

# Initiating breastfeeding within one hour of birth:

## *A scientific brief*

(Arun Gupta)

### *History*

Initiating breastfeeding within one hour of birth was one the *Ten Steps to Successful Breastfeeding* on which the BFHI was based and launched in 1992. Step 4 was, “Help mothers initiate breastfeeding within a half-hour of birth” and its explanation as provided in the WHO’s document, *Evidence for the ten steps to successful breastfeeding* is as.

“Mothers in the maternity ward who have had normal vaginal deliveries should confirm that within a half-hour of birth they were given their babies to hold with skin contact, for at least 30 minutes, and offered help by a staff member to initiate breastfeeding... At least 50% of mothers who have had caesarean deliveries should confirm that within a half-hour of being able to respond, they were given their babies to hold with skin contact(The Global Criteria for the WHO/UNICEF Baby Friendly Hospital Initiative, 1992)”.

However, it was quite clear at that time and emphasis was early start without significant reference to survival of newborns. Skin to skin contact was the major outcome. There is sufficient scientific evidence to support the step 4<sup>1</sup>.

### *Current commitments*

World leaders at the United Nations Millennium Summit in September 2000 agreed on a critical goal to reduce deaths of under-five children by two thirds, but this may be unattainable without halving newborn deaths, which now comprise 40% of all under-5 deaths. It is estimated that 4 million newborn deaths occur every year. Some countries are predicted to achieve two-thirds of the reduction in under-5 deaths by 2010, but many are seriously off track(UNICEF 2004, Lancet 2006). Twenty-eight percent of these, or 1.2 million deaths, occur in Africa. Keeping in view the above statistics, it appears that the MDG 4 can only be achieved if neonatal deaths are addressed. This necessitates both maternal and child health interventions. Within countries, rural areas and poor families have the highest risk for newborn deaths. Almost all of the four million newborn deaths are due to preventable causes, with the majority of them attributed to infections. (<http://www.whiteribbonalliance.org/Resources/Documents/Final%20Workshop%20Report%20-%20Malawi.pdfpage>). Experts have argued that greater

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<sup>1</sup> Evidence for the ten steps to successful breastfeeding: Family and Reproductive Health, Division of Child Health and Development, World Health Organization , Geneva.

emphasis on wide-scale implementation of proven, cost-effective measures is required to save women's and newborns' lives<sup>2</sup>. Lancet Maternal Mortality series (2006) notes that mother and child outcomes are closely linked. Of the 136 million babies born every year, .... 4 million die in the first month of life, 98% of whom live in low-income and middle-income countries. Neonatal deaths contribute 38% of deaths in those younger than 5 years, and are the main barrier to attaining the MDG for child health (MDG-4). Sepsis, meningitis and pneumonia annually kill 1.1 million neonates in developing countries; most deaths occur at home. Early initiation of breastfeeding would be protective against these causes of death<sup>3</sup>.

### *Evidence*

According to WHO, in the *Global Strategy for Infant and Young Child Feeding* 2/3<sup>rd</sup> of under-five deaths that occur in infancy and mostly related to poor feeding practices. A global ecological risk assessment<sup>4</sup> of deaths and years of life lost due to suboptimal breast-feeding among children in the developing world revealed that attributable fractions for deaths due to diarrhoeal disease and lower respiratory tract infections are 55% and 53%, respectively, for the first six months of infancy, 20% and 18% for the second six months, and are 20% for all-cause deaths in the second year of life. The authors concluded that globally, as many as 1.45 million lives (117 million years of life) are lost due to suboptimal breast-feeding in developing countries. **The** Lancet series on child and newborn survival in 2003, 2004 have widely recognised the role of exclusive breastfeeding for the 0-6 months, it can cut down 13-15% of all child deaths, if coverage levels are increased to near universal. The findings from **a** Ghana study<sup>5</sup> (*Pediatrics*, 2006), which clearly showed for the first time in the world, that ensuring initiation of breastfeeding within 1 hour could **cut 22% all neonatal mortality, assume great importance**. It calls for support to all mothers during **the** first hour to ensure early initiation of breastfeeding. This year's theme of World

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<sup>2</sup> Bhutta ZA, Darmstadt GL, Hasan BS, Haws RA. *Pediatrics*. 2005 Feb;115(2 Suppl):519-617. Community-based interventions for improving perinatal and neonatal health outcomes in developing countries: a review of the evidence.

