Interventions for promoting the initiation of breastfeeding

02 March 2009

In under-resourced settings, breastfeeding education during the antenatal period delivered by multipurpose health-care workers chosen from the community can help with the early initiation of breastfeeding. Simple interventions after delivery – such as early rooming-in, skin-to-skin contact and support to the mother – are likely to have the greatest impact.

RHL Commentary by Jana AK

1. INTRODUCTION

The benefits of breastfeeding for the health and wellbeing of the mother and baby are well documented. WHO recommends early (i.e. within one hour of giving birth) initiation of breastfeeding. A recent trial has shown that early initiation of breastfeeding could reduce neonatal mortality by 22% (1), which would contribute to the achievement of the Millennium Development Goals. Globally, over one million newborn infants could be saved each year by initiating breastfeeding within the first hour of life. In developing countries alone, early initiation of breastfeeding could save as many as 1.45 million lives each year by reducing deaths mainly due to diarrhoeal disorders and lower respiratory tract infections in children (2).

In many parts of the world, the rates of early initiation of breastfeeding are extremely low: 17% in Eastern Europe and Central Asian countries, and 33% in Asia-Pacific (3). The highest rates (about 50%) are in Latin America, the Caribbean, East and North Africa. However, for many countries no data are available.

In South Asia, 24%–26% of babies born in Bangladesh, India and Pakistan are breastfed within the first hour of birth, whereas the corresponding rate for Sri Lanka is 75% (4). The effect of these breastfeeding patterns is reflected in the neonatal mortality rates for these countries: 40–50 per 1000 live births for Bangladesh, India and Pakistan, while in Sri Lanka the rate is as low as 11 per 1000 live births (5).

The impact of early initiation of breastfeeding on infant mortality and its economic advantages are well known. Yet little attention has been paid by health-care practitioners and policy-makers to this simple preventive strategy, except for annual campaigns that aim to highlight its importance, such as the World Breastfeeding Week (6).
Few trials have been conducted to identify interventions that might improve the rates of breastfeeding initiation, thereby saving many lives worldwide. This Cochrane review aims to evaluate and compare: (i) the effectiveness of interventions that aim to encourage women to initiate breastfeeding early, (ii) the appropriateness of these interventions; (iii) secondary outcomes such as duration and exclusivity of breastfeeding; and (iv) adverse effects of the interventions, if any (7).

2. METHODS

All randomized controlled trials, with or without blinding, of any breastfeeding promotion intervention in any population group were included in this review, except those conducted among women and infants with specific health problems, such as HIV and preterm birth. The trials were identified and retrieved from the Cochrane Pregnancy and Childbirth Group’s Trials Register (July 2007) and by hand-searching the Journal of Human Lactation, Health Promotion International and Health Education Quarterly up till August 2007. Outcomes looked at were the initiation and duration of any and exclusive breastfeeding. Studies lacking clarity about methodology, randomization and outcome data were excluded from the review.

Two authors independently assessed over 1400 titles and abstracts of studies identified from all sources. Using criteria included in the Cochrane Handbook, studies were assessed for validity and bias in selection, performance, attrition and detection. Where data allowed estimation, individual and pooled risk ratios were calculated with 95% confidence intervals for dichotomous data on initiation of breastfeeding from studies.

The nature of health promotion interventions to achieve a positive outcome in terms of an increase in the number of women starting to breastfeed warrants reversal of the traditional Cochrane Database of Systematic Reviews convention whereby a risk ratio of less than one indicates that the experimental intervention is better than the control intervention. Hence, for the purposes of this review, a risk ratio of more than one indicates that the experimental intervention has a more favourable effect on initiation rates than the control intervention. This is displayed by the dot appearing to the right of the central vertical line that indicates no difference in the meta-analysis graph.

3. RESULTS

Eleven studies that evaluated the effect of the intervention, in terms of the numbers of women who initiated breastfeeding after the intervention, were included in this review. However, data from three of the 11 studies were not included in the meta-analyses owing to concerns about their methodology. Hence, the total number of women included in the statistical analysis was 1553.

The types of breastfeeding promotion intervention evaluated by the eight trials included in the analyses were as follows: five trials on health education of pregnant women, and one trial each on need-based peer support, breastfeeding promotion packs and early mother–infant contact. The five trials on health education, involving 582 low-income women in the USA with typically low breastfeeding rates, showed breastfeeding education had a significant effect on increasing initiation rates compared with standard care [risk ratio (RR) 1.57; 95% confidence interval (CI) 1.15–2.15].

