Midwifery RESEARCH REVIEW™

Making Education Easy

Issue 27 – 2022

In this issue:

Abbreviations used in this issue
COVID-19 = coronavirus disease 2019
HR = hazard ratio
LMC = lead maternity carer
NICU = neonatal intensive care unit
NZCOM = NZ College of Midwives
SARS = severe acute respiratory syndrome
SGA = small for gestational age

Te Tatau o te Whare Kahu Midwifery Council

Midwifery Research Review is approved as continuing midwifery education by the Te Tatau o te Whare Kahu Midwifery Council

Approval number: 2021CME005E

CLICK HERE FOR MORE INFORMATION

Welcome to the latest issue of Midwifery Research Review.

In view of the first week of May being NZ Perinatal Mental Health Awareness Week, I have taken the opportunity to review several studies on maternal mental health support and the improvement of morbidity risk and outcomes. Globally, NZ has the highest rates of mortality from maternal suicide, with 1 in 7 women being affected with some level of mental health concerns, ranging from mild anxiety to post-traumatic stress disorder to more serious cases of postnatal depression and psychosis.

I hope you find these and the other selected papers of interest, and look forward to hearing your comments, feedback and suggestions.

Kind regards,

Rachel Taylor
racheltaylor@researchreview.co.nz

Views of health professionals on the impact of early miscarriage on women's mental health and the accessibility of services and support

Authors: Yang J et al.

Summary: This qualitative study explored health professionals' views on the impact of early miscarriage on women's mental health and their access to services and support. Ten health professionals from an urban tertiary hospital and a community setting underwent semi-structured interviews. They described wide-ranging impacts of miscarriage on mental health, although they consistently felt that miscarriage was a significant loss and that grief was the usual response. Establishing how women felt about the miscarriage was an important step in directing them to relevant services and support, but predicting the impact on their mental health was more challenging. Several barriers to accessing support services were identified, including cost, type of counselling, location/geography, and limited availability of professionals.

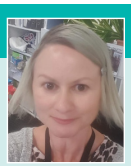
Comment: In Aotearoa New Zealand, the bulk of primary maternity care is provided by LMC midwives. In 2017, approximately two-thirds of women registered with an LMC in the first trimester, with an approximate rate of 1–2 miscarriages in every 10 pregnancies being reported at some point (mostly within the first trimester). Given the key role of the LMC in NZ's model of maternity and continuity of care, midwives as health professionals play a significant role in supporting women and shaping their experiences of miscarriage. This includes finding appropriate and timely access to suitable support services, including counselling and medical/obstetric input. Currently, NZ faces a crisis in the midwifery workforce and many women are unable to engage with LMC care within the first trimester, if at all. Furthermore, increased rates of morbidity from maternal mental health, estimated now to afflict as many as 1 in 7 women based on recent news reports, mean that early access and engagement with suitable maternity care provision is paramount to achieve and enhance optimal outcomes, both in the short and long term. Additionally, changes to widen midwifery scope within Aotearoa provide a timely opportunity to examine how both practitioners and policy makers can improve conditions to counteract professional attrition rates and enhance maternity care and outcomes for women and their whānau by proxy.

Reference: N Z Med J 2022;135:1548

Abstract

Time spent reading this publication has been approved for CNE by The College of Nurses Aotearoa (NZ) for RNs and NPs. For more information on how to claim CNE hours please **CLICK HERE**

Independent commentary by Rachel Taylor



Rachel is currently employed as a Clinical Midwifery Coach at Waikato Women's Hospital 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 rejoining the midwifery team at Waikato, Rachel was employed as a Senior Lecturer of Midwifery at Wintec in Hamilton. She has been Co-Director of NZ Action on Preeclampsia since 2019, working alongside her fabulous colleagues, Dr Joyce Cowan and Lou McInnes.

Women's experience of mild to moderate mental health problems during pregnancy, and barriers to receiving support

Authors: Savory NA et al.

Summary: This study explored the experiences of pregnant women with mild to moderate mental health problems. 20 women in a Welsh antenatal clinic who were identified as having depression and anxiety in early pregnancy, but who were not under the care of perinatal mental health services, were interviewed. 15 of the women had symptoms of mild to moderate depression and 15 had mild to moderate anxiety. Mental health concerns were reported by 9 women in late pregnancy. Due to limited access to specialist perinatal mental health services, the women relied on support networks and self-care to maintain their mental health during pregnancy.

