Infant nutrition

Breast feeding

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An effective but under applied intervention in Europe

Over 95% of the world's children are initially breast fed and as the result of promotion programmes, prevalence has increased throughout the 1990s in many developing countries.[1] Although breast feeding could improve the health of mothers and children in all parts of the world, ironically its potential has still to be realised in many of the world's wealthiest countries where prevalence remains low. United Kingdom data collected during the last quinquennial national survey of infant feeding (September 2000) have recently been released.[2] They show only a minimal increase in England and Wales (70% of babies were breast fed at birth, as opposed to 68% in 1995), largely explicable by the confounding effects of increased maternal age and educational attainment.[2] Significant increases were, however, seen in Scotland and Northern Ireland, traditionally areas of low breast feeding uptake, where there have been vigorous promotional campaigns.[2 3] The UK picture is typical of much of Europe which has the lowest breast feeding rates of any global region.[4 5] The reasons which underlie Europe's failure to capitalise on breast feeding as a child health promotion strategy need to be explored.

Despite a wealth of evidence, some professional scepticism endures about the link between infant feeding and health outcomes. For some the randomised controlled trial (RCT) has become a sine qua non. However, the ethical problems associated with randomising mothers' feeding choices have usually meant that case–control and cohort study experimental designs have been the only practical methodological option. Among the principal research problems encountered have been inadequate definitions of "breast feeding" (for example, failure to distinguish "exclusive" from partial breast feeding), ascertainment bias, and the possibility that maternal choice was biased by disease risk (such as a family history of allergic disease).[2] To these must be added confounding by factors such as social class, maternal age, parental educational attainment, and smoking habits.[6] However, a number of studies have overcome these problems and shown that breast fed infants are at significantly reduced risk of gastrointestinal infection,[7] ear infection,[8] necrotising enterocolitis, and probably *Haemophilus influenzae* infection, compared to artificially fed children.[9] This is the case even in the well resourced UK and USA.[7–9] There is also emerging evidence of longer term benefits: for example, children who were breast fed show reduced systolic blood pressure at school age[7] and perform better in tests of cognitive skills, particularly if born prematurely.[10] Mothers' long term health also probably benefits from breast feeding as they appear to experience lowered risk of certain cancers.[11 12]

> "Infant feeding decisions have ramifications beyond the macroeconomics of healthcare provision"

Evidence from randomised controlled trials does exist. Until recently these have only been possible among preterm infants who can be randomly allocated to receive donor human milk rather than formula. Those fed on human milk tolerate enteral feeds sooner,[13] and are at reduced risk of necrotising enterocolitis[14] and other systemic infections.[15] Now a randomised cluster trial has produced convincing evidence of benefit for term infants as well.[16] Maternity hospitals were randomly allocated to receive an evidence based intervention designed to increase the uptake and duration of breast feeding (the WHO/UNICEF *Baby Friendly Hospital Initiative*).[17] Among the 16 491 mother–baby pairs followed up for 12 months, those born in intervention hospitals were significantly more likely to be exclusively breast fed at 3 and 6 months of age. Moreover they had approximately half the risk of experiencing gastrointestinal infection (OR 0.60, 95% CI 0.40 to 0.91) and atopic eczema (OR 0.54, 95% CI 0.31 to 0.95).[16] This powerful RCT shows both that breast feeding prevalence can be improved by a hospital intervention, and that this is accompanied by significant health gain. The optimum duration of exclusive breast feeding has long been a subject of debate, but following a scientific review of the evidence available, WHO has recently concluded that in the global context "... about 6 months" offers benefit over shorter periods.[18] While this is desirable, it is important to appreciate that many mothers in the UK may, for many valid personal, economic, or social reasons be unable to continue this for long. Such mothers can be strongly reassured that shorter periods of breast feeding are also beneficial in order that they are not deterred from starting.[7]

