Breastfeeding peer support services are lacking

Peer support is recommended by the World Health Organization for the initiation and continuation of breastfeeding, but in a survey of 136 service managers with jobs related to infant feeding across UK NHS trust and health board areas, breastfeeding peer supporters were available in only 56% of NHS areas. There was no standardised provision of this support around the UK and services were regularly adapted in line with funding available, rather than number of births or perceived need.

Reference

Grant A. et al. Availability of breastfeeding peer support in the UK: *Matern Child Nutr* 2017;e12476.

Giving antenatal corticosteroids in preterm delivery is beneficial

A study to assess the effects of administering corticosteroids to the mother during preterm labour has shown that the drug reduces breathing complications and improves the chance that the preterm baby will survive and avoid having other serious health problems.

The study reviewed 30 trials where corticosteroids were given to women of 24-37 weeks pregnancy at risk of preterm birth. Findings support the practice of giving corticosteroids to women at risk of early labour, which is recommended by NICE and the Royal College of Obstetricians and Gynaecologists.

Reference

Roberts D. et al. Antenatal corticosteroids for accelerating fetal lung maturation for women at risk of preterm birth. *Cochrane Database Syst Rev* 2017:CD004454.

Babies' preference for faces seems to begin before birth

Researchers from Lancaster University explored the visual development of babies in the womb to reveal that 34-week-old fetuses have a preference for face-like shapes.

The team used a light source to project three dots in the shape of eyes and a mouth through the uterine wall and measured fetal response using ultrasound. The findings, published in *Current Biology*, showed that the fetuses turned their head to track the face-like pattern. There was no such response to three inverted dots in the shape of a triangle, demonstrating that it was not the pattern itself that the fetus preferred. The fetuses respond in a similar way to newborn babies in preferring face-like stimuli.

Reference

Reid V.M. et al. The human fetus preferentially engages with face-like visual stimuli. *Curr Biol* 2017;27:1825-28.e3.

What causes women to stop breastfeeding early?

A systematic literature review has investigated potential sociodemographic, physical, mental and social factors that may cause breastfeeding mothers to stop breastfeeding their infant before it reaches six months of age.

Mothers who were young, had a low level of education, and/or returned to work within 12 weeks after giving birth were more likely to stop breastfeeding before six months. Those who gave birth by caesarean section and who had an inadequate milk supply also tended to stop breastfeeding early.

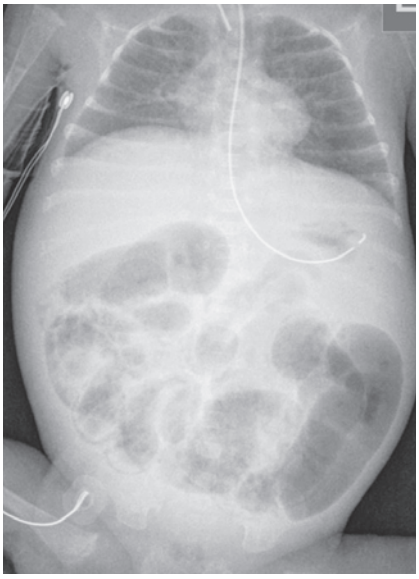
The World Health Organization recommends exclusive breastfeeding as the main source of nutrition for infants during their first six months of life.

"Sociodemographic factors were seen to have caused cessation of breastfeeding in some of the included articles, and a focus should be placed on how to improve related knowledge of healthcare professionals as it is clear that sociodemographic factors have an effect on health behaviour," says Dr Elisabeth Mangrio, lead author of the *Scandinavian Journal of Caring Sciences* review. "These factors should be considered through targeted interventions focusing on mothers who are at risk of ceasing breastfeeding before the recommended time and on known factors and behaviour that can be prevented."

Reference

Mangrio E. et al. Sociodemographic, physical, mental and social factors in the cessation of breastfeeding before 6 months: a systematic review. *Scand J Caring Sci* 2017 doi: 10.1111/scs.12489.

Lactoferrin decreases the risk of sepsis and NEC in preterm babies



An abdominal x-ray confirming NEC.

Lactoferrin, a normal component of human colostrum and milk, may be effective in preventing late-onset sepsis and necrotising enterocolitis (NEC) in preterm neonates.

A Cochrane review assessed the safety and effectiveness of lactoferrin supplementation to feeds by evaluating six randomised controlled trials (1,041 preterm babies). The results showed that lactoferrin supplementation decreased both late-onset sepsis and NEC (stage II or III) with no adverse consequences. There was no effect on all-cause mortality.

However, the evidence was deemed low quality and clarification regarding optimal dosing regimens, duration, type of lactoferrin (human or bovine), and long-term outcomes is still needed. Ongoing trials will provide data from more than 6,000 preterm neonates; the quality of the evidence may be enhanced when the results become available.

