

Session 4: The scientific basis for the “Ten steps to successful breastfeeding”

Objective

At the conclusion of this session, participants will be able to:

- Describe the scientific basis for the “Ten steps to successful breastfeeding”.

Duration

Total: 90 minutes

Teaching methods

Lecture and discussion

Preparation for session

- Review the WHO document, “Evidence for the ten steps to successful breast-feeding” 1998 (WHO/CHD/98.9) (http://www.who.int/child-adolescent-health/publications/NUTRITION/WHO_CHD_98.9.htm)
- Review all handouts and research summaries which follow the Session 4 outline. (Be sure to have the most up-to-date statement from the Joint United Nations Programme on HIV/AIDS (UNAIDS) on HIV and infant feeding).
- Review video “Delivery, Self Attachment” (Time: 6 minutes). (See the *Course Guide* for information on how to order the video.)
- Review all PowerPoint slides and/or transparencies and choose *for each step* about three slides or transparencies most appropriate for your audience. If desired, you may change the order of the slide/transparency presentation. Review the generic photo slides and use them and/or your own slides, to illustrate points as needed.
- Review locally available breastfeeding training courses and list them on an overhead or flipchart.
- If available, display poster of the Ten Steps where the speaker can easily refer to it.

Training materials

Summaries

Summaries of research studies

Handouts

Protecting, Promoting and Supporting Breast-feeding, The Special Role of Maternity Services, A Joint WHO/UNICEF Statement (booklet, same as Session 3)

- 4.1 Presentation for Session 4
- 4.2 National policy on infant and young child feeding (for health institutions), Sultanate of Oman
- 4.3 The Baby and Mother Friendly Hospital Programme, Ministry of Health, Mexico
- 4.4 UNICEF UK Baby Friendly Initiative: Sample combined maternity/community services policy on breastfeeding
- 4.5 Acceptable medical reasons for supplementation (draft)

Slides/Transparencies

4.1.1-4.11.7 and photo slides 4.a-4.z

The website featuring this Course contains links to the slides and transparencies for this session in two Microsoft PowerPoint files. The photo slides are included in the “slides” file in the order in which they are listed in the Session Plan. When possible, trainers should substitute appropriate photos taken locally or in situations that are similar to local conditions.

The slides (in colour) can be used with a laptop computer and LCD projector, if available. Alternatively, the transparencies (in black and white) can be printed out and copied on acetates and projected with an overhead projector. The transparencies are also reproduced as the first handout for this session, with 6 transparencies to a page.

Other training materials

Flipchart

Video

Poster with the Ten Steps

References

Albernaz E, Giugliani ERJ, Victora CG. Supporting breastfeeding: a successful experience. *J Hum Lact*, 1998, 14(4):283-285.

Breastfeeding and the use of water and teas. Division of Child Health and Development, Update, No. 9. Geneva, World Health Organization, reissued November 1997.

Cattaneo A, Buzzetti R. Effect on rates of breast feeding of training for the Baby Friendly Hospital Initiative. *BMJ*, 2001, 323:1358-1362.

Coutsoudis A, Kubendran P, Kuhn L, Spooner, E, Tsai W, Coovadia, HM. South African Vitamin A Study Group. Method of feeding and transmission of HIV-1 from mothers to children by 15 months of age: prospective cohort study from Durban, South Africa. *AIDS*, 2001 Feb 16; 15(3):379-87.

Christensson K, Siles C, Moreno L, et al. Temperature, metabolic adaptation and crying in healthy full-term newborns cared for skin-to-skin or in a cot. *Acta Paediatr*, 1992, 81:481-493.

DeCarvalho M, Klaus MH, Merkatz RB. Frequency of breast-feeding and serum bilirubin concentration. *Am J Dis Child*, 1982, 136:737-738.

DeCock KM, Fowler MG, Mercier E et al. Prevention of mother-to-child HIV transmission in resource poor countries. *JAMA*, 2000, 238 (9):175-82.

DeChateau P, Wiberg B. Long term effect on mother-infant behavior of extra contact during the first hour postpartum. *Acta Paediatr*, 1977, 66:145-151.

Evidence for the ten steps to successful breastfeeding. Geneva, World Health Organization, 1998 (WHO/CHD/98.9).

Guidelines concerning the main health and socioeconomic circumstances in which infants have to be fed on breast-milk substitutes. In: *Thirty-Ninth World Health Assembly* [A39/8 Add. 1- 10 April 1986], pp. 122-135, Geneva, World Health Organization, 1992.

Guisse, J-M, Palda V, Westhoff C, Chan BKS, Helfand M, Lieu T. The effectiveness of primary care-based interventions to promote breastfeeding: Systematic evidence review and meta-analysis for the US preventive services task force. *Annals of Family Medicine*, 2003 1(2):70-78.

Haider R et al. Breast-feeding counselling in a diarrhoeal disease hospital. *Bulletin of the World Health Organization*, 1996, 74(2):173-179.

Haider R, Kabir I, Huttly S and Ashworth A. A training peer counselors to promote and support exclusive breastfeeding in Bangladesh. *J Hum Lact*, 2002, 18:7-12.

HIV and infant feeding: A policy statement developed collaboratively by UNAIDS, WHO and UNICEF. Geneva, UNAIDS, 1997.

HIV transmission through breastfeeding: A review of available evidence. Geneva, World Health Organization, 2004.

Jayathilaka AC. *A study in breastfeeding and the effectiveness of an intervention in a district of Sri Lanka*. [DM thesis]. Sri Lanka, University of Colombo, 1999.

Jelliffe DB, Jelliffe EFP. The role of the support group in promoting breastfeeding in developing countries. *J Trop Pediatr*, 1983, 29:244.

Kramer MS, Chalmers B, Hodnett E et al. Promotion of Breastfeeding Intervention Trial (PROBIT) A randomized trial in the Republic of Belarus. *JAMA*, 2001, 285:413-420.

Lu M, Lange L, Slusser W et al. Provider encouragement of breast-feeding: evidence from a national survey. *Obstetrics and Gynecology*, 2001, 97:290-295.