The economic implications of breast feeding must be considerable, although these have not been systematically studied in the UK. A recent US government analysis estimated that an annual saving of some $3.6 billion would accrue from increasing the prevalence of breast feeding in the USA from 29% to 50% at 6 months of age,[19] an estimate which must be conservative as it included only three preventable conditions: gastroenteritis, otitis media, and necrotising enterocolitis. Large though these sums may be, infant feeding decisions have ramifications beyond the macroeconomics of healthcare provision. The way a mother in the UK chooses to feed her baby is a strong indicator of her age, social class, and educational background.[2] These influences have been consistently shown in the quinquennial national infant feeding surveys published since 1975, and are substantiated by detailed studies from Scotland, where both postcode and area deprivation category are strong predictors.[3] Although breast feeding benefits almost all children, irrespective of social class, the greatest health gains could therefore result from raising breast feeding prevalence in the most poorly resourced families, reducing health inequalities.

> "Attitudes to breast feeding need to change"

What can be done to help? Firstly, it is important to acknowledge that attitudes to breast feeding will need to change: everyone (not just women) needs to see breast feeding as normal, health promoting behaviour, and education needs to start early.[20] Those who choose to breast feed need the support of their families and of society as a whole: breast feeding in a public place must not be seen as indiscreet or offensive. Women also need practical help and advice. Well designed studies in resource poor countries have shown that trained peer counsellors significantly increase the prevalence of breast feeding.[21 22] There are few UK studies,[23] but antenatal and early postnatal support from trained peer counsellors have been shown to increase the incidence and duration of breast feeding among low income families enrolled in the US Programs for Women, Infants and Children (WIC).[24] In contrast, the Welfare Food Scheme in Britain has changed little in its 60 year history.

Women from low income families who choose to breast feed are offered a daily pint of milk (in place of free infant formula) but no additional counselling or practical support. This scheme's modernisation is long overdue.

Secondly, improving hospital practices and the training of health professionals would help. Over the last decade the "Ten steps" of the WHO/UNICEF UK "Baby Friendly Hospital Initiative" have proved a successful means of implementing research findings.[17] In the United Kingdom, the "Baby Friendly Initiative" has now accredited 34 maternity hospitals and three primary care facilities. Working towards and gaining accreditation is associated with a 10% increase in the proportion of women breast feeding at birth, some of the largest increments being seen in inner city hospitals where breast feeding initiation rates have traditionally been low.[25] The costs of these interventions are modest, emphasising the cost effectiveness of breast feeding promotion.[19] These claims have been borne out by a study from Scotland where national data have shown significantly greater increases in areas served by maternity units with "Baby Friendly" accreditation or the "Certificate of Commitment" (attesting that the facility has a plan for full implementation).[3] Paediatricians in Britain and the rest of Europe should be throwing their considerable weight behind these initiatives.

Thirdly, if scarce healthcare resources are to be most appropriately targeted and interventions subjected to audit more routine data need to be collected, and used. In England and Wales there is no agreed method for monitoring locally or nationally the prevalence of breast feeding at various ages. This contrasts starkly with the situation pertaining to some other child health promotion strategies such as immunisation. The system which has existed in Scotland since 1990 is far superior: data collected at the end of the first week on the "Guthrie" screening card allow calculation of breast feeding prevalence by postcode and by the maternity unit in which the baby was delivered.[3 26] The success of this strategy may partially explain the very significant and consistent increase in breast feeding prevalence in Scotland between 1990 and 2000, from 50% to 63%. During the same period prevalence (adjusted for effects of maternal age) in England and Wales has not significantly changed.[2]

Breast feeding is an effective method of reducing the risk of common childhood illnesses, particularly gastrointestinal and ear infections. It must be seen as a vital component of child health and infectious disease prevention strategy, and as a means of reducing health inequalities. In order to achieve this, more emphasis is needed on professional training, support for breast feeding mothers, monitoring of outcome, and education to change the attitudes of society.

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