VBAC = vaginal birth after caesarean
WHO = World Health Organisation

Te Tatau o te Whare Kahu Midwifery Council

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Welcome to the latest issue of Midwifery Research Review.

In this issue, investigators in Israel find that prenatal anxiety together with acute stress immediately after childbirth are significant risk factors for post-traumatic stress disorder, a Spanish trial evaluates the impact of aqua aerobics during pregnancy on epidural analgesia requirements and pain during labour, and a study in Ireland finds significant associations between epidural analgesia and intrapartum outcomes. The issue also includes several studies relevant to midwifery care in the time of COVID-19.

We hope you find the selected papers of interest, and look forward to hearing your comments, feedback and suggestions. Kind regards,

Rachel Taylor
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Prospective risk from prenatal anxiety to post traumatic stress following childbirth

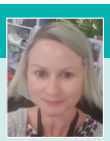
Authors: Rousseau S et al.

Summary: This study in Israel investigated the pathway of risk from mothers' prenatal anxiety, to acute stress immediately following childbirth, to future symptoms of post-traumatic stress. 149 pregnant women from a low-risk community sample were assessed toward the end of pregnancy, at 2 days postpartum, and at 1-month postpartum. Results indicated a significant indirect pathway from prenatal anxiety through acute stress immediately following childbirth to post-traumatic stress after childbirth. A comparison of women who opted to receive doula care during childbirth (n=21) versus those who received care as usual (n=128) provided preliminary support for doula care as a potential moderator of risk.

Comment: Given the current uncertainty in Aotearoa regarding varying levels of COVID-19-enforced lockdown measures, anxiety and stress are becoming increasingly visible in our communities, and are having an impact on pregnancy and birthing outcomes. Emergent research identifies childbirth as a potentiator for emotional as well as physical trauma, especially where there is no or limited continuity in care provision. Although this small-scale randomised study of 149 pregnant women evaluated the significance of doula rather than midwifery care throughout childbirth, initial results indicate a clear relationship between prenatal anxiety and acute stress following childbirth and the development of more serious, longer-term post-traumatic stress disorders. The authors suggest that screening for anxiety during pregnancy as well as in the immediate postnatal period would better identify stress potential and afford timelier implementation of suitable support services and measures, thereby reducing risk for anxiety-related post-traumatic stress following childbirth. In NZ, our unique model of midwifery partnership and continuity of care means midwives play a key role in mitigating risk for anxiety and childbirth-related stress disorders and are well situated to identify anxiety-risk-potential and introduce appropriate preventative and support measures wherever possible.

Reference: Midwifery 2021;103:103143
Abstract

Independent commentary by Rachel Taylor



Rachel is currently employed as a Senior Lecturer of Midwifery at Wintec, and is embarking on her PhD journey with a focus interest on the relationship between poverty, environmental factors, and the incidence of preeclampsia in Aotearoa/New Zealand. Previously to joining the midwifery team at Wintec, Rachel was employed as a rural caseload locum for the South Waikato primary units as well as working in the Women's Assessment Unit at Waikato Women's Hospital. She has been co-director of NZ Action on Preeclampsia since 2019, working alongside her fabulous colleagues, Dr Joyce Cowan and Lou McInnes.

Effect of aerobic water exercise during pregnancy on epidural use and pain

Authors: Carrascosa MDC et al., for the Aquanatal trial

Summary: This Spanish trial analysed the safety and effectiveness of moderate aerobic water exercise by pregnant women on the subsequent use of epidural analgesia during labour, and pain perception. 320 pregnant women (14–20 weeks' gestation) who had a low risk of complications were randomised to practice moderate aquatic aerobic exercise with usual antenatal care, or to receive usual prenatal care alone. The exercise programme did not affect epidural analgesic use or type of delivery (vaginal versus caesarean section), but was associated with less pain during labour. There were no significant between-group differences in maternal or newborn adverse events.