- Martens PJ. Does Breastfeeding education affect nursing staff beliefs, exclusive breastfeeding rates, and Baby-Friendly Hospital Initiative compliance? The experiences of a small, rural Canadian hospital. *J Hum Lact*, 2000, 16:309-318.
- Merten S et al. Do Baby-Friendly Hospitals Influence Breastfeeding Duration on a National Level? *Pediatrics*, 2005, 116: e702 – e708.
- Morrow A, Guerrereo ML, Shultis J et al. Efficacy of home-based peer counselling to promote exclusive breastfeeding: a randomized controlled trial. *Lancet*, 1999, 353:1226-31.
- Nielsen B, Hedegaard M, Thilsted S, Joseph A, Liliestrand J. Does antenatal care influence postpartum health behaviour? Evidence from a community based cross-sectional study in rural Tamil Nadu. South India. *British Journal of Obstetrics and Gynaecology*, 1998, 105: 697-703.
- Nylander G, Lindemann R, Helsing E, Bendvold E. Unsupplemented breastfeeding in the maternity ward. *Acta Obstet Gynecol Scand*, 1991, 70: 205-209.
- Philipp BL, Merewood A, Miller LW et al. Baby Friendly Hospital Initiative improves breastfeeding initiation rates in a US hospital setting. *Pediatrics*, 2001, 108:677-681.
- Pipes PL. *Nutrition in Infancy and Childhood*. Boston, Massachusetts, Times Mirror/Mosby, 1989.
- Powers NG, Naylor AJ, Wester RA. Hospital policies: crucial to breastfeeding success. *Semin Perinatol*, 1994, 18(6): 517-524.
- Righard L, Alade MO. Effect of delivery room routines on success of first breast-feed. *Lancet*, 1990, 336: 1105-1107.
- Righard L, Alade MO. Sucking technique and its effect on success of breastfeeding. *Birth*, 1992, 19(4):185-189.
- Saadeh RJ, Akre J. Ten steps to successful breast-feeding: a summary of the rationale and scientific evidence. *Birth*, 1996, 23(3):154-160.
- Saadeh RJ, ed. *Breast-Feeding: The Technical Basis and Recommendations for Action*. Geneva, World Health Organization, 1993.
- Savage-King FS. *Helping Mothers to Breastfeed*, Revised Edition. Nairobi, Kenya, African Medical Research Foundation, 1992.
- Soetjiningsih, Suraatmaja S. The advantages of rooming-in. *Pediatrica Indonesia*, 1986, 26:229-235.
- WHO/UNICEF/UNFPA/UNAIDS/World Bank/UNHCR/EFP/FAO/IAEA. *HIV and infant feeding: Framework for priority action*. Geneva, World Health Organization, 2003 (http://www.who.int/child-adolescent-health/publications/NUTRITION/HIV_IF_Framework.htm).
- Victora C, Behague D, Barros F et al. Pacifier use and short breastfeeding duration: cause, consequence, or coincidence? *Pediatrics*, 1997, 99:445-453.
- WHO Technical Consultation on Infant and Young Child Feeding, Themes, Discussion and Recommendations*, WHO, Geneva, 13-17 March, 2000. Geneva, World Health Organization, 2000 (WHO/NHD/00.8, WHO/FCH/CAH/00.22).

WHO/UNICEF/UNFPA/UNAIDS. *HIV and infant feeding: A guide for health-care managers and supervisors* (revised). Geneva, World Health Organization, 2003 (http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/HIV_IF_MS.pdf).

WHO/UNICEF/UNFPA/UNAIDS. *HIV and infant feeding: guidelines for decision-makers* (revised). Geneva, World Health Organization, 2003 (http://www.who.int/child-adolescent-health/publications/NUTRITION/ISBN_92_4_159122_6.htm).

Woolridge M. The “anatomy” of infant sucking. *Midwifery*, 1986, 2:164-171.

Worthington-Roberts B, Williams SR. *Nutrition in Pregnancy and Lactation*, 5th Edition. St. Louis, MO, Mosby, 1993.

Yamauchi Y, Yamanouchi I. Breast-feeding frequency during the first 24 hours after birth in full-term neonates. *Pediatrics*, 1990, 86 (2):171-175.

Yamauchi Y, Yamanouchi I. The relationship between rooming-in/not rooming-in and breast-feeding variables. *Acta Paediatr Scand*, 1990, 79:1017-1022.

Outline

Content	Trainer's Notes
	<p>This session will review selected studies to illustrate the physiological and sociological basis for the Ten Steps. All steps are interrelated. The first 2 steps provide the foundation for implementing the remaining eight. Refer participants to the handout (booklet), "Promoting, Protecting, and Supporting Breast-feeding..."</p> <p>Invite participants to comment or ask questions during the presentation. Write down problems, barriers or solutions that come up during the presentation so they can be addressed in Session 5. Try to allow some discussion during this presentation but postpone major discussions until Session 5 due to time constraints.</p> <p>Mention that a mini-version of the presentation is reproduced in Handout 4.1 and included in the participants' folder.</p>
<p>1. Step 1: Have a written breastfeeding policy that is routinely communicated to all health-care staff.</p>	<p><i>Slides</i></p> <p>4.1.1 Step 1</p> <p>4.1.2 Why have a policy?</p> <p>4.a Mention the "Joint Statement" and fact that it serves as the background document for BFHI and the "Ten Steps"</p> <p>4.1.3 What should it cover?</p> <p>4.1.4 How should it be presented? Policy examples (refer to handouts of choice, 4.2-4.4) (May use your own policy examples. Policies need to be adapted to your own settings and should be based on the Ten Steps.)</p> <p>4.b Show photo of health professionals consulting a written policy during on-the-job training (optional).</p> <p>4.1.5 Graph: Rates of exclusive breast-milk feeds improved while in the birth hospital after implementing the Baby Friendly Hospital Initiative. (<i>Philipp et al. See summary.</i>)</p>

Content	Trainer's Notes
<p>2. Step 2: Train all health-care staff in the skills necessary to implement this policy.</p>	<p><i>Slides</i></p> <p>4.2.1 Step 2</p> <p>4.c Show photo of health professionals attending a classroom session (optional).</p> <p>4.d. Show photo of women during a group discussion in training workshop (optional).</p> <p>4.2.2 Areas of knowledge to be included in staff education (may ask participants to answer before showing)</p> <p>4.2.3 Additional topics for training in the context of HIV</p> <p>4.2.4 Hospital staff breastfeeding training had a significant effect on exclusive breastfeeding rate at discharge, which increased from 41% to 77%. (<i>Cattaneo et al. See summary.</i>)</p> <p>4.2.5 In several studies health professionals trained in breastfeeding counselling provided counselling and/or trained support groups to assist mothers in a variety of circumstances (prenatally, postnatally, after admission for diarrhoea). In each of the studies there was a significant increase in exclusive breastfeeding, when compared to the control group. (<i>WHO/CAH. See summary</i>)</p> <p>4.2.6 Ask participants to give examples of health professionals - other than perinatal staff - who influence breastfeeding success. Consider other staff in the institution coming into contact with mothers such as cleaning staff, clerks, or other specialty groups.</p>
<p>3. Step 3: Inform all pregnant women about the benefits and management of breastfeeding.</p>	<p><i>Slides</i></p> <p>4.3.1 Step 3</p> <p>4.3.2 Antenatal education content (can be adapted to reflect individual country needs)</p> <p>4.e-f Show photos of an antenatal group class</p>