Comment: This Welsh study sought to explore the experiences of women during pregnancy with mild to moderate mental health problems and describe the barriers to receiving support in relation to their mental health. While the small sample size of the study (part of a larger study within 1 institution) means the findings cannot be generalisable, the implications are nonetheless concerning. Access to specialist perinatal mental health services is currently woefully underfunded and under-resourced in Aotearoa New Zealand, with maternal mental health statistics set as the highest in the world. Women rely heavily on their individual and whānau support, as well as self-care to maintain their mental health and wellbeing. Given current uncertainty in Aotearoa regarding varying levels of COVID-19–enforced lockdown measures and ongoing government policy to limit the impact of the virus on our health care system, anxiety and stress is becoming increasingly visible in our communities as an impactor on pregnancy and birthing outcomes. Improved continuity of antenatal care can support open discussion and disclosure of maternal mental health concerns in pregnancy and mitigate the horror of current statistics and long-term trauma. Investment in improved mental health literacy and strategies that support enhanced access to better mental heath services for women is urgently required. NZ's unique model of midwifery partnership and continuity of care means midwives are well situated to identify risk for mental health and anxiety concerns and introduce appropriate preventative and support measures wherever possible. However, they need to be suitably trained and funded, and services for women enhanced and made freely accessible.

Reference: Midwifery 2022;108:103276
Abstract

The association between midwifery staffing levels and the experiences of mothers on postnatal wards

Authors: Turner L et al.

Summary: This study in England investigated the impact of midwifery staffing levels on women's experiences of inpatient postnatal care. Data from the 2018 National Maternity Survey were linked to National Health Service Workforce Statistics and Hospital Episode Statistics. The median number of Full Time Equivalent midwives per 100 births was 3.55. Logistic regression analysis showed that higher staffing levels were associated with less likelihood of delay in discharge (adjusted odds ratio [aOR] 0.849, 95% CI 0.753–0.959; p=0.008), increased chances of staff helping in a reasonable time (aOR 1.200, 95% CI 1.052–1.369; p=0.007) and women always receiving the information or explanation they needed (aOR 1.150, 95% CI 1.040–1.271; p=0.006).

Comment: Women have consistently reported lower satisfaction with postnatal care when compared with their antenatal, labour, and birthing experiences. The aim of this British research was to examine whether women's experience of inpatient postnatal care in England is associated with variation in midwifery staffing levels. Where midwifery staffing levels were higher, women reported being treated with more personal and holistic consideration, receiving appropriate support within a reasonable time frame, and facing smaller delays when discharging home. Centres where postnatal care was provided by fewer midwives and lower staffing levels reported the most negative feedback from women. Given the current staffing and workforce crisis in midwifery in Aotearoa New Zealand, with increasing pressure on units to staff postnatal wards with maternity care workers and nurses in favour of registered midwives, this study merits evaluation within a NZ context. The associated health impacts also need to be evaluated, including the potential for lower breastfeeding rates and poorer maternal perception of postnatal care which could in turn influence risk for maternal anxiety and other mental health concerns.

Reference: Women Birth 2022; published online Feb 17
Abstract

Effectiveness of maternal vaccination with mRNA COVID-19 vaccine during pregnancy against COVID-19-associated hospitalization in infants aged <6 months - 17 States, July 2021-January 2022

Authors: Halasa NB et al., for the Overcoming COVID-19 Network

Summary: This US case-control study evaluated the effectiveness of maternal vaccination with a 2-dose primary mRNA COVID-19 vaccine against COVID-19–associated hospitalisation in infants. 379 hospitalised infants aged <6 months were included. Case-infants (n=176) were hospitalised with COVID-19 as the primary reason for admission or had clinical symptoms consistent with acute COVID-19, and control-infants (n=203) were hospitalised without COVID-19. Median age was 2 months, 21% had at least 1 underlying medical condition, and 22% were born at <37 weeks' gestation. Mothers were considered vaccinated against COVID-19 if they completed a 2-dose series of either the Pfizer-BioNTech or Moderna mRNA COVID-19 vaccine during pregnancy (at least 14 days before delivery). 16% of mothers of case-infants and 32% of mothers of control-infants had received 2 COVID-19 vaccine doses during pregnancy. Vaccine effectiveness of a completed 2-dose maternal primary mRNA COVID-19 vaccination series during pregnancy against COVID-19–associated hospitalisation in infants aged <6 months was calculated to be 61% (95% CI 31–78%).