Comment: This multicentre, parallel, randomised controlled trial recruited 320 pregnant women from primary care units within a health district in Mallorca, Spain. Women were randomly assigned into 2 groups, 1 group receiving routine antenatal care and the other recruited to undertake moderate antenatal aquatic aerobics classes alongside routine antenatal care provision. The primary aim was to evaluate whether this intervention would have a positive impact on use of intrapartum epidural analgesia, particularly prior to 6cm of cervical dilation. The results found that the aqua aerobics intervention had no positive impact on rates of epidural, vaginal birthing outcomes or caesarean section. Furthermore, while there were no significant differences noted in maternal or neonatal outcomes, there was no increased risk of harm or adverse outcomes either. However, the women randomised to the exercise group reported lower pain perception in labour compared with the control group, although this could be difficult to accurately gauge, given rates of epidural are as high as 80% in Spain and approximately 30% of pregnancies end with a caesarean section, planned or otherwise. Home birth care is only available as a privately funded service and independent midwives are few and far between. Waterbirth is virtually unheard of and not an option in the public domain. While this study may initially appear unrelatable within a NZ context, the rising incidence of intrapartum epidural analgesia and the harm potential this confers mean that promotion of wellness and optimal health during pregnancy is of paramount importance, in terms of long-term health benefits and mitigated cost considerations.

Reference: Midwifery 2021;103:103105
Abstract

Parenting styles and types: Breastfeeding attitudes in a large sample of mothers

Authors: Davis AMB et al.

Summary: This cross-sectional study evaluated the association between parenting styles, personality traits, and breastfeeding attitudes. 1347 mothers (mean age 31.4 years) were recruited through online mother and baby groups based predominantly in the UK. Analysis of their survey responses found that more permissive and less uninvolved mothers felt positively about breastfeeding, but there were limited associations between personality factors and breastfeeding attitudes. Women with a 'high nurturance' profile (high scoring on authoritative and permissive) were found to be more conscientious and emotionally stable, and felt more positively about breastfeeding.

Comment: The long-term health benefits of breastfeeding for both babies and their mothers are well-established and indisputable. Despite this, rates of breastfeeding beyond 6 months in Aotearoa continue to be suboptimal with only a small percentage of babies breastfed to WHO recommendations of 2 years or beyond. This UK cross-sectional online survey of 1347 women aimed to determine the impact of different parenting styles, personality traits and attitudes on breastfeeding outcomes although analysis of income level or economic status was not considered. Researchers aimed to identify which types of mothers might have more negative feelings for breastfeeding to better establish ways of positively addressing them. Cluster analysis of data revealed that parenting styles were significant determinants of improved breastfeeding outcomes, with mothers deemed more highly 'nurturative' having greater success with prolonged breastfeeding rates. This is pertinent in NZ where increasing rates of socioeconomic disparity, rising housing costs and inflation are placing pressure on mothers to return to the workforce sooner than they may prefer, meaning that women are essentially having the choice of 'high nurturance' taken away from them. Consideration for the importance of long-term and sustainable breastfeeding and its impact on the health dollar should mean that government initiatives to support mothers to achieve this ought to be far more of a priority.

Reference: Midwifery 2021;103:103142
Abstract

Clinical guidelines for caring for women with COVID-19 during pregnancy, childbirth and the immediate postpartum period

Authors: Pavlidis P et al.

Summary: This Australian study evaluated disparities between various guidelines for antenatal, intrapartum and postpartum care of women with COVID-19. 81 guidelines were identified from 48 different national and international organisations. There was generally high consensus across guidelines for specific interventions, although guidance varied on the use of nitrous oxide during labour, administration of antenatal corticosteroids, neonatal isolation after birth, labour and birth companions, and the use of disease-modifying agents for treating COVID-19.