Content	Trainer's Notes
	<p>and individual counselling (optional).</p> <p>4.3.3 Antenatal care can significantly impact breastfeeding practices related to colostrum feeding and early breastfeeding initiation within 2 hours of birth. (<i>Nielsen et al. See summary.</i>)</p> <p>4.3.4 Antenatal education can lead to significant increases in initiation rates (23%) and duration of short-term breastfeeding (up to 3 months) (39%), as shown by a meta-analysis of studies of education and support. (<i>Guise et al. See summary.</i>)</p>
<p>4. Step 4: Help mothers initiate breastfeeding within a half-hour of birth.</p>	<p><i>Slides</i></p> <p>4.4.1 Step 4.</p> <p>4.4.2 The revised BFHI Global Criteria interpret this step as “Place babies in skin-to-skin contact with their mothers immediately following birth for at least an hour and encourage mothers to recognize when their babies are ready to breastfeed, offering help if needed.” Discuss reasons for this change, including research on the time it takes babies to start breastfeeding without assistance (see photos 4h-j and slide 4.4.8 below).</p> <p>4.4.3 Why encourage early initiation? The points in this list are illustrated in the following transparencies.</p> <p>4.4.4 How to encourage early initiation?</p> <p>4.g-j Show one or more photos illustrating early initiation. The first photo shows a nurse assisting a mother to position her baby just after delivery. The next three photos illustrate how the baby will find the mother’s nipple and begin to suck on his own, if time is allowed for this process.</p> <p>4.4.5 Graph: Study demonstrates how contact within the first hour after delivery increased duration of breastfeeding at 3 months. (<i>DeChateau et al. See summary.</i>)</p> <p>4.4.6 Graph: Study concluded that skin-to-skin care as compared to care in a bed during the unique period just following birth is</p>

Content	Trainer's Notes
	<p>associated with higher body and skin temperatures and more rapid metabolic adaptation. Maternal body is an efficient heat source for the baby. (<i>Christensson et al. See summary.</i>)</p> <p>4.4.7 Table: This summary of when immune factors are produced in the infant demonstrates the importance of colostrum and mature milk's role in compensating for the relative absence of immunity in the infant. (<i>Worthington-Roberts</i>)</p> <p>4.4.8 Graph: Study concluded that in order to promote successful suckling patterns naked infants should be left undisturbed on their mothers' abdomens until the first suckling is accomplished and the infants' efforts to take the breast actively should be promoted. (<i>Righard et al. See summary.</i>)</p> <p>Show "Delivery, Self Attachment" video if available, as an alternative to photo slides g, h, and i. Note the infant's suckling pattern when there is no interference with the mother and newborn.</p>
<p>5. Step 5: Show mothers how to breastfeed and how to maintain lactation even if they are separated from their infants.</p>	<p><i>Slides</i></p> <p>4.5.1 Step 5</p> <p>4.5.2 Quote (Woolridge)</p> <p>4.k-1 Show photos of staff showing mothers how to breastfeed (optional)</p> <p>4.5.3 Graph: Study demonstrates that if at hospital discharge a mother is breastfeeding her infant with good technique, or if 5-10 minutes of instruction time is spent correcting faulty technique, the duration of breastfeeding is almost doubled compared to mothers discharged with uncorrected faulty breastfeeding technique. (<i>Righard et al. See summary.</i>)</p> <p>4.5.4 Graph: Breastfeeding initiation occurred among 75% of women who were encouraged to breastfeed compared to only 43% who were not encouraged to breastfeed by a health professional. (<i>Lu et</i></p>

Content	Trainer's Notes
	<p><i>al. See summary.)</i></p> <p>4.5.5 Graph: breastfeeding duration rates were significantly higher among mothers whose babies roomed in postpartum and whose mothers received breastfeeding guidance during the hospital stay compared to mothers whose babies did not room in and did not receive any breastfeeding guidance while in the hospital. (<i>Perez-Escamilla et al. See summary.)</i>)</p> <p>4.5.6 Supply and demand</p> <p>4.m Show photo of milk expression.</p>
<p>6. Step 6: Give newborn infants no food or drink other than breast milk unless medically indicated.</p>	<p><i>Slides</i></p> <p>4.6.1 Step 6</p> <p>4.n Show photo of breast-milk substitute and water bottles, <u>not</u> to be given unless medically indicated (<i>optional</i>).</p> <p>4.o Show photo of nurse giving baby a bottle (<u>not</u> appropriate unless medically indicated) (<i>optional</i>).</p> <p>4.6.2 Graph: This study suggests a correlation between a more “physiologic” start of breastfeeding and the overall duration of the lactation period. (<i>Nylander et al. See summary.</i>)</p> <p>4.6.3 To address the concern that colostrum alone is “not enough”, this graphic illustrates that newborn and infant stomach capacities are perfectly matched to the amount of colostrum (about 200 ml/24 hours at day two) and mature milk (about 800-900 ml/24 hours at 1 year).</p> <p>4.6.4 Impact of routine formula supplementation</p> <p>4.6.5 This study shows that early introduction of a bottle is inversely associated with breastfeeding duration. (<i>Perez-Escamilla et al. See summary.</i>)</p> <p>4.6.6 The data in this table shows there is no need for water supplementation for infants exclusively breastfed no matter what temperature and humidity, as reflected in</p>