Comment: COVID-19 during pregnancy is associated with severe illness, death, preterm labour and birth and neonatal demise. Current Ministry and NZCOM recommendations support vaccination during pregnancy to prevent maternal morbidity and mortality risk ensuing from the virus, while the transfer of maternal serum antibodies to the infant both during birth and via breast milk offers protection to the newborn and possibly for up to 6 months of infancy. However, the timing of maternal vaccination during pregnancy to afford optimal antibody transfer to the baby both in utero and beyond is less well established. This test-negative, case-control study conducted in 20 paediatric hospitals throughout the US aimed to evaluate the effectiveness of a 2-dose COVID-19 vaccination programme during pregnancy in preventing infant hospitalisation with the virus at <6 months of age. Effectiveness of maternal vaccination in pregnancy was found to be 61% in 379 babies aged <6 months who had been hospitalised, 176 of whom had COVID-19. Furthermore, study findings determined that protection was higher when vaccination occurred later in pregnancy, i.e. after 20 weeks' gestation. Given that studies are yet to determine the safety of vaccination against COVID-19 in babies and young children, completion of at least a 2-dose vaccination series in pregnancy affords reassurance to Kiwi parents anxious to protect their infants at this vulnerable age. However, study limitations included that the effectiveness of the vaccine doses was not assessed against specific COVID variants; the sample size was insufficient to fully assess efficacy in terms of trimester; and women were not evaluated for previous infection/exposure to other SARS-related viruses (which may have provided a measure of pre-existing protection). Other variables such as antenatal care, gestation at birth, breastfeeding rates and attendance at early childcare centres were also not assessed. Further research is required to determine both optimal timing and efficacy of protection when vaccination occurs prior to pregnancy.

Reference: MMWR Morb Mortal Wkly Rep 2022;71(7):264-70
Abstract

Effects of Mediterranean diet or mindfulness-based stress reduction on prevention of small-for-gestational age birth weights in newborns born to at-risk pregnant individuals

Authors: Crovetto F et al., for the IMPACT BCN Trial Investigators

Summary: The IMPACT BCN trial investigated the impact of dietary and mindfulness-based stress reduction interventions on newborn SGA rates in high-risk pregnancies. 1221 women with singleton pregnancies at 19–23 weeks' gestation who were considered to be at risk for SGA (birthweight <10th percentile) were randomised 1:1:1 to a Mediterranean diet group, a stress reduction group, or a non-intervention control group. Women in the Mediterranean diet group received dietary education sessions as well as free provision of olive oil and walnuts; women in the stress reduction group underwent an 8-week stress reduction/mindfulness programme adapted for pregnancy; and women in the non-intervention group received routine pregnancy care. 21.9% of newborns in the control group were SGA, compared with 14.0% in the Mediterranean diet group (p=0.004), and 15.6% in the stress reduction group (p=0.02). The composite adverse perinatal outcome occurred in 26.2% of newborns in the control group, 18.6% in the Mediterranean diet group (p=0.01), and 19.5% in the stress reduction group (p=0.02).

Comment: Being born SGA is a well-determined risk for perinatal morbidity and mortality. Additionally, suboptimal maternal nutrition and high stress levels are now associated with poor foetal growth and other adverse pregnancy outcomes, including premature birth, and foetal and neonatal demise. Of the 1184 randomised pregnancies able to complete the trial, SGA occurred in 21.9% of newborns in the control group, 15.6% in the stress-reduction group and 14% in the Mediterranean diet group. Adverse perinatal outcomes (preterm birth, preeclampsia, perinatal mortality, severe SGA, neonatal acidosis, low Apgar score, or presence of any major neonatal morbidity) occurred in 26.2% of the control group, 19.5% of the stress-reduction group and 18.6% of the Mediterranean diet group. These results show that structured dietary and stress-control education and interventions can significantly reduce the incidence of both SGA and associated perinatal adverse outcomes. Given the current escalation of widespread socioeconomic deprivation in Aotearoa, alongside a global financial and housing crisis exacerbated by sky-rocketing food and fuel prices, there is scope for further investigation of this research within a NZ context. Meanwhile, government policies that focus on reduction of social and financial inequities, and consideration for GST reductions on healthy foods such as fruits and vegetables should be given serious attention and expedition.