Comment: In March 2020, the WHO declared coronavirus an international pandemic. Since then, there has been an exponential increase in the development of maternal and perinatal health guidelines related to COVID-19. The aim of this research (undertaken between March and May 2020 in Australia) was to develop a database of both Australian and international recommendations (5 of which were from NZ) pertaining to antenatal, intrapartum and postpartum care of women during the first few months of the pandemic, to identify any inconsistencies in clinical guidance and better inform future practice. The authors found there were many varied and often conflicting recommendations in the study's included guidelines, ranging from advice regarding face-to-face antenatal visits, use of exogenous nitrous oxide in labour, and the timing and administration of antenatal corticosteroids. Given the current outbreak and initial government management strategies of the Delta variant of COVID-19 in Aotearoa, it is paramount that midwives draw on robust and up-to-date evidence to guide best practice and care provision throughout pregnancy, labour and the postnatal period. Midwifery practice should be advised by appropriate, professional consensus statements and emergent clinical guidelines that best reflect the unique needs of our birthing women and diverse communities.

Reference: Women Birth 2021;34(5):455-64
Abstract

Experiences and attitudes of midwives during the birth of a pregnant woman with COVID-19 infection

Authors: González-Timoneda A et al.

Summary: This qualitative study evaluated the experiences and attitudes of midwives responsible for providing pregnancy and childbirth care to women with COVID-19. 14 midwives at 2 Spanish tertiary hospitals were interviewed. The midwives described the challenges of working in a pandemic, and identified several factors associated with a safe, supportive work place: support from staff and managers, access to adequate personal protective equipment (PPE), and reliable guidelines. The midwives also expressed concerns about the fear, anxiety, and loneliness experienced by pregnant women with COVID-19.

Comment: This qualitative phenomenological study was carried out in 2 Spanish tertiary hospitals with the purpose of establishing themes of importance for midwives working with women diagnosed with COVID-19. Of note was the value that midwives placed upon working within a supportive and self-empowering place of work, with caring management, access to suitable PPE, and clear guidelines to support their role and afford a high level of care provision and satisfaction for themselves and women alike. In Aotearoa, our commitment to a midwifery-led and woman-focused system of maternity care means that the importance of good communication, emotional support and measures to reduce stress and anxiety are key factors that enable midwives to concentrate on their work and ensure they can continue to provide holistic and whānau-centred care. We are currently facing a serious midwifery work-force crisis that has been further impacted by COVID-19 and the Delta variant, and measures to attract and retain midwives in NZ need to be considered and implemented without haste.

Reference: Women Birth 2021;34(5):465-72
Abstract

Widespread implementation of a low-cost telehealth service in the delivery of antenatal care during the COVID-19 pandemic

Authors: Palmer KR et al.

Summary: This Australian study evaluated the effectiveness and safety of a telehealth service in the delivery of antenatal care during the COVID-19 pandemic. 20,031 women who gave birth at Monash Health in Victoria, Australia, between January 1 and March 22, 2018 (conventional care period) were compared with 2292 women who gave birth between April 20 and July 26, 2020 (telehealth integrated care period). Of 20,154 antenatal consultations provided in the integrated care period, 53% were delivered via telehealth. Compared with the conventional care period, no significant differences were identified in the telehealth integrated care period with regard to the number of babies with fetal growth restriction, stillbirths, or pregnancies complicated by pre-eclampsia or gestational diabetes.

Comment: Given the current situation with widespread regional COVID-19 lockdowns and travel restrictions in Aotearoa, many women and midwives are having to re-evaluate ways of ensuring continuity of antenatal care, minimise risk of infection and exposure for a vulnerable pregnancy cohort, and avoid adverse pregnancy outcomes such as increased rates of undiagnosed gestational diabetes and preeclampsia, fetal growth restriction and stillbirth. This Victoria-based study found that telehealth-integrated antenatal care options enabled the reduction of in-person consultations by approximately 50% without compromising pregnancy outcomes. Additionally, there was a significant reduction in rates of preterm birth for women experiencing high-risk pregnancies. This is an important consideration for the changing face of midwifery care provision in NZ, given ongoing workforce shortages and challenges during a health pandemic, particularly for our more isolated, rural communities. Further assessment is warranted within a NZ context to evaluate the merits and potential barriers to this healthcare model in both pandemic and post-pandemic situations.

