Systematic review summary

NHS
National Institute for Health and Clinical Excellence

Breastfeeding for longer – what works?

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Introduction

Breastfeeding has a major role to play in public health. It promotes health and prevents disease in both the short and long term, for both infant and mother. But breastfeeding, especially the prolonged, exclusive breastfeeding that results in the greatest benefits, is far from universally practised in the UK and other western cultures. Breastfeeding initiation rates in the UK are around the lowest in Europe, with rapid discontinuation rates for those who do start. Further, initiation and continuation rates are lowest among families from lower socio-economic groups, adding to inequalities in health and contributing to the perpetuation of the cycle of deprivation. The reasons for this are multifaceted and include the influence of society and cultural norms, as well as clinical problems, the organisation of health services and the lack of preparation of health professionals and others to support breastfeeding effectively.

This paper summarises the findings of a systematic review of interventions to enable women to continue breastfeeding, with special reference to women from disadvantaged groups where rates are lowest. Full details are in NICE (2005). It follows on from the previous Health Development Agency (HDA) review of systematic reviews of interventions to promote the initiation of breastfeeding (Protheroe et al., 2003).

This information will be of interest to pregnant women, new mothers, health and social care professionals, and lay advisers supporting women in their decision to start and continue breastfeeding.

This systematic review will inform the development of the following NICE guidance:

- Antenatal and postnatal mental health: clinical management and service guidance
- Postnatal care: routine postnatal care of recently delivered women and their babies
- Intrapartum care: management and delivery of care to women in labour
- Guidance for midwives, health visitors, pharmacists and other primary care services to improve the nutrition of pregnant and breastfeeding mothers and children in low-income households.

This summary presents an overview of the findings from a systematic review of studies of interventions to enable women to continue breastfeeding. The systematic review was commissioned by the Health Development Agency (HDA) but published after the functions of the HDA were transferred to NICE on 1 April 2005. Neither this summary nor the full report represent NICE guidance. The full report – NICE (2005) *The effectiveness of public health interventions to promote the duration of breastfeeding* – is available at www.publichealth.nice.org.uk

Methods

The identification of studies that can inform practice and policy for the support of breastfeeding among women from disadvantaged groups was a priority for the review. A thorough search, data extraction and analysis were conducted. All included papers were reviewed by at least two members of the team. Around 55,000 citations were identified from the electronic search and a further 8,000 from hand searching; 940 papers were pre-screened and full data extraction was carried out on 138 papers. A total of 80 eligible studies (including three reviews) were finally included.

Only 17 studies (21%) examined the needs of women from disadvantaged groups. Only 10 studies (12.5%) were conducted in the UK.

Findings

One of the main findings of this review is the great extent of the evidence gap relating to disadvantaged groups. Ways of raising breastfeeding rates among groups where the rates are lowest remain to be explored further.

Although there are evidence gaps identified across all the sections, they are widest in clinical issues, public policy and those that address women's key concerns and problems. There is an urgent need for research into clinical problems, including 'insufficient milk', sore nipples, engorgement and the breastfeeding needs of babies and mothers with particular health needs. There is very little research to inform any aspect of public policy.

Two other important findings emerge across all sections. First, there are effective and ineffective interventions. Second, a gap in the evidence base identified across all the reviews is an understanding of the views of those most involved – childbearing women and their families, and the staff who care for them – whose voices are largely silent in relation to the interventions that might be effective.

Practices and policies that have been shown to be effective/beneficial for enhancing breastfeeding duration

Postnatal hospital stay

- Skilled breastfeeding support, peer or professional, proactively offered to women who want to breastfeed (Dennis et al., 2002; Porteous et al., 2000)
- Preventing the provision of discharge packs containing formula-feeding information and samples (Bliss et al., 1997)
- Unrestricted feeding from birth onwards (Renfrew et al., 2000)
- Unrestricted mother-baby contact from birth onwards (Renfrew et al., 2000)
- Unrestricted kangaroo care/skin-to-skin care from birth onwards (Renfrew et al., 2000)
- Avoiding supplementary fluids for babies unless medically indicated (Howard et al., 2003)
- Regular breast drainage/continued breastfeeding for mastitis (Renfrew et al., 2000)
- Antibiotics for infective mastitis (Renfrew et al., 2000)