<sup>3</sup> Bang AT, Bang RA, Reddy MH, Baitule SB, Deshmukh MD, Paul VK, de C Marshal TF. *Pediatr Infect Dis J*. 2005 Apr;24(4):335-41. Simple clinical criteria to identify sepsis or pneumonia in neonates in the community needing treatment or referral. Society for Education, Action and Research in Community Health (SEARCH), Gadchiroli (Maharashtra), 442 605, India. [search@satyam.net.in](mailto:search@satyam.net.in)

<sup>4</sup> Lauer JA, Betran AP, Barros AJ, de Onis M. Deaths and years of life lost due to suboptimal breast-feeding among children in the developing world: a global ecological risk assessment. *Public Health Nutr*. 2006 Sep;9(6):673-85. Department of Making Pregnancy Safer, World Health Organization, Geneva, Switzerland.

<sup>5</sup> Edmond K et al Delayed Breastfeeding Initiation Increases Risk of Neonatal Mortality. *Pediatrics* 2006;117:380-386

Breastfeeding Week 2007 has been announced based on this finding. Edmond et al showed the protective relationship between early initiation of breastfeeding and neonatal mortality risk after controlling for factors known to be associated with earlier onset of breastfeeding, lower rates of perinatal and infant mortality, and established breastfeeding patterns. Extensive scientific data exists on the impact of breastfeeding on post-neonatal mortality, evidence was found sparse for its impact on neonatal mortality and non-existent for the contribution of the timing of initiation. With this background, the authors conducted the study with the primary objective of evaluating the association between the timing of initiation of breastfeeding and neonatal mortality. The secondary objective was to assess whether the different types of breastfeeding (exclusive, predominant, partial breastfeeding) were associated with substantially different risks of neonatal death. Their key findings are given in Box-1:

**Box-1 : Key findings of the study**

1. 30% of the study population initiated breastfeeding after day 1 (late initiation) and 30% were not exclusively breastfed in the neonatal period
2. Exclusive breastfeeding was associated with a 4 fold reduction in risk of death when compared to infants who were fed solids or other milk. This confirms previous findings.
3. An additional 2.5 fold reduction in risk of death was demonstrated in babies who survived to day 2 who initiated breastfeeding on the first day of life (early initiation) compared to infants who initiated after the first day of life (late initiation). This type of effect of early initiation has never been reported.
4. Translating these benefits to the whole population of neonates (breastfed and not breastfed) means that 16% of neonatal lives can be saved if all babies were breastfed from day 1, and 22% if breastfeeding were started within the first hour.
5. Neonatal mortality was also shown to increase markedly as delay in initiation increased.

Further, In a study, to determine the global impact of increases in coverage and promotion of early initiation of breastfeeding in less developed settings, the authors projected absolute numbers of lives saved and the proportion of neonatal deaths avoided if 99% of infants initiated breastfeeding during the first hour or during the first day of life. In an un-published report<sup>6</sup> the authors found that only 38 of the 60

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<sup>6</sup> Karen M Edmond, Ellie C Bard, Betty R Kirkwood, Meeting the millennium development goals for child survival: global impact of early initiation of breastfeeding on neonatal mortality. London School of Hygiene & Tropical Medicine

countries had data available on initiation of breastfeeding within 1 hour and 1 day of birth. The neonatal mortality rate for these 38 countries ranged from 15-70/1,000 live births. They reported as (emphasis added)

“Proportions of babies breastfed by day 1 (median 72%, interquartile range 60-82%), and within the first hour (median 36%, interquartile range 26-52%) were low. For all countries combined, it was estimated that neonatal mortality could be reduced by 24% if 99% of infants initiated breastfeeding on day 1 of life and by 31% if 99% of initiation was within the first hour. **Numbers of lives saved were estimated to be 867,000 and 1,117,000 in these two cases.**”

The paper goes logically from one step to the next to show that, in global terms, over one million lives would be saved if all newborns younger than one month were breastfed within the first hour of life. They concluded that promotion of early initiation of breastfeeding has the potential to make a major contribution to tackling the millennium development goal for child mortality. **They** called for policy changes to effect promotion, coverage and reporting of early initiation of breastfeeding, as well as exclusive breastfeeding, **which** must improve at all levels; global, national and sub national.

The authors of the Ghana study also explain the "Potential Mechanisms". Early initiation of breastfeeding could affect neonatal mortality risk by at least four mechanisms, the lower rate of mortality in those who initiated early may have occurred because mothers who suckle their babies shortly after birth have a greater chance of successfully establishing and sustaining breastfeeding throughout infancy. However, the effect of early initiation persisted after controlling for established neonatal breastfeeding patterns. Secondly, early feeding with non-human milk proteins may severely disrupt normal gut function; thirdly, early human milk is rich in a variety of immune and non-immune components that are important for early gut growth and resistance to infection. Fourthly, promotion of warmth and protection may reduce the risk of death from hypothermia.