Content	Trainer's Notes
	<p>normal urine osmolarity.</p> <p>4.6.7 There are rare exceptions during which infants may require other fluids or food in addition to, or in place of, breast milk.</p> <p>4.6.8- 10 Acceptable medical reasons for supplementation (draft) (Distribute Handout 4.5). If questions arise concerning HIV and breastfeeding refer participants to Handout 4.6 (HIV): Infant and young child feeding in the context of HIV, available in the “HIV” version of this session.</p>
<p>7. Step 7: Practice rooming-in—allow mothers and infants to stay together—24 hours a day.</p>	<p><i>Slides</i></p> <p>4.7.1 Step 7</p> <p>4.7.2 Definition (Describe bedding-in if relevant. “Bedding-in” is when infant and mother stay in the same bed.)</p> <p>4.p-q Show one or more photos of rooming-in and bedding-in.</p> <p>4.7.3 Why institute rooming-in? (points discussed in slides to follow)</p> <p>4.7.4 Graph: Positive impact of rooming-in policy on prevention of infectious disease when infants rooming-in were compared to newborns not rooming-in with their mothers. (<i>Soetjningsih et al. See summary.</i>)</p> <p>4.7.5 Graph: Positive effect of infants rooming-in with their mothers on frequency of breastfeeding in the first 6 days of life compared to infants not rooming-in. (<i>Yamauchi et al. See summary.</i>)</p>
<p>8. Step 8: Encourage breastfeeding on demand.</p>	<p><i>Slides</i></p> <p>4.8.1 Step 8</p> <p>4.8.2 Definition of “on-demand”</p> <p>4.8.3 Why feed on demand?</p> <p>4.r-s Show one or more photos of feeding on</p>

Content	Trainer's Notes
	<p>demand</p> <p>4.8.4 Table: Study demonstrates the positive impact of on-demand, frequent breastfeeding (number of times during the first 24 hours) on bilirubin levels of 6 day-old full-term healthy infants. (<i>Yamauchi et al. See summary.</i>)</p> <p>4.8.5 This data shows that the greater the frequency of feeds, the lower the level of serum bilirubin. (<i>DeCarvalho et al. See summary.</i>)</p>
<p>9. Step 9: Give no artificial teats or pacifiers (also called dummies and soothers) to breastfeeding infants.</p>	<p><i>Slides</i></p> <p>4.9.1 Step 9</p> <p>4.t Show photo of various nipples/teats – should <u>not</u> be used (optional).</p> <p>4.u Show photo of various pacifiers/dummies/soothers – should <u>not</u> be used (optional).</p> <p>4.9.2 Alternatives to artificial teats or pacifiers</p> <p>4.9.3 Illustration of cup feeding. It is recommended to use an ordinary small 50-100 ml glass or polypropylene plastic “cup”. The rim of the “cup” should be smooth and not sharp and the “cup” should be boiled or sterilised.</p> <p>4.v Show photo of cup feeding (optional).</p> <p>4.9.4 Early weaning was associated with daily pacifier use even when confounding factors were accounted for. (<i>Victoria et al. See summary.</i>)</p>
<p>10. Step 10: Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from hospital or clinic.</p>	<p><i>Slides</i></p> <p>4.10.1 Step 10</p> <p>4.10.2 Quote</p> <p>4.10.3 Examples of support</p> <p>4.10.4 Summary of types of breastfeeding support. A “doula” is a woman caregiver of another woman who provides support during the perinatal period.</p>

Content	Trainer's Notes
	<p>4.w-z Show photos illustrating various types of mother support (home visiting by nurse, mother support groups, and mothers dancing in a community breastfeeding meeting).</p> <p>4.10.5 Trained peer counselors positively effected the duration of exclusive breastfeeding. (<i>Haider et al. See summary.</i>)</p> <p>4.10.6 Home visits improved exclusive breastfeeding at 2 weeks and 3 months. (<i>Morrow et al. See summary.</i>)</p>
<p>11. Effects of combined steps</p>	<p>In addition, it is highly effective to combine the steps since by applying all steps or some in combination the hospital and the administration obtain better results. This is illustrated in many of the previous studies presented above. To further elaborate on this point the following series of slides are presented.</p> <p>4.11.1 In a randomised trial in Belarus 17,000 mother-infant pairs, with mothers intending to breastfeed, were followed for 12 months. In 15 control hospitals & associated polyclinics that provide care following discharge, staff members were asked to continue their usual practices. In 16 experimental hospitals & associated polyclinics staff received baby-friendly training & support. (<i>Kramer et al. See summary.</i>)</p> <p>4.11.2 Differences following intervention between control and intervention hospitals</p> <p>4.11.3 Effect of baby-friendly changes on exclusive breastfeeding at 3 & 6 months</p> <p>4.11.4 Impact of baby-friendly changes on selected health conditions</p> <p>4.11.5 -In a study in Switzerland, data was analyzed for 2861 infants aged 0 – 11 months in 145 health facilities. Breastfeeding data was compared with both the progress towards Baby-friendly status of each hospital and the degree to which designated hospitals were successfully maintaining the Baby-friendly standards. (<i>Merten et al. See</i></p>

Content	Trainer's Notes
	<p><i>summary.)</i></p> <p>4.11.6 The proportion of babies exclusively breastfed for 5 months for those born in Baby-friendly hospitals compared to those born elsewhere.</p> <p>4.11.7 The median duration of exclusive breastfeeding for babies born in Baby-friendly hospitals if the hospital showed good compliance with the 10 steps, and if it did not. This result illustrates the importance of maintaining Baby-friendly standards.</p>
12. Conclusion	<p>Acknowledge differences in opinion, perceived barriers, and innovative solutions relating to this subject matter. These areas of interest will be covered in the remaining sessions.</p>

Summaries of research studies presented during Session 4

Slide: Study:

- 4.1.5 Philipp BL, Merewood A, Miller LW et al. Baby Friendly Hospital initiative improves breastfeeding initiation rates in a US hospital setting. *Pediatrics*, 2001, 108:677-681.
- 4.2.4 Cattaneo A, Buzzetti R. Effect on rates of breast feeding of training for the Baby Friendly Hospital Initiative. *BMJ*, 2001, 323:1358-1362.
- 4.2.5 Albernaz E, Giugliani ERJ, Victora CG. Supporting breastfeeding: a successful experience. *Journal of human lactation*, 1998, 14(4):283-285.
- Haider R et al Breast-feeding counselling in a diarrhoeal disease hospital. *Bulletin of the World Health Organization*, 1996, 74(2):173-179
- 4.3.3 Nielsen B, Hedegaard M, Thilsted S, Joseph A and Liliestrand J. Does antenatal care influence postpartum health behaviour? Evidence from a community based cross-sectional study in rural Tamil Nadu, South India. *British Journal of Obstetrics and Gynaecology*, 1998, 105: 697-703.
- 4.3.4 Guise, J-M, Palda V, Westhoff C, Chan BKS, Helfand M, and Lieu T. The effectiveness of primary care-based interventions to promote breastfeeding: Systematic evidence review and meta-analysis for the US preventive services task force. *Annals of Family Medicine*, 2003, 1(2):70-78.
- 4.4.4 DeChateau P and Wiberg B. Long term effect on mother-infant behavior of extra contact during the first hour postpartum. *Acta Paediatr*, 1977, 66:145-151.
- 4.4.5 Christensson K, Siles C, Moreno L, Belaustequi A, De La Fuente P, Lagercrantz H, Puyol P, and Winberg J. Temperature, metabolic adaptation and crying in health full-term newborns cared for skin-to-skin or in a cot. *Acta Paediatr*, 1992, 81: 488-93.
- 4.4.7 Righard L and Alade MO. Effect of delivery room routines on success of first breastfeed. *Lancet*, 1990, 336: 1105-1107.
- 4.5.3 Righard L & Alade O. Sucking technique and its effect on success of breastfeeding. *Birth*, 1992, 19 (4): 185-189.
- 4.5.4 Lu M, Lange L, Slusser W et al. Provider encouragement of breast-feeding: Evidence from a national survey. *Obstetrics and Gynecology*, 2001, 97:290-295.
- 4.5.5 Perez-Escamilla R, Segura-Millan S, Pollitt E, Dewey KG. Effect of the maternity ward system on the lactation success of low-income urban Mexican women. *Early Hum Dev*, 1992, 31 (1): 25-40.
- 4.6.2 Nylander G, Lindemann R, Helsing E, Bendvold E Unsupplemented breastfeeding in the maternity ward. *Acta Obstet Gynecol Scand*, 1991, 70; 205-209.

- 4.6.5 Perez-Escamilla, Sergura-Millan S, Pollitt E, Dewey KG. Determinants of lactation performance across time in an urban population from Mexico. *Soc Sci Med*, 1993, 37 (8): 1069-1078.
- 4.7.4 Soetjiningsih and Suraatmaja S. The advantages of rooming-in. *Pediatrica Indonesia*, 1986, 26:229-235.
- 4.7.5 Yamauchi Y and Yamanouchi I. The relationship between rooming-in/not rooming-in and breast-feeding variables. *Acta Paediatr Scan*, 1990, 1017-1022.
- 4.8.4 Yamauchi Y and Yamanouchi I. Breast-feeding frequency during the first 24 hours after birth in full-term neonates. *Pediatrics*, 1990, 86 (2):171-175.
- 4.8.5 De Carvalho M, Klaus MH, Merkatz RB. Frequency of breast-feeding and serum bilirubin concentration. *Am J Dis Child*, 1982, Aug;136(8):737-8.
- 4.9.4 Victora C, Behague D, Barros F et al. Pacifier use and short breastfeeding duration: cause, consequence, or coincidence? *Pediatrics*, 1997, 99:445-453.
- 4.10.5 Haider R, Kabir I, Huttly S and Ashworth. Training peer counselors to promote and support exclusive breastfeeding in Bangladesh. *J Hum Lact*, 2002, 18:7-12.
- 4.10.6 Morrow A, Guerrereo ML, Shultis J, et al. Efficacy of home-based peer counselling to promote exclusive breastfeeding: a randomised controlled trial. *Lancet*, 1999;353:1226-31.
- 4.11.1-4 Kramer MS, Chalmers B, Hodnett ED et al. Promotion of Breastfeeding Intervention Trial (PROBIT): a randomized trial in the Republic of Belarus. *JAMA*, 2001, Jan 24-31; 285(4):413-20.
- 4.11.5-7 Merten S et al. Do Baby-Friendly Hospitals Influence Breastfeeding Duration on a National Level? *Pediatrics*, 2005, 116: e702 – e708.

**Baby Friendly Hospital Initiative improves breastfeeding initiation rates
in a US hospital setting**
Refers to Slide 4.1.5

Reference: Philipp BL, Merewood A, Miller LW et al. Baby Friendly Hospital Initiative improves breastfeeding initiation rates in a US hospital setting *Pediatrics*,2001, 108:677-681.

Method: Two hundred complete medical records, randomly selected by a computer, were reviewed from each of 3 years: 1995, 1998, and 1999. Infants were excluded if there was missing data or for medical reasons. All infant feedings during the hospital postpartum stay were tallied, and each infant was categorized into 1 of 4 groups: exclusive breast milk, mostly breast milk, mostly formula, and exclusive formula.

Findings: Maternal and infant demographics for all 3 years were comparable.

The breastfeeding initiation rate increased during and after Baby-Friendly Policies were in place at Boston Medical Center, an inner-city teaching hospital that provides care primarily to poor, minority, and immigrant families.

	Before	During	After	
Breastfeeding initiation	58%	77.5%	86.5%	p<.001
Exclusive breastfeeding initiation	5.5%	28.5%	33.5%	p<.001

Conclusion: Full implementation of the Ten Steps to Successful Breastfeeding leading to Baby-Friendly designation is an effective strategy to increase breastfeeding initiation rates in the US hospital setting.

**Effect on rates of breast feeding
of training for the Baby Friendly Hospital Initiative
Refers to Slide 4.2.4**

Reference: Cattaneo A, Buzzetti R. Effect on rates of breast feeding of training for the Baby Friendly Hospital Initiative *BMJ*, 2001, 323:1358-1362.

Method: Controlled, non-randomised study among 8 hospitals in Italy.* Data was collected measuring knowledge of 571 health workers and breastfeeding rates at discharge, 3, and 6 months of 2669 mother and baby pairs before and after breastfeeding training in group 1 and 2 hospitals. The training was based on the UNICEF 18 hour course that also included 2 hours from the WHO 40 hour counselling course. Training covered 54% of obstetricians, 72% of paediatricians, 84% of midwives, and 68% of nurses.

Findings:	Before	After	
Hospital compliance with the 10 steps (mean)	2.4	7.7	
Knowledge scores of health professionals			
Group 1	41%	72%	
Group 2	53%	75%	
Exclusive BF at discharge			
Group 1	41%	77%	p<0.05
Group 2	23%	73%	p<0.05
Full BF at 3 months			
Group 1	37%	50%	p<0.05
Group 2	40%	59%	p<0.05
Any BF at 6 months			
Group 1	43%	62%	p<0.05
Group 2	41%	64%	p<0.05

Four factors were significantly associated with exclusive breast feeding at discharge: First breast feed within one hour; rooming in; not using a pacifier; and instructions on expressing breast milk.