Reference: JAMA 2021;326(21):2150-60
Abstract

Association of antenatal diet and physical activity-based interventions with gestational weight gain and pregnancy outcomes

Authors: Teede HJ et al.

Summary: This systematic review and meta-analysis evaluated the association of different types of antenatal lifestyle interventions with gestational weight gain (GWG) and maternal and neonatal outcomes. A search of various databases identified 117 randomised trials (n=34,546) of antenatal lifestyle interventions that were suitable for inclusion. Meta-analysis of the data showed that, overall, antenatal diet and physical activity-based lifestyle intervention was associated with reduced GWG, reduced risk of gestational diabetes, and reduced total adverse maternal outcomes compared with routine care.

Comment: Alongside Aotearoa's burgeoning obesity epidemic, excessive weight gain in pregnancy is becoming far more common and presents serious population health risk and financial burden in both the short and long term. Following on from the previous study's findings supporting educational and dietary interventions to enhance better pregnancy and perinatal outcomes, this 2-stage systematic review and meta-analysis conducted from Feb 2017 to May 2020 sought to evaluate how different antenatal lifestyle interventions could positively mitigate risk for excessive GWG and associated immediate and long-term health impacts. Results from the study were then integrated with those determined in a previous review undertaken between 1990 and 2017. While determination of overall pregnancy weight gain was the study's primary aim, secondary outcomes resulting from excessive weight gain (such as incidence of gestational diabetes, hypertensive disorders of pregnancy, rates of caesarean section, preterm birth, neonatal macrosomia and growth restriction, NICU admission, and foetal/neonatal demise) were also evaluated. Compared with routine antenatal care provision, improved diet alone was associated with lower rates of excessive pregnancy weight gain than either physical activity alone or mixed interventions such as lifestyle support and advice. Additionally, improved diet was found to reduce rates of gestational diabetes, preterm delivery, foetal macrosomia, NICU admission, and total adverse maternal and neonatal outcomes. Enhanced physical activity not only led to improved pregnancy weight gain, but also decreased risk for gestational diabetes, hypertensive disorders (including gestational hypertension and preeclampsia), caesarean section, and total adverse maternal outcomes. Both improved diet and enhanced physical activity were associated with reduced rates of excessive pregnancy weight gain as well as decreased risk for gestational diabetes and total adverse maternal outcomes. The study's findings support implementation of these lifestyle interventions into routine antenatal care provision wherever population obesity rates are of concern. In NZ, our model of midwifery continuity of care means midwives play a key role in the provision of education and access to initiatives such as green prescriptions. Addressing factors behind current workforce shortages that directly impact on provision of optimal antenatal care is therefore crucial, with many women currently unable to obtain LMC midwifery care. Additionally, health initiatives that focus on wellbeing and prevention of obesity-associated co-morbidities need to be enhanced and prioritised.

Reference: JAMA Intern Med 2022;182(2):106-14
Abstract

Maternal and neonatal trauma following operative vaginal delivery

Authors: Muraca GM et al.

Summary: This cohort study investigated trauma rates after operative vaginal delivery (OVD) in Canada. All 1,326,191 singleton, term deliveries that were reported in Canada (excluding Quebec) between Apr 2013 and Mar 2019 were included. Main outcome measures were maternal trauma (e.g. obstetric anal sphincter injury, high vaginal lacerations) and neonatal trauma (e.g. subgaleal haemorrhage, brachial plexus injury). 2.9% of deliveries were attempted forceps deliveries and 8.4% were attempted vacuum deliveries. After forceps delivery, the maternal trauma rate was 25.3% and the neonatal trauma rate was 9.6 per 1000 live births. After vacuum delivery, maternal and neonatal trauma rates were 13.2% and 9.6 per 1000 live births, respectively. Maternal trauma rates were higher with forceps delivery versus vacuum delivery after adjustment for confounders.