Reference

Pammi M., Suresh G. Enteral lactoferrin supplementation for prevention of sepsis and necrotizing enterocolitis in preterm infants. *Cochrane Database Syst Rev* 2017:CD007137.

An important safety notice from NHS Improvement

As a result of clinical incident reports, the NHS Improvement patient safety team has been made aware of five serious incidents involving accidental overdose of total parenteral nutrition (TPN), four of which have involved lipid.

It appears in some incidents that the overdose occurred due to either incorrect infusion rates being entered on the volumetric pump or the incorrect infusion administration set being threaded through the relevant infusion pump. The lipid was therefore infused at the intended rate of the Vamin solution and vice versa.

The patient safety team is pursuing a number of avenues to address the issue and a further announcement can be expected in due course. For any queries contact: patientsafety.enquiries@nhs.net

NHS Improvement

BMJ looks at overweight pregnant women

The risk of birth defects increases if a pregnant woman is overweight or obese, according to a research study published in the *British Medical Journal (BMJ)*.[1]

A population-based cohort study estimated the risks of major congenital malformations diagnosed during the first year of life in babies born to mothers who were underweight, overweight or obese compared with those of normal weight in early pregnancy. Over 1.2 million live-born singleton infants were investigated from 2001 to 2014 in Sweden.

A total of 43,550 infants (3.5%) had any major congenital malformation. The risks of congenital heart defects, malformations of the nervous system, and limb defects progressively increased with maternal overweight and increasing severity of obesity.

In another *BMJ* article,[2] research published by the University of Edinburgh found that specialist antenatal clinics for severely obese mums-to-be helped cut rates of pregnancy complications, and that women who received the specialist care were eight times less likely to have a stillbirth.

The team followed more than 1,000 obese pregnant women. Approximately half of the women attended a specialist obesity clinic while the others received standard antenatal care. A team of clinical experts treated those that attended the obesity clinic giving tailored advice and testing for diseases such as gestational diabetes.

The researchers believe the clinic helps experts to spot signs of complications sooner and identifies those women who need to be induced early or undergo an elective caesarean.

References

1. **Persson M. et al.** Risk of major congenital malformations in relation to maternal overweight and obesity severity. *BMJ* 2017;357:j2563.
2. **Denison F.C. et al.** Does attendance at a specialist antenatal clinic improve clinical outcomes in women with class III obesity compared with standard care? A retrospective case-note analysis. *BMJ Open* 2017;7:e015218.

Lower or higher oxygen levels ?

A Cochrane meta-analysis considered the effects of targeting lower versus higher oxygen saturations (SpO_2) on death or disability, or both, in extremely preterm infants (<28 weeks' gestation). The analysis of nearly 5,000 babies looked at studies targeting oxygen saturation ranges of either 85-89% or 91-95% for at least the first two weeks of life.

The authors found benefits and harms associated with both target ranges. Targeting lower SpO_2 had no significant effect on the composite outcome of death or major disability or on major disability alone, including blindness, but increased the incidence of death and necrotising enterocolitis. Targeting the lower oxygen range decreased the incidence of retinopathy of prematurity requiring surgery or other treatment. The results provide important information regarding the choice of oxygen saturation targets. In their conclusion the authors agree with the guidance from the American Academy of Pediatrics that a targeted oxygen saturation range of 90-95% may be safer than 85-89%. However, they point out that outcomes may differ in different settings and trade-offs between the benefits and harms of the different target ranges should be assessed at a local level.

Reference

1. **Askie L.M. et al.** Effects of targeting lower versus higher arterial oxygen saturations on death or disability in preterm infants. *Cochrane Database Syst Rev* 2017: CD011190.

Neuroprotective levels of magnesium sulphate revealed

A study suggests that to optimise neuroprotection and prevent cerebral palsy in extremely preterm infants, women should receive magnesium sulphate to obtain a blood level between 3.7 and 4.4mg/dL at the time of delivery. The study included 636 women who received magnesium sulphate and 1,269 who received placebo.

The findings are important because magnesium sulphate is indicated for neuroprotection of preterm fetuses; however, the optimal dosing schedule to prevent cerebral palsy is not known.

"Women have traditionally received a standard dose of magnesium sulphate to prevent cerebral palsy in the extremely preterm fetus, but this study is the first to use pharmacokinetic modelling to suggest a therapeutic target maternal serum level," says Dr Kathleen Brookfield, lead author of *The Journal of Clinical Pharmacology* study. "The dose of magnesium sulphate can now be tailored depending on maternal factors and clinical situation."

Reference

Brookfield K.F. et al. Optimization of maternal magnesium sulfate administration for fetal neuroprotection. *J Clin Pharmacol* 2017: doi:10.1002/jcph.941.