Reference: Lancet 2021;398(10294):41-52
Abstract

Comparison of labour and birth outcomes between nulliparous women who used epidural analgesia in labour and those who did not

Authors: Newnham EC et al.

Summary: This prospective cohort study in Ireland compared labour and birth outcomes between nulliparous women who used or did not use intrapartum epidural analgesia. 1221 nulliparous women who gave birth vaginally or by emergency caesarean section at 2 maternity hospitals in Ireland were included. Women using epidural analgesia were more likely to require a vacuum-assisted birth (ratio of relative risk [RRR] 3.35, $p<0.01$) or forceps-assisted birth (RRR 11.69, $p<0.01$). Epidural analgesia was also associated with a significantly greater risk of ≥10h first stage labour and ≥2h second stage labour, an increased likelihood of receiving intravenous (IV) syntocinon or antibiotics, and a greater probability of fever. Women who received epidural analgesia were less likely to be breastfeeding at 3 months postpartum (odds ratio 0.53, $p<0.01$). No between-group differences in neonatal outcomes were observed.

Comment: This prospective cohort study undertaken in 2 maternity hospitals in Ireland evaluated birthing outcomes in a cohort of 1221 nulliparous women who birthed either vaginally or via emergency caesarean section. Those women who had intrapartum use of epidural analgesia were more likely to experience instrumental delivery via forceps or ventouse extraction, had significantly greater risk for prolonged first and second stages of labour, increased use of and/or indication for IV uterotonics and antibiotic exposure, and higher rates of fever and/or other signs of infection. While there were no observed differences in either adverse or improved neonatal outcomes between the groups, women exposed to intrapartum epidural analgesia were half as likely to breastfeed beyond 3 months post-birth, which has significant long-term health sequelae. Given epidural rates amongst first-time birthing mothers in Aotearoa are increasing, particularly in our larger urban centres, the significance of this study cannot be ignored. Focus on alternative methods of pain relief such as hydrotherapy, mindfulness and relaxation techniques need to be explored and promoted in favour of pharmaceutical options. Furthermore, continued investment into positive health and wellbeing initiatives that address inequity and confer the power of birth back to women should remain a priority.

Reference: Women Birth 2021;34(5):e435-41
Abstract

Perinatal outcomes of planned home birth after cesarean and planned hospital vaginal birth after cesarean at term gestation in British Columbia, Canada

Authors: Bayrampour H et al.

Summary: This retrospective population-based cohort study in Canada determined whether mode of delivery and maternal and neonatal outcomes differ between planned home VBAC and planned hospital VBAC. 4741 women with at least 1 prior caesarean birth delivered between April 2000 and March 2017 were included; 4180 had a planned hospital VBAC and 561 had a planned home VBAC, both attended by a registered midwife within an integrated health system. After adjustment for confounding factors, planned home VBAC was associated with a 39% decrease in the likelihood of having a caesarean birth (adjusted odds ratio 0.61, 95% CI 0.47–0.79) compared with hospital VBAC. Severe adverse outcomes were relatively rare in both settings.

Comment: The aim of this Canadian study was to determine whether mode of birth and maternal and neonatal outcomes following caesarean section could be impacted by place of planned birth, namely VBAC at home or within a hospital setting. Of 4741 women included in the cohort between 2000 and 2017, 4180 planned to birth in hospital and 561 planned to birth at home. The results of the study found that planned VBAC at home significantly reduced the risk of a second caesarean delivery, and severe adverse outcomes were rare in either setting. This aligns with the recently revised 2019 NICE guidelines recommending that women who have achieved VBAC can be supported to birth at home or within a primary setting, in water if they choose and with no indication for continuous electronic fetal monitoring. It is important in Aotearoa that our guidelines and recommendations align with the evidence to support women to achieve vaginal birth following caesarean section to afford better outcomes for themselves and their pepi, and be cared for by midwives who have the confidence, knowledge, and expertise to facilitate this as a safe and viable choice.