Conclusion: Breastfeeding training health professionals for 18 hours that includes practical sessions and counselling skills is effective in changing hospital practice, knowledge of health workers, and breastfeeding rates.

*Hospitals were grouped into two different groups according to geography with the following characteristics:

Group 1: 3 general and 1 teaching hospitals in Southern Italy.

Group 2: 3 general and 1 teaching hospitals in Northern and Central Italy.

	#Births in 1998	# maternity beds	%C-section rate	%LBW
infants				
Group 1	2957	30-80	31-44	7-15
Group 2	374	16-40	7-15	3-9

Breastfeeding counselling increases exclusive breastfeeding **Refers to Slide 4.2.5**

Reference: Albernaz E, Giugliani ERJ, Victora CG. Supporting breastfeeding: a successful experience. *Journal of human lactation*, 1998, 14(4):283-285.

Method: This paper relates the success of a study that helped enhance breastfeeding by means of a support group in Southern Brazil. The International Multicenter Growth Reference Study was designed to help WHO develop new growth charts to measure nutritional status of populations and to evaluate individual growth. Southern Brazil was one of the sites selected for the study, and an ongoing data collection for the longitudinal component of the study (based on children aged 0-24 months) began in July 1997. The new growth reference will be based on the growth of children with the following characteristics: gestational age at birth between 37 and 42 full weeks, single birth, lack of significant perinatal morbidity, absence of maternal smoking, no economic constraints on growth, and being breastfed for at least 1 full year and given no other foods during the first 4-6 months. Since few mothers in Brazil follow this recommendation, a lactation support group was trained to help mothers breastfeed their babies.

Findings: It was found that the breastfeeding support group really made a difference, at least with regard to the duration of breastfeeding. Mothers who had support breastfed longer and waited longer to introduce other foods into their children's diet compared to those who had no support. The factors that contributed to increased breastfeeding duration are enumerated.

Conclusion: Supporting mothers in breastfeeding is beneficial to both mothers and children and can lead to a better quality of life.

Reference: Haider R et al. Breast-feeding counselling in a diarrhoeal disease hospital. *Bulletin of the World Health Organization*, 1996,74(2):173-179

Method: Lactation counsellors were trained to advise mothers of partially breastfed infants who were admitted to hospital because of diarrhoea, so that they could start exclusive breastfeeding during their hospital stay. Infants (n = 250) up to 12 weeks of age were randomised to intervention and control groups. Mothers in the intervention group were individually advised by the counsellors while mothers in the control group received only routine group health education. During follow-up at home by the counsellors a week later, only the mothers in the intervention group were counselled. All the mothers were evaluated for infant feeding practices at home two weeks after discharge.

When infants afflicted with diarrhoea were brought to the Hospital of the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR, B) in Dhaka, Bangladesh, 125 mother-infant pairs received at least three lactation counselling sessions on the benefits of exclusive breastfeeding. Researchers compared data on these 125 pairs with data on 125 other mother-infant pairs who were also at ICDDR,B due to diarrhoea but did not receive any counselling. Infants in the intervention group had a shorter hospital stay than those in the control group (4.3 vs. 3 days; p .001). The controls left before diarrhoea ended, while cases were discharged after diarrhoea ended.

Findings: At discharge, mothers in the intervention group were more likely than controls to be predominantly breastfeeding (breast milk plus oral rehydration solution [ORS]) (30% vs. 19%) as well as exclusively breastfeeding (60% vs. 6%) (p .001). Two weeks after discharge, when ORS was stopped, mothers in the intervention group were more likely to be exclusively breast feeding than those in the control group (75% vs. 8%), while those in the control group were more likely to bottle feed than cases (49% vs. 12%) (p .001). Infants in the control group were more likely to

have another episode of diarrhoea within 2 weeks than those in the intervention group (15 vs. 4; $p = .05$; odds ratio = 2.92).

Conclusions: These findings indicate that individual lactation counselling had a strong influence on mothers to begin exclusive breastfeeding during hospitalisation and to continue to do so at home. Thus, staff at maternal and child health facilities should integrate lactation counselling into their program to improve infant feeding practices.

**Does antenatal care influence postpartum health behaviour?
Evidence from a community based cross-sectional study
in rural Tamil Nadu, South India.
Refers to Slide 4.3.3**

Reference: Nielsen B, Hedegaard M, Thilsted S, Joseph A and Liliestrand J. Does antenatal care influence postpartum health behaviour? Evidence from a community based cross-sectional study in rural Tamil Nadu, South India. *British Journal of Obstetrics and Gynaecology*, 1998, 105: 697-703.

Methods: Community-based, cross-sectional questionnaire study of 30 randomly selected areas served by health subcentres in rural India. 1321 women who delivered in the 6 months before the questionnaire-based interview were asked a series of questions.

Findings:

Information about breastfeeding in the prenatal period was associated with feeding colostrum and early initiation of breastfeeding:

	No colostrum	Colostrum*	Adj OR (95%)
Informed about breastfeeding:			
No information	57% (n=487)	43% (n=363)	1.00
Information given*	42% (n=180)	58% (n=250)	1.86 (1.47-2.36)
	BF after 2 h	BF before 2h	Adj OR (95%)
Informed about breastfeeding			
No information	82% (n=684)	18% (n=148)	1.00
Information given	73% (n=313)	27% (n=116)	1.81

*this was not defined in the report.

*Colostrum feeding was also associated with number of prenatal visits and women who initiated antenatal care in the first trimester.

Conclusion: Information about breastfeeding given prenatally and number and timing of prenatal care can impact breastfeeding practice positively.

**The effectiveness of primary care-based interventions
to promote breastfeeding:
Systematic evidence review and meta-analysis
Refers to Slide 4.3.4**

Reference: Guise, J-M, Palda V, Westhoff C, Chan BKS, Helfand M, and Lieu T. The effectiveness of primary care-based interventions to promote breastfeeding: Systematic evidence review and meta-analysis for the US preventive services task force. *Annals of Family Medicine*, 2003 1(2):70-78.

Purpose: We wanted to systematically review whether primary care-based interventions improve initiation and duration of breastfeeding.

Methods: Studies were found by searching MEDLINE (1966–2001), HealthSTAR, the Cochrane Database of Systematic Reviews, the National Health Service Centre for Reviews and Dissemination Databases, and bibliographies of identified trials and review articles. Studies were included if they originated in the primary care setting and were conducted in a developed country, written in English, and contained a concurrent control group.

