A mother's voice helps to stabilise her preterm infant

A review published in *Acta Paediatrica* indicates that hearing their mother's voice can benefit the health of preterm infants.

The review included 15 studies with 512 infants from 2000 to 2015. Hearing the maternal voice, either recorded or live, was linked with the physiological and behavioural stabilisation of preterm infants, with fewer cardiorespiratory events. In particular, maternal voice interventions seemed to support preterm infants' systemic oxygenation and to diminish the occurrence of critical respiratory events, such as episodes of bradycardia and apnoeas. The evidence was insufficient to evaluate the long-term clinical benefits to preterm infant development.

Reference

Filippa M. et al. Systematic review of maternal voice interventions demonstrates increased stability in preterm infants. *Acta Paediatr* 2017 doi: 10.1111/apa.13832.

BabyClear helps pregnant women to quit smoking

The implementation of a system-wide stop-smoking intervention called BabyClear has been shown to be associated with a significant increase in rates of quitting smoking by the time of delivery.

BabyClear involved eight NHS hospital trusts and 12 local authority areas in the north east of England. A package of measures was implemented in trusts and smoking cessation services, aimed at increasing the proportion of pregnant smokers quitting during pregnancy. The package comprised skills training for healthcare and smoking cessation staff; universal carbon monoxide monitoring with routine opt-out referral for smoking cessation support; provision of carbon monoxide monitors and supporting materials; and an explicit referral pathway and follow-up protocol.

Improved referral and quit rates were seen after the introduction of the intervention. The babies of mothers who successfully stopped smoking were found to have similar birth weights to non-smokers.

Reference

Bell R. et al. Evaluation of a complex healthcare intervention to increase smoking cessation in pregnant women: interrupted time series analysis with economic evaluation. *Tobacco Control* 2017 doi:10.1136/tobaccocontrol-2016-053476.

High levels of hospital-acquired infection found on children's intensive care wards

A study published in *The Lancet Infectious Diseases* demonstrated unacceptably high rates of hospital-acquired infections among children in the UK and Europe. The report found that one in six children in paediatric intensive care units (ICUs), and one in ten infants in neonatal ICUs had developed hospital infections while being treated.

The study found that the pattern of hospital-acquired infections is different in babies and children compared to adults, with more serious infections such as blood poisoning/bloodstream infections being commonly seen (45%), followed by respiratory tract infections/pneumonia (22%). Many of these hospital-related infections are also multi-drug resistant, making their treatment more complicated.

The authors, from St George's University of London and Imperial College London, are calling for continued action to prevent and reduce infection rates in children in hospital with a focus on neonatal and paediatric ICUs.

Public Health England, the Department of Health and NHS England have now launched a national Infection in Critical Care Quality Improvement Programme (ICCQIP) working with adult, paediatric and neonatal intensive care societies and providers. This programme has the capacity to reduce these potentially avoidable infections, where hospitals collect data, develop and implement evidence-based interventions.

Reference

Zingg W. et al. Health-care-associated infections in neonates, children, and adolescents: an analysis of paediatric data from the European Centre for Disease Prevention and Control point-prevalence survey. *Lancet Infect Dis* 2017;17:381-89.

Tongue tie division improves maternal nipple pain

A Cochrane review found that, for infants with tongue tie and breastfeeding difficulties, surgical release of the tongue tie does not consistently improve infant feeding but is likely to improve maternal nipple pain in the short term.

The total number of infants studied was small; five randomised controlled trials (RCTs) enrolling 302 infants met the inclusion criteria. According to the authors, the small number of trials along with methodological shortcomings limits the certainty of these findings and further RCTs are necessary to determine the effects of tongue tie division.

For further discussion of tongue tie see pages 92-98 of this issue of *Infant*.

Reference

O'Shea J.E. et al. Frenotomy for tongue-tie in newborn infants. *Cochrane Database Syst Rev* 2017: CD011065.