Early skin-to-skin contact and the opportunity to suckle within the first hour or so after birth are both important. Some contact cannot be avoided when attempting breastfeeding but contact itself does not necessarily result in immediate suckling. Mothers need to be supported for achieving both contact and suckling which are so closely interrelated. It has **an** important bearing on survival and development of babies. The infant who is in close contact with its mother can suckle when it shows

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signs of readiness, such as suckling movements, which are often present during the first hour of birth. It has been observed that **the** suckling reflex of **the** newborn is at its height twenty to thirty minutes after birth. If the infant is not fed then the reflex diminishes rapidly **only** to reappear adequately forty hours later<sup>7</sup>. This may be called “ **The fourth stage of labour**” which includes putting the baby to breast after birth and ensuring the intake of colostrum by the neonate. The exact time of initiation of breastfeeding has been suggested right from birth in the delivery room itself to within one hour after delivery. Also the antibody content of colostrum is at its maximum during the first twelve postpartum hours making it relevant. Early breastfeeding has a physiological effect on the uterus as well, causing it to contract <sup>8</sup>. The effect of skin-to-skin and suckling contact immediately after birth increases the median duration of breastfeeding by 2 ½ months<sup>9</sup>. In a sample of Norwegian infants, 69% of those who were suckled at birth were still being nursed at the age of 3 months, compared to only 47% of those who were first suckled after six hours<sup>10</sup>.

Salariya et al also found that babies who were first fed within 30 minutes of birth were likely to remain breastfeeding for longer<sup>11</sup>. Furthermore, the routine administration of prelacteal feeds interferes with both the mother’s confidence and hence the let-down reflex, and suckling stimulation and prolactin production, and it reduces protection from infection<sup>12,13,14</sup>.

This kind evidence clearly justifies greater action on **the** first ONE hour.

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<sup>7</sup> Arachavsky IA. Immediate breastfeeding of newborn infant in the prophylaxis of the so called physiological loss of weight. *Vopr Pediatric* 1952, 20:45 Abstract in *Courier* 153, 3:170.

<sup>8</sup> Lawrence RA. Nursing in the Delivery Room. In: *Breastfeeding Guide for the Medical Profession*. St. Louis, The C.V. Mosby Co, 14, pp 232-235.

<sup>9</sup> de Chateau P. A Study of factors promoting and inhibiting lactatin. *Dev med Child Neurol* 177, 19:574-584)

<sup>10</sup> Arentoft B, Jensen LK. *The influence of hospital routine on the frequency and duration of breastfeeding* *Ugeskr Laeger* 183, 145: 2462-2464.

<sup>11</sup> Salariya EM, Easton PM, Cater JL. Duration of breastfeeding after an early initiation and frequent feeding. *Lancet* 178, 2:1141-1143.

<sup>12</sup> Gillie L. Difficulties and discouragement encountered by mother. *J Hum Nutr* 1976, 30: 248.

<sup>13</sup> Isenalumhe AE, Oviawe. O Prelacteal feeds and breastfeeding problems. *Indian J Pediatr* 1987, 54: 89-96.

<sup>14</sup> Jelliffe DB, Jelliffe EFP. Breastfeeding: World Significance in Obstetric Practices *J Trop Pediatric* 183, 29: 130-132.

### *Evidence for Other benefits*

Early breastfeeding has a physiological effect on the uterus as well, causing it to contract. This action would also be useful for reduction in postpartum bleeding in women. Oxytocin is known to play a role in bonding and reduction in postpartum bleeding; it has been demonstrated that oxytocin levels increase during first 45 minutes and return to normal levels in 60 minutes<sup>15</sup>. It was found that sucking and hand touching by babies stimulates oxytocin release, which is significant for uterine contractions, milk ejection and mother infant relationship<sup>16</sup>. Another study<sup>17</sup> demonstrated that early vs. late initiation was related to less vaginal bleeding postpartum, which calls for universal health care support to all mothers for ensuring breastfeeding within an hour of birth to provide benefits for both the mothers and children as postpartum haemorrhage is a major problem that jeopardizes maternal health and its prevention can save mother's lives through early breastfeeding.

Considering the evidence as vital, beginning breastfeeding within one hour must be considered as a vital first step towards ensuring exclusive breastfeeding and should become a part of routine sub national, national and international reporting. The WORLD BREASTFEEDING WEEK (WBW) 2007 aims precisely towards this objective, and also to raise public awareness of the benefits of this simple achievable practice on newborn and maternal health.

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On behalf of World Alliance for Breastfeeding Action (WABA)

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<sup>15</sup> Nissen E et al Acta Obstet Gynecol Scand. 1995 Aug; 74(7):530-3

<sup>16</sup> Ann-Sofi Matthiesen et al Postpartum Maternal Oxytocin release by newborns: effects of infant Hand massage and Sucking. BIRTH 28:1, March 2001.

<sup>17</sup> Sobhy SI, Mohame NA. The effect of early initiation of breastfeeding on the amount of vaginal blood loss during the fourth stage of labor. Egypt Public health Association 2004;79(1-2):1-12