Results: Thirty randomized and nonrandomized controlled trials and 5 systematic reviews of breastfeeding counseling were included. Educational programs had the greatest effect of any single intervention on both initiation (difference 0.23; 95% confidence interval [CI], 0.12–0.34) and short-term duration (difference 0.39; 95% CI, 0.27–0.50). Support programs conducted by telephone, in person, or both increased short-term (difference 0.11; 95% CI, 0.03–0.19) and long-term duration (difference 0.08; 95% CI, 0.02–0.16). In contrast, written materials such as pamphlets did not significantly increase breastfeeding. Data were insufficient to determine whether the combination of education with support was more effective than education alone.

Conclusions: Educational programs were the most effective single intervention. One woman would breastfeed for up to 3 months for every 3 to 5 women attending breastfeeding educational programs. Future research and policy should focus on translating these findings into more widespread practice in diverse primary care settings.

Impact of infant early contact with mother on breastfeeding duration
Refers to Slide 4.4.5

Reference: DeChateau P and Wiberg B. Long term effect on mother-infant behavior of extra contact during the first hour postpartum *Acta Paediatr*, 1977, 66:145-151.

Method: A prospective study in Sweden where a study of primiparous mothers randomly assigned and with comparable background data were assigned to two different groups.

The mothers in the study group had 15-20 minutes suckling and skin-to-skin contact (extra contact) with newborn infants in first hour after delivery.

The mothers in the control group had no extra contact.

Study looked at mother-infant behaviour at 36 hours and 3 months postpartum. Only one mother from each group was lost to follow-up for the three-month interview with the mother and observation of infant-mother interaction.

Findings: Among other findings at three months postpartum 58% of the study group (n=21) vs. 26% (n=19) of control group were breastfeeding infant-mother pairs.

In addition at 3 months mothers in the extra contact group spent more time kissing and looking in face at their infants and their infants smiled more and cried less frequently when compared to the control groups.

Conclusion: Extra infant-mother contact in the first hour of life can influence the duration of breastfeeding.

Temperatures after birth in infants kept either skin-to-skin with mother or in cot

Refers to Slide 4.4.6

Reference: Christensson K, Siles C, Moreno L, Belaustequi A, De La Fuente P, Lagercrantz H, Puyol P, and Winberg J. Temperature, metabolic adaptation and crying in health full-term newborns cared for skin-to-skin or in a cot *Acta Paediatr*, 1992, 81: 488-93.

Method: 50 healthy full-term newborns with no history of complications prenatally or at delivery were randomly placed into one of two study groups: infant placed skin-to-skin to mother or placed in a cot next to mother. The following steps were taken with each infant in both groups:

1. Infants were wrapped in cotton cloth and placed on mother's abdomen in prone position
2. Umbilical cord cut 30-45 seconds after birth
3. Nurse dried infant, suctioned mouth and pharynx, weighed infant and swaddled head in cotton cloth.
4. Electronic thermometer placed with insulating tape in axillary, interscapular, and outside thigh positions.
5. 8-11 minutes after birth infant placed in prone position either skin-to-skin with the mother or in cot all were tucked in by two thick terry cloth towels. Temperature of rooms 26°C
6. The infants were observed for the first 90 minutes after birth measuring axillary, interscapular, and outside left thigh skin temperatures every 15 minutes for 90 minutes after delivery.
7. At 90 minutes after delivery heart rate, respiratory rate, skin color, blood gas, and blood glucose were measured.
8. In 18 babies of each group, recorded every 15 minutes whether or not infant was crying.

Findings: There were significant differences between the groups especially toward the end of the observation period (90 minutes). The skin-to-skin group was always warmer. In both groups, the mean axillary temperatures were significantly higher than the mean thigh temperatures ($p < 0.001$). All infants in both groups increased in temperature at similar rates after birth until they were placed skin to skin or in the cot. It was an average of four to seven minutes after being placed in the two different groups that differences in skin temperature were measured and significant differences already noted. Skin colour and heart rate were not significantly different. Whether the infants were fed in this study was not mentioned.

More cot babies were crying at all observation events between 15 and 90 minutes after birth. In all, 41 crying episodes were registered among the cot babies compared to 4 among skin-to-skin babies.

Conclusion: Skin to skin care as compared to care in a bed during the unique period just following birth is associated with higher body and skin temperatures and more rapid metabolic adaptation. Maternal body is an efficient heat source for the baby.

Recommendations: The mother is an important heat source for the newborn and promotion of body to body mother baby contact during the first 1-2 hours after delivery may benefit mother and baby from a physiological point of view especially in countries where the incidence of neonatal hypothermia has been reported high.

Effect of delivery room practices on early breastfeeding
Refers to Slide 4.4.8

Reference: Righard L and Alade MO. Effect of delivery room routines on success of first breastfeed. *Lancet*, 1990, 336: 1105-1107.

Method: 72 infants who delivered normally were randomly assigned to the separation (n=34) or the contact (n=38) group. The infants in the separation group were placed on their mother's abdomen immediately after birth but removed after 20 minutes for measuring and dressing (took about 20 minutes); then they were returned to their mother. The infants in the contact group were placed on their mother's abdomen naked and were uninterrupted for at least one hour after birth or until after the first breastfeed took place. Both groups of infants were observed for a total of two hours following birth.

Findings: Infants in the contact group started to make crawling movements toward the breast about 20 minutes after birth, first with arm and leg movements and then with mouthing and sucking movements. By 50 minutes after birth most of the infants were sucking at the breast. At two hours after delivery 24/38 infants in the contact group were sucking correctly at the breast versus 7/34 infants in the separation group. Sucking correctly was defined as mouth opened widely, tongue under areola, and milk expressed with deep sucks. 40/72 of the infants had been exposed to Pethidine; of those 25/40 did not suck well.

Recommendations: Naked infants should be left undisturbed on the mother's abdomen until the first breastfeeding is accomplished and the infant's efforts to take the breast actively should be promoted.

Note: May show the video at this time that illustrates the infant's innate tendency to crawl.

Effect of proper attachment on duration of breastfeeding **Refers to Slide 4.5.3**

Reference: Righard L & Alade O. Sucking technique and its effect on success of breastfeeding. *Birth*, 1992, 19 (4): 185-189.