Comment: OVD is considered safe if carried out by experienced and appropriately skilled practitioners. However, alongside the steady increase in caesarean section rates both globally and in Aotearoa New Zealand, the confidence and availability of qualified staff is waning, meaning the safety of delivery via forceps and/or ventouse (kiwi-cup or vacuum extraction) is now difficult to determine. This research undertaken in Canada sought to quantify rates of trauma following OVD and variance of degrees of trauma dependent on instrument, locality, and level of obstetric care and training (tertiary versus secondary care centres). Of over 1 million OVD births, 2.9% were attempted forceps deliveries, while 8.4% were attempted vacuum extractions. Maternal trauma rate following forceps delivery was 25.3%, while the neonatal trauma rate was 0.96%. Maternal and neonatal trauma rates following vacuum extraction were 13.2% and 0.96%, respectively. Maternal trauma rates remained higher with forceps after adjustment for any confounding variables and varied by locality/region but not by the level of available obstetric care. Given rates of trauma following OVD have been found to be higher than previously reported, the undertaking of similar research would be of merit within a NZ context, as it could indicate the need not only for enhanced training programmes for practitioners, but for investment in research into active birthing practices that could minimise risk for OVD in the first instance. Moreover, it could further support the argument for increased funding via ACC and physiotherapy treatment for both women and babies who have experienced trauma following OVD.

Reference: CMAJ 2022;194(1):E1-12
Abstract

Improving teamwork in maternity services: A rapid review of interventions

Authors: Harris J et al.

Summary: This review evaluated currently available teamwork interventions to support UK maternity services. A multi-component search process identified 10 interventions. Six were classified as training courses, 3 were tools involving observational or diagnostics instruments, and 1 was a programme involving training and organisational re-design. Five of the interventions focused on teamwork in obstetric emergencies, 4 focused on enhancing routine care, and 1 focused on understanding workplace cultures. All of the interventions focused on micro aspects of teamwork such as team leadership, communication, decision-making, cohesion, and problem solving. Two of them also focused on meso aspects of teamwork (resources and organisational goals).

Comment: Working within a safe and supportive environment where teamwork is encouraged is fundamental to achieving optimal outcomes and effective woman-centred midwifery care. Dysfunction within health care teams and institutions is a quantifiable harm potential for staff mental health and wellbeing, as well as the women and babies we care for. This UK review undertook a multi-database search to assess the effectiveness of integrated team models within all levels of maternity services, from practitioners and clinicians to managers and policy makers. There were 10 interventions identified, from training courses to organisational redesign and structure, all of which focused on the efficacy of teamwork in managing obstetric emergencies, enhancing routine care, and understanding workplace cultures from within the organisation at large, to departmental levels and even individual team members. Team leadership, communication, decision-making, cohesion, and problem solving were evaluated, alongside availability of suitable resources and funding and the values and goals of the organisation itself. The study found that interventions to address key aspects of teamworking were generally available, particularly for improving safety in obstetric emergency situations. However, the impact of organisational and macro systems was largely ignored, meaning there is scope for future enhancement of supportive team environments that focus on quality improvements for both service users, staff, and the institutions at large. Given the impending restructure and organisation of NZ's District Health Board and health care system, there is timely opportunity to focus on how we might achieve this, improve our services, and attract and retain our vital health care workforce. There are exciting initiatives currently underway that aim to address historic health inequity, particularly amongst Māori and Pacific populations in Aotearoa New Zealand. By proxy, these initiatives should also improve workplace environments and encourage cultural rebalance in our health care services.

Reference: Midwifery 2022;108:103285
Abstract

Social policies and breastfeeding duration in South Korea

Authors: Yeo JH & Kim E-Y

Summary: This cross-sectional study used data from South Korea's 2018 National Survey on Fertility and Family Health and Welfare to evaluate the impact of parenting support policies and mothers' attitudes towards parenting on breastfeeding duration. 1861 women with children born between Jan 2016 and Sep 2018 were included; the median duration of breastfeeding was 5 months. A Cox's proportional hazard regression model showed that social policy factors (hospital environment and parenting support) and individual factors (mothers' attitudes towards parenting) were the main predictors of breastfeeding duration. After controlling for confounders, not initiating breastfeeding within 1h of birth (HR 1.215, 95% CI 1.07–1.37; p=0.002) and a negative attitude towards the necessity of having children (HR 1.153, 95% CI 1.02–1.30; p=0.021) were associated with shorter breastfeeding duration.