Reference: Birth 2021;48(3):301-8
Abstract

Due to COVID-19 the New Zealand College of Midwives Board has made the difficult decision to cancel the forthcoming 16th Biennial National Conference.

Is the increase in postpartum hemorrhage after vaginal birth because of altered clinical practice?

Authors: Graugaard HL & Maimburg RD

Summary: This Danish cohort study identified risk factors for severe postpartum haemorrhage (PPH) in women giving birth vaginally. 31,837 women with singleton pregnancies who gave birth vaginally at term to a live-born child at Aarhus University Hospital, Denmark in 2004–2012 were included. 1832 (5.7%) of them experienced severe PPH. Nulliparous and multiparous women with a previous caesarean birth had an increased risk of severe PPH. Other risk factors for severe PPH included gestational age >40 weeks, induction of labour, augmentation of labour, irregular fetal position, instrumental birth, and birthweight >4000g (the combination of induction and augmentation of labour doubled the risk of severe PPH). Among genital tract tears, vaginal tears >3cm were associated with the highest risk of severe PPH. Maternal age, smoking during pregnancy, and pre-pregnancy BMI did not increase the risk of severe PPH.

Comment: This register-based cohort study was undertaken in a Danish tertiary hospital between January 2004 and December 2012 and included 31,837 live vaginal singleton births, of which 5.7% experienced a severe PPH (defined as ≥1000ml blood loss). The study found that, while advanced maternal age, smoking in pregnancy and increased pre-pregnancy BMI did not increase the risk for severe PPH, both primiparous and multiparous women with a previous caesarean delivery were at higher risk for severe PPH. The highest intrapartum risk factors for severe PPH were the combination of labour induction and augmentation, which effectively doubled the risk. Additionally, women who were left with vaginal tears or lacerations (often secondary to instrumental delivery) of >3cm had the highest risk for severe PPH. This is significant in Aotearoa where our rates of labour induction and augmentation continue to rise exponentially. Due diligence and assessment of the absolute risks of interventions must be carefully evaluated alongside any potential benefits to ensure women are protected from harm potential. Furthermore, education that will enhance midwifery and obstetric clinical skills and expertise to mitigate risk for serious vaginal trauma needs to be supported and promoted.

Reference: Birth 2021;48(3):338-46
Abstract

Reduction in perinatal mortality among small for gestational age babies in New Zealand

Authors: Sadler L et al.

Summary: This retrospective cohort study investigated trends in perinatal mortality in SGA and non-SGA babies in NZ from 2008 to 2016. Data for perinatal deaths were retrieved from the Perinatal and Maternal Mortality Review Committee (PMMRC) data set and merged with the Ministry of Health (MoH) national maternity data set. Analysis of the data found that perinatal mortality among SGA singleton non-anomalous babies at ≥26 weeks decreased by 30% from 2008 to 2016 (from 10.38 to 7.28 per 1000 births; p=0.046). No significant changes in perinatal mortality were seen among appropriate and large for gestational age (LGA) babies.

Comment: A significant reduction in perinatal mortality amongst SGA babies has been observed in NZ over the past decade although ongoing research is needed to assess which factors may be contributing positively towards this. This retrospective cohort study undertaken between 2008 and 2016 merged PMMRC data with those sourced from the MoH national maternity statistics. SGA was defined as <10th centile of customised birth weight drawing from NZ coefficients. While there was no significant reduction in mortality rates for appropriately grown or LGA babies, a 30% perinatal mortality reduction rate was noted amongst small and/or growth-restricted babies: down from 10.38/1000 births in 2008 to 7.28/1000 births in 2016. Initiatives such as implementation of NZ customised growth charts and the Growth Assessment Protocol (GAP) training and education programmes seem to be having a positive effect on perinatal mortality and stillbirth rates, but further longitudinal evaluation is needed to fully assess this.

Reference: Aust N Z J Obstet Gynaecol 2021;61(4):505-12
Abstract

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