Postnatal care in the community

- Skilled breastfeeding support, peer or professional, proactively offered to women who want to breastfeed (Porteous et al., 2000)

Ongoing care in the community

- Skilled breastfeeding support, peer or professional (Serafino-Cross and Donovan, 1992)

Forms of care/practices/policies that appear to be promising and well grounded in theory for enhancing the duration of breastfeeding

In pregnancy

- Group, interactive, culture-specific education sessions (Rossiter, 1994)
- Group education sessions on positioning and attachment (Duffy et al., 1997)
- Antenatal education individually tailored to the needs of low-income women (Brent et al., 1995)

Immediate postnatal care

- Basing prevention and treatment of sore nipples on principles of positioning and attachment (Henderson et al., 2001)
- Cabbage leaves/extract for treatment of engorgement (Roberts et al., 1995, 1998)
- Systemic antibiotics for infected nipples (Livingstone and Stringer, 1999)

Postnatal care in the community

- Self-monitoring daily log for women from higher socio-economic groups (Pollard, 1995)
- Combination of supportive care, teaching breastfeeding technique, rest and reassurance for women with 'insufficient milk' (Renfrew et al., 2000)
- Division of the frenulum in infants with signs of congenital ankyloglossia [tongue tie] and breastfeeding difficulties (Ballard et al., 2002; Fitz-Desorgher, 2003; Masaitis and Kaempf, 1996)

Findings (continued)

Wider social/political issues

- National policy of encouraging maternity units to adhere to the UNICEF Baby Friendly Initiative (BFI) (Britten and Broadfoot, 2002)
- Regionally/nationally determined targets with supporting activities, and/or penalties and/or incentives (Cattaneo and Buzzetti, 2001; Giovannini et al., 2003)

Multifaceted interventions (across time periods and types of interventions)

- Tailored antenatal education combined with proactive postnatal support in hospital and the community (Fredrickson, 1995)
- Combining antenatal education with partner support, postnatal support and incentives for women in low-income groups (Sciacca et al., 1995)

Forms of care/policies that may be ineffective or harmful for enhancing breastfeeding duration (as shown by good but not conclusive evidence)

In pregnancy

- Self-help manual used alone (Coombs et al., 1998)
- Antenatal education by a paediatrician (Serwint et al., 1996)
- Providing materials produced by formula milk companies on infant feeding in early pregnancy (Howard et al., 2000)

Immediate postnatal care

- Separating mothers and babies for treatment of jaundice (Renfrew et al., 2000)

Postnatal care in the community

- Written educational materials used alone (Hauck and Dimmock, 1994)
- GP clinic visit at one week postpartum (Gunn et al., 1998)
- Single home visit by community nurse following early discharge (Gagnon, 2002)
- Dopamine antagonists for 'insufficient milk' (Renfrew et al., 2000)

Ongoing care in the community

- Dopamine antagonists for 'insufficient milk' (Renfrew et al., 2000)

Forms of care/practices/policies shown to be ineffective or harmful for breastfeeding duration

In pregnancy

- Conditioning nipples in pregnancy (Renfrew et al., 2000)
- Hoffman's exercises for inverted and non-protractile nipples in pregnancy (Renfrew et al., 2000)
- Breast shells for inverted and non-protractile nipples in pregnancy (Renfrew et al., 2000)

Immediate postnatal care

- Restricting the timing and/or frequency of breastfeeds (Renfrew et al., 2000)
- Restricting mother/baby contact from birth onwards (Renfrew et al., 2000)
- Routine use of supplementary fluids (Howard et al., 2000)
- Provision of discharge packs containing samples or information on formula feeding (Bliss et al., 1997)
- Topical agents for the prevention of nipple pain (Renfrew et al., 2000)
- Breast pumping before the establishment of breastfeeding in women at risk of delayed lactation (Chapman et al., 2001)

Multifaceted interventions

- Combined antenatal education and limited postnatal telephone support for high-income women and women who intend to breastfeed (existing high rates suggest resources are better spent elsewhere) (Rojjanasrirat, 2000)