Subgroup analysis of two studies evaluating the effect of repeat, informal breastfeeding education, which was personalized to each woman’s needs, demonstrated a statistically significant increase in the number of women starting to breastfeed as a result of the intervention (RR 2.40; 95% CI 1.57–3.66).
Subgroup analysis of three studies evaluating the effect of generic, formal, single breastfeeding education sessions on the initiation of breastfeeding found a positive, albeit a marginally non-statistically significant effect on the number of women starting to breastfeed (RR 1.26; 95% CI 1.00–1.60).

Though all studies were conducted among low-income women in the USA (from diverse backgrounds), the definitions of routine care, the methods, content and duration of the health education interventions varied. So the results need to be interpreted with caution, especially in the context of their significance for under-resourced settings.

Needs-based, informal peer support during antenatal and postnatal periods was also shown to be effective in one study conducted among Latin American women in the USA who were considering breastfeeding their infants (RR 4.02; 95% CI 2.63–6.14). A significant increase in the rates of duration of breastfeeding was not demonstrated at 1–3 months post partum.

The provision of a non-commercial breastfeeding promotion pack compared with a package produced by a milk formula company was shown to have no effect (RR 0.93; 95% CI 0.80–1.08) on increasing initiation rates among women of middle- or higher-income women in the USA. The authors also reported no effect on rates of stopping breastfeeding up to two weeks (RR 1.58; 95% CI 0.97–2.56).

A 'minimal-contact intervention' was shown to have no effect (RR 1.05; 95% CI 0.94–1.17) on increasing initiation rates among women living in poor urban areas in Nicaragua. The breastfeeding initiation rate in this study was 87%, higher than in other included studies. It must be noted that while the intervention evaluated early mother–infant contact immediately after birth, women and their babies were then separated for the rest of their stay in hospital.

No trials of population-based programmes to promote initiation of breastfeeding were found.

**4. DISCUSSION**

**4.1 APPLICABILITY OF RESULTS**

With the exception of the study conducted in Nicaragua (8), all interventions were implemented among low-income women in the USA. Thus, the applicability of the health education interventions considered in this review to other settings, especially in under-resource settings, needs to be assessed with caution.

Access of pregnant women to health-care facilities with skilled birth attendants remains limited in many developing countries. Most births still take place at home and are overseen by unskilled traditional birth attendants. In these situations, it is not feasible to have an exclusive lactation consultant. Community participation with local health-care workers given appropriate training is likely to be a more realistic approach to the implementation of personal and group interventions to improve initiation of breastfeeding.

A package of interventions for essential newborn care including breastfeeding promotion, was delivered through community health workers in Shivgarh, Uttar Pradesh, India, was evaluated in a large cluster randomized trial (9). This was done through collective meetings and antenatal and postnatal household visits. This intervention led to a substantial increase in the number of women initiating breastfeeding within 1 hour of birth – from 15% in the control group to almost 70% in the intervention groups (RR 4.57; 95% CI 3.38–6.15).

**4.2 IMPLEMENTATION OF THE INTERVENTION**

In under-resourced settings, breastfeeding education during the antenatal period along with other components of essential newborn care can be delivered through multipurpose health-care workers chosen from the community. In addition, simple interventions after delivery – such as early rooming-in, skin-to-skin
contact and support to the mother – are likely to have the greatest impact on early initiation of breastfeeding.

Breastfeeding education provided to rural women should be culturally acceptable and realistic. Since many women in under-resourced settings have low or no formal education, the information needs to be presented in the local language with a simple concise message using appealing audiovisual aids.

In many developing countries, decisions regarding the delivery and care of the newborn are made by the extended family and community elders. So it is important that they are also included in the breastfeeding education process.

### 4.3 IMPLICATIONS FOR RESEARCH

Trials with adequate power and methodology need to be conducted in under-resourced settings, especially where breastfeeding initiation rates are low. The reason for large regional variations in the rates of breastfeeding also needs to be examined.

Research should focus on the content, duration, type of education and interventions required at various levels in under-resourced settings. Future research should also evaluate interventions that increase the initiation and duration of exclusive breastfeeding until 6 months of age.

Sources of support: None

Acknowledgement: Dr. Kurien Anil Kuruvilla, Neonatology Unit, Christian Medical College, Vellore, Tamil Nadu, India.

### References
