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Title **Breastfeeding Promotion for Infants in Neonatal Units: A Systematic Review and Economic Analysis**

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Aim

To evaluate the effectiveness and cost effectiveness of interventions that promote or inhibit breastfeeding or feeding with breast milk for infants admitted to neonatal units; and to identify an agenda for future research.

Conclusions and results

Systematic review of effectiveness: 48 studies met the selection criteria, of which 65% (31/48) were randomized controlled trials (RCTs). Studies were heterogeneous in terms of design, intervention, participants, and outcomes measured. Six were rated as good quality and 28 as moderate quality. *Increased mother and baby contact:* Short periods of the kangaroo method of skin-to-skin contact increased the duration of breastfeeding among clinically stable infants in industrialized settings, and daily contact improved health outcomes at 2 and 6 months in all settings. *Interim feeding methods and related interventions:* The evidence for cup feeding vs bottle feeding is limited, but it may increase breastfeeding at discharge and reduce the frequency of oxygen desaturation. Lack of staff training is an important confounder. No evidence supports the use of gavage feeding vs bottle feeding, or the use of caregivers' fingers in place of pacifiers. *Methods of expressing breast milk:* Simultaneous pumping with an electric pump has advantages in the first 2 weeks. The mother may also benefit from a hand-operated pump or hand expression at home. *Enhancing breast milk production:* Pharmaceutical galactogogues have little role to play among mothers who have recently given birth. Some evidence supports the use of relaxation-related interventions for mothers. *Supporting optimal nutritional intake from breast milk:* Enhancing the composition of mothers' own milk offers an apparently simple method for optimizing protein and lipid intake, but good-quality evidence of effectiveness is lacking. *Breastfeeding education and support:* There is strong evidence for the effectiveness of community-led peer support in hospital and at home, and a more limited evidence base for the effectiveness of skilled professional support in neonatal units. *Staff training:* Limited evidence suggests that educational interventions delivered to a multidisciplinary staff group may increase healthcare professionals' knowledge, initiation rates, and duration of breastfeeding. Lack of staff training is an important barrier to implementation of effective interventions. *Early hospital discharge with home support:* This is unlikely to improve and may adversely affect the duration of breastfeeding. *Organization of care:* Baby Friendly accreditation of the associated maternity hospital resulted in improvements in several breastfeeding-related outcomes for infants in neonatal units. *Economic analysis:* Enhanced staff contact, which was additional skilled professional support in hospital, was found to be more effective and less costly (due to reduced neonatal illness) than normal staff contact in both the base case and the majority of sensitivity analysis scenarios.

Recommendations

See Executive Summary link at www.hta.ac.uk/project/1611.asp.

Methods

See Executive Summary link at www.hta.ac.uk/project/1611.asp.

Further research/reviews required

See Executive Summary link at www.hta.ac.uk/project/1611.asp.

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