Conclusion

The extent of the work needed to change the current patterns of infant feeding should not be underestimated. These patterns have been developed over the past century and are now embedded in the thinking and behaviour of several generations of practitioners and in society as a whole. A coordinated and well-supported programme will be needed if real culture and practice change is to occur. To enable women to breastfeed the evidence suggests that the following changes are needed:

- Coordination of national with local policy so that departmental policy is funded, enabled and monitored at the level of, for example, PCTs, Sure Starts, and acute trusts, with a two-way flow of information to enable both a bottom-up and a top-down approach
- Ongoing monitoring of rates of variation in infant feeding, with agreed definitions and timing of follow-up, combined with socio-demographic data.

It will also require the wholehearted involvement and support of:

- Clinical professionals in community and hospital settings
- Community based workers including Sure Start staff
- Managers with responsibility for health and social services and staff
- Those with responsibility for collecting health and health service-related data
- Educators in the fields of health and social services; schoolteachers and those responsible for the school curriculum in primary and secondary schools
- Employers in large and small organisations
- Politicians and policy makers at local, regional and national levels
- Those with influence over public opinion
- Families and the public at large.

Implications for future research

- The quality of the included studies was variable. Some were designed to provide reliable evidence of effectiveness of the interventions tested, but others were too small, methodologically flawed or used inappropriate designs. Future research should use appropriate designs and consider carefully the range of factors involved in breastfeeding, and funding agencies should be aware of the pitfalls in this field
- To address the evidence gap, breastfeeding needs to become a priority for a range of funding bodies in the UK
- Future studies should include examination of cost effectiveness
- Studies should examine the effectiveness of interventions among different disadvantaged groups
- Including both breastfeeding outcomes and examination of the views of participants in future studies will help to inform the potential for interventions to make a difference in practice
- Much more information is needed about the content of interventions, the training needed to implement them, the participants, and the settings in which they were used
- Research is needed to test out the efficacy of interventions based on empirical and theoretically derived research
- Research is needed to compare policy interventions across different countries as well as research within healthcare systems

References

Ballard, J. L., Auer, C. E. and Khoury, J. C. (2002). Ankyloglossia: assessment, incidence, and effect of frenuloplasty on the breastfeeding dyad. *Pediatrics* 110 (5): e63.

Bliss, M. C., Wilkie, J., Acredolo, C., Berman, S. and Tebb K. P. (1997). The effect of discharge pack formula and breast pumps on breastfeeding duration and choice of infant feeding method. *Birth* 24 (2): 90-7.

Brent, N. B., Redd, B., Dworetz, A., D'Amico, F and Greenberg, J. J. (1995). Breast-feeding in a low-income population. Program to increase incidence and duration. *Archives of Pediatrics and Adolescent Medicine* 149 (7): 798-803.

Britten, J. and Broadfoot, M. (2002). Breastfeeding support in Scotland. *British Journal of Midwifery* 10 (5): 292-6.

Cattaneo, A. and Buzzetti, R. (2001). Effect on rates of breast feeding of training for the baby friendly hospital initiative – quality improvement report. *British Medical Journal* 323 (7325): 1358-62.

Chapman, D. J., Young, S., Ferris, A. M. and Perez-Escamilla, R. (2001). Impact of breast pumping on lactogenesis stage II after Caesarean delivery. *Pediatrics* 107: e94.

Coombs, D. W., Reynolds, K., Joyner, G. and Blankson, M. (1998). A self-help program to increase breastfeeding among low-income women. *Journal of Nutrition Education* 30 (4): 203-9.

Dennis, C., Hodnett, E., Gallop, R. and Chalmers, B. (2002). The effect of peer support on breast-feeding duration among primiparous women: a randomized controlled trial. *Canadian Medical Association Journal* 166 (1): 21-8.

Duffy, E. P., Percival, P. and Kershaw, E. (1997). Positive effects of an antenatal group teaching session on postnatal nipple pain, nipple trauma and breast feeding rates. *Midwifery* 13 (4): 189-96.

Fitz-Desorgher, R. (2003). All tied up. Tongue tie and its implications for breastfeeding. *Practising Midwife* 6 (1): 20-2.