Method: A prospective study in a University Hospital in Sweden enrolled 82 exclusively breastfeeding mothers who had delivered term infants with 5 min. Apgar scores of 9 or 10 and were free of any apparent neonatal disease. Breastfeeding technique was assessed on the fourth to sixth day postpartum at time of discharge. The mother-infant pairs were randomly assigned to two groups once poor sucking technique (faulty technique was defined as superficial nipple sucking) was identified:

Group 1- incorrect breastfeeding technique remained uncorrected.

Group 2- mothers with incorrect breastfeeding technique were given a brief (5-10 minute) instruction on correct technique.

Controls- mother-infant pairs with correct technique (defined as the infant having a wide-open mouth, with the tongue under the areola, and expressing milk from the breast by slow, deep sucks) consecutively selected as controls.

All groups matched for maternal age, marital status, parity, education, and coffee drinking and smoking habits. Follow-up took place by telephone at two, three, and four months after delivery; questions asked related to infant feeding practices.

Findings: All the mothers were followed up in the study. No solid foods were given to the infants at the time of follow-up period. No mothers had returned to work at time of follow-up period (maternity leave is 12 months in Sweden).

All mothers were breastfeeding exclusively at discharge from the hospital. A changeover from the breast to the bottle within the first month was 10 times more common in the poor technique group uncorrected than in those with corrected technique or initial good technique (36 % versus 3.5%, $P < 0.001$); note the corrected and the initial good technique group results are combined since their findings in each group were similar in this study. At the two-, three-, and four-month follow-ups, the uncorrected sucking technique group breastfed significantly less than the infants in the other two groups (refer to slide 4.5.3 for more details). The reasons given for cessation of breastfeeding were insufficient milk or introduction of a bottle (21), colicky infant (4), maternal illness (3), engorgement (1), and previous cosmetic breast surgery (1).

During the four-month period 88 percent of the uncorrected sucking technique group reported breastfeeding problems compared with 48 % ($P < 0.01$) of the corrected group and 57 % of the controls ($P < 0.5$). The most common breastfeeding problems were insufficient milk or introduction of a bottle, child restless between feeds, uncertainty in parents or introduction of an evening bottle, breast problems such as sore nipples or engorgement, illness in mother or child, breast pumped milk given by bottle, child restless while feeding and insufficient weight gain.

Breastfeeding problems were more commonly reported by mothers using pacifiers regularly (>2 hrs/day) than those using them only occasionally or not at all (83% versus 53%, $P < 0.05$).

Conclusion: The study showed it was possible to identify and correct a faulty sucking technique in the maternity ward, and thereby improve the women's chances of achieving successful breastfeeding.

Checks of sucking technique and correction of faulty technique by an experienced midwife or nurse should be routine in maternity units. Also shown were that excessive use of pacifiers and the early introduction of occasional bottle-feeding should be avoided.

**Provider encouragement of breastfeeding:
Evidence from a national survey
Refers to Slide 4.5.4**

Reference: Lu M, Lange L, Slusser W et al. Provider encouragement of breastfeeding: Evidence from a national survey. *Obstetrics and Gynecology*, 2001, 97:290-295.

Methods: A US nationally representative sample of 2017 parents with children younger than 3 years was surveyed by telephone. The responses of 1229 women interviewed were included in the analysis. Respondents were asked to recall whether their physicians or nurses had encouraged or discouraged them from breastfeeding in the hospital.

Findings: 74.6% of women who were encouraged initiated breastfeeding compared to only 43.2% of those who were not encouraged $p < 0.001$.

Women who were encouraged to breastfeed by a health professional in the hospital were more than 4 times more likely to initiate breastfeeding as women who did not receive encouragement. The influence of provider encouragement was significant across all strata of the sample.

Conclusion: Provider encouragement in the hospital significantly increased breastfeeding initiation among American women of all social and ethnic backgrounds.

**Effect of the maternity ward system on the lactation success
of low-income urban Mexican women.**

Refers to slide 4.5.5

Reference: Perez-Escamilla R, Segura-Millan S, Pollitt E, Dewey KG. Effect of the maternity ward system on the lactation success of low-income urban Mexican women. *Early Hum Dev.*, 1992, 31 (1): 25-40.

Method: Comparison between the lactation performance of 165 health mothers who planned to breastfeed and gave birth by vaginal delivery without complications to health infant in either a nursery (58) or a rooming-in hospital (107) where formula supplementation was not allowed. In the rooming in hospital, women were randomly assigned to a group that received breastfeeding guidance during the hospital stay or to a control group. Interviews of women were conducted at 8, 70 and 135 days post-partum. Groups were similar in socio-economic, demographic, anthropometric, previous breastfeeding experience, and prenatal care variables.

Findings: Adjusting for confounding factors, breastfeeding guidance had a positive impact on breastfeeding duration among primiparous women who delivered in the rooming-in hospital. This was true for short-term and long-term breastfeeding when compared to mothers who delivered in the nursery hospital where there was no breastfeeding guidance given in hospital. Primiparous women in the rooming-in group who received no breastfeed guidance had a positive impact on breastfeeding duration in the short term, but not in the long term when compared to the women who delivered in the hospital with the nursery.

Recommendations: Rooming-in and breastfeeding guidance during the postpartum period can impact breastfeeding duration in the short term and long term. Rooming-in alone is not sufficient to impact duration rates.

Long-term effects of a change in maternity ward feeding routines Refers to Slide 4.6.2

Reference: Nylander G, Lindemann R, Helsing E, Bendvold E. Unsupplemented breastfeeding in the maternity ward *Acta Obstet Gynecol Scand*, 1991, 70; 205-209.

Method: Prospective study in Norway enrolled 407 consecutive mother-infant pairs, normal full-term infants weighing 2500-4500 g. Once 204 infants were enrolled who started life with routine supplementary feedings of sugar solution and almost all having received formula for 1 meal before hospital discharge, a change in the hospital's routines was introduced so infants first nursed within 30 minutes after delivery with on demand breastfeeding encouraged thereafter (>5/24 hrs), and no routine supplementation took place. At 1 year a follow-up questionnaire with feeding-related questions was sent to the head nurse of the local health care centres where the babies' health records were kept.

Findings:

Control group (before changed routines): all received supplemental glucose water and were formula-fed at least once (N=204).

Intervention group (after change): early, frequent, unsupplemented breastfeeds (N=203)

Control group lost less birth weight (4.6% by day 3 with minimum weight vs. 6.4% for intervention group with minimum weight on day 2.6).

Intervention group took a greater volume of breast milk and correspondingly less formula and sugar solution. They regained birth weight sooner than control group.

Follow-up at 1 year was for 62% in intervention group and 