Comment: The long-term health benefits of breastfeeding for both babies and their mothers are well-established and indisputable. Hospital policies such as the Breastfeeding Hospital Initiative seek to enhance and optimise the mother-baby dyad, support "rooming-in" and the facilitation of exclusive breastfeeding. While rates of breastfeeding within the first 6 weeks following birth remain high in Aotearoa New Zealand, these decline rapidly beyond, and are well below World Health Organization recommendations to breastfeed for at least 2 years. Such findings support the argument for the extension of continuity of midwifery care beyond the currently funded 6-week midwifery care provision timeframe. This South Korean study aimed to identify parenting support policies that increased the period that the mother and child spend together after childbirth as a key factor in enhancing breastfeeding outcomes. Additionally, mothers' attitudes towards parenting were determined as influencing factors on willingness to breastfeed. The study found that optimising breastfeeding within 1h of birth, alongside a positive attitude towards parenting, improved long-term rates of breastfeeding, indicating that hospital policy, staff training and positive parenting support services are key considerations in improving breastfeeding as well as long-term health outcomes for both mothers and babies alike. In Aotearoa, increasing rates of socioeconomic disparity and suboptimal access to midwifery care are impacting on the ability of maternity services to not only provide care that enhances breastfeeding support and success, but additionally limit opportunities for new parents to gain the confidence and skills needed to provide a nurturing and healthy home environment. Consideration for the importance of sustainable breastfeeding and long-term social policy initiatives are key factors in a society that seeks to enhance future health and wellbeing outcomes.

Reference: Midwifery 2022;107:103282
Abstract

Midwifery awareness of diabetes in pregnancy screening guidelines in Aotearoa New Zealand

Authors: Chepulis L et al.

Summary: This NZ study investigated midwives' awareness of the Ministry of Health's Diabetes in Pregnancy screening guidelines. 174 registered midwives completed a 24-question online survey about screening for gestational diabetes mellitus (GDM). All of them said that they routinely offered glycated haemoglobin (HbA1c) screening for detection of undiagnosed pre-gestational diabetes, and 92.9% identified that this should occur prior to 20 weeks' gestation (as per the guidelines). However, fewer than two-thirds of them thought that all women should be screened, with 18.2% saying they would do so only if immediate risk factors were present. 22.9% said they would screen for GDM later than the guideline-recommended time-point of 24–28 weeks' gestation. Māori and community-based midwives were most likely to screen for GDM only if risk factors were present.

Comment: Diabetes, alongside the obesity epidemic, is escalating as a public health crisis in Aotearoa New Zealand. In pregnancy, optimal treatment and management of GDM centres on early detection. However, screening rates have been shown to be relatively low in NZ, despite the introduction of national screening guidelines in 2014 recommending that all pregnant women should be screened optimally in early pregnancy via a serum HbA1c test which is then used to guide and inform ongoing care planning. This study aimed to explore the awareness of the NZ Ministry of Health Diabetes in Pregnancy screening guidelines amongst the NZ midwifery population. While all participants confirmed offering routine HbA1c screening for detection of undiagnosed pre-gestational diabetes (of whom 92.9% identified that this should occur prior to 20 weeks' gestation as per Ministry guidelines), less than two-thirds of midwives thought that all women should be screened for GDM, with 18.2% indicating they would only do this if immediate risk factors were present. There also appeared to be some confusion over the time frame for screening for GDM, with 22.9% indicating that this should occur later than the guideline-recommended period of between 24 and 28 weeks' gestation. Participants who identified as Māori and/or community-based midwives were most likely to screen for GDM only if risk factors were present. Participants practising for more than 6 years, those aged 45–54 years, and midwives identifying as Māori were additionally more likely to screen for GDM after 28 weeks, i.e. outside of current recommendations. Given the inherent risk that no or untimely diagnosis of GDM and suboptimal pregnancy care present for both birthing mothers and their babies in regard to their short- and long-term health outcomes, improved midwifery educational opportunities around the timeliness and importance of GDM screening in pregnancy are strongly warranted.

Reference: Midwifery 2022;106:103230
Abstract

CLICK HERE
to read previous issues of Midwifery Research Review