Fredrickson, D. D. (1995). Breastfeeding promotion among WIC-participating women in North Carolina. Thesis. University of North Carolina, Chapel Hill.

Gagnon, A. J., Dougherty, G., Jimenez, V. and Leduc, N. (2002). Randomized trial of postpartum care after hospital discharge. *Pediatrics* 109 (6): 1074-80.

Giovannini, M., Banderali, G., Radaelli, G., Carmine, V., Riva, E. and Agostoni, C. (2003). Monitoring breastfeeding rates in Italy: national surveys 1995 and 1999. *Acta Paediatrica* 92 (3): 357-63.

Gunn, J., Chondros, P. and Young, D. (1998). Does an early postnatal check-up improve maternal health: results from a randomised trial in Australian general practice. *British Journal of Obstetrics and Gynaecology* 105 (9).

Hauck, Y. l. and Dimmock, J. E. (1994). Evaluation of an information booklet on breastfeeding duration: a clinical trial. *Journal of Advanced Nursing* 20 (5): 836-43.

Henderson, A., Stamp, G. and Pincombe, J. (2001). Post-partum positioning and attachment education for increasing breastfeeding: a randomized trial. *Birth* 28 (4): 236-42.

Howard, C., Howard, F., Lawrence, R., Andresen, E., DeBlieck, E. and Weitzman, M. (2000). Office prenatal formula advertising and its effect on breast-feeding patterns. *Obstetrics and Gynecology* 95 (2): 296-303.

Livingstone, V. and Stringer, L. J. (1999). The treatment of staphyloccocus aureus infected sore nipples: a randomized comparative study. *Journal of Human Lactation* 15 (3): 241-6.

Masaitis, N. S. and Kaempf, J. W. (1996). Developing a frenotomy policy at one medical center: a case study approach. *Journal of Human Lactation* 12 (3): 229-32.

NICE (2005). *The effectiveness of public health interventions to promote the duration of breastfeeding*. Systematic review. London: NICE.

Pollard, D. L. (1998). Effect of self-regulation on breastfeeding in primiparous mothers. Thesis. University of Pittsburgh.

Porteous, R., Kaufman, K. and Rush, J. (2000). The effect of individualized professional support on duration of breastfeeding: a randomized controlled trial. *Journal of Human Lactation* 16 (4): 303-8.

Protheroe, L., Dyson, L., Renfrew, M. J., Bull, J. and Mulvihill, C. (2003). *The effectiveness of public health interventions to promote the initiation of breastfeeding*. Evidence briefing. 1st edition. London: Health Development Agency.

Renfrew, M. J., Woolridge, M. W., Ross McGill, H. (2000). *Enabling women to breastfeed. A review of practices which promote or inhibit breastfeeding – with evidence-based guidance for practice*. Norwich: Stationery Office.

Roberts, K. L., Reiter, M. and Schuster, D. (1995). A comparison of chilled and room temperature cabbage leaves in treating breast engorgement. *Journal of Human Lactation* 11 (3): 191-4.

Roberts, K. L., Reiter, M. and Schuster, D. (1998). Effects of cabbage leaf extract on breast engorgement. *Journal of Human Lactation* 14 (3): 231-6.

Rojjanasrirat, W. (2000). The effects of a nursing intervention on breastfeeding duration among primiparous mothers planning to return to work. Thesis. University of Kansas.

Rossiter, J. C. (1994). The effect of a culture-specific education program to promote breastfeeding among Vietnamese women in Sydney. *International Journal of Nursing Studies* 31 (4): 369-79.

Sciacca, J. P., Phipps, B. L., Dube, D. A. and Ratliff, M. l. (1995). A breast feeding education and promotion program: effects on knowledge, attitudes, and support for breast feeding. *Journal of Community Health* 20 (6): 473-90.

Serafino-Cross, P. and Donovan, P. (1992). Effectiveness of professional breastfeeding home support. *Journal of Nutrition Education* 24 (3): 117-122.

Serwint, J. R., Wilson, M. E., Vogelhut, J. W., Repke, J. T. and Seidel, H. M. (1996). A randomized controlled trial of prenatal pediatric visits for urban, low-income families. *Pediatrics* 98 (6 pt 1): 1069-75.

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