Cochrane focuses on breastfeeding

Cochrane has published a review on breastfeeding, *Support for healthy breastfeeding mothers with healthy term babies*,[1] and a special collection of Cochrane evidence, *Enabling breastfeeding for mothers and babies*.[2] The updated review includes 100 randomised controlled studies involving over 83,246 women. The 73 trials that contributed to the analyses were from 29 countries and involved 74,656 women.

All forms of extra organised support analysed together showed an increase in the time women continued to breastfeed, with or without introducing any other types of liquids or foods. This meant that fewer women stopped any breastfeeding or exclusively breastfeeding before four to six weeks and before six months. Both trained volunteers and doctors and nurses had a positive impact on breastfeeding.

References

1. **McFadden A. et al.** Support for healthy breastfeeding mothers with healthy term babies. *Cochrane Database Syst Rev* 2017: CD001141.
2. **Cochrane Special Collection.** *Enabling Breastfeeding for Mothers and Babies.* 2017 [Online]. Available at: www.cochranelibrary.com/app/content/special-collections/article/?doi=10.1002/14651858.10100214651858 [Accessed 17 May 2017].

Pregnancy-themed review brings together key evidence

A new themed review from the National Institute for Health Research (NIHR) details evidence-based interventions that can improve the health and wellbeing of pregnant women and their babies.

Better Beginnings – Improving Health for Pregnancy covers research into health and wellbeing before, during and soon after pregnancy. This includes maintaining a healthy diet and weight, breastfeeding and mental health as well as smoking cessation, alcohol and recreational drug use, and domestic violence. It also shows how improving care for women from disadvantaged communities can improve the life chances of their children.

The report is free to download and brings together 75 studies funded by NIHR. Key findings include:

- A review of pregnancy smoking cessation studies found high rates of relapse, with only 13% of women not smoking at delivery, and 43% of these smoking again six months later. Psychosocial interventions enabled women to stop smoking during pregnancy and reduced low birthweight and preterm births.
- A review confirmed folic acid supplements, taken before and during early pregnancy, reduce the risk of neural tube defects in the baby.
- Offering support with breastfeeding (from either professionals or peers) increased the length of time mothers breastfed for. Peer support programmes for women on low incomes were particularly effective in helping them to start.
- Offering one-to-one support during pregnancy and for a short while after birth improved care experiences and breastfeeding rates among disadvantaged women.

Reference

NIHR DC. *Better Beginnings – Improving Health for Pregnancy.* 2017 [Online]. Available at: www.dc.nihr.ac.uk/themed-reviews/better-beginnings.htm [Accessed 16 May 2017].

Fortified DBM does not result in superior neurodevelopmental outcomes compared to formula in VLBW infants

A study published in *JAMA* found that, among very low birthweight (VLBW) infants, use of nutrient-enriched human donor breast milk (DBM) compared with formula did not improve developmental neurological outcomes at 18 months' corrected age.

The randomised controlled trial studied 363 babies with a birth weight of less than 1,500g, recruited from four neonatal intensive care units in Canada. The infants were fed their own mother's milk whenever possible but if not available, they received either fortified DBM or preterm formula as a supplement for 90 days or until hospital discharge.

At 18 months, the toddlers were tested for brain development using the Bayley Scales of Infant and Toddler Development (Bayley-III). There were no differences in their cognitive, language or fine motor skills.

Awareness of the benefits of mothers' milk has led to an increase in use of DBM, despite limited data on its efficacy and its high cost. The findings from this study imply that fortified

DBM is no better than preterm formula in terms of neurodevelopmental outcomes. It is important to note that the research did not look at later development, other potential health advantages nor any other risks of prematurity, eg necrotising enterocolitis.

Reference

O'Connor D.L. et al. Effect of supplemental donor human milk compared with preterm formula on neurodevelopment of very low-birth-weight infants at 18 months: a randomized clinical trial. *JAMA* 2016;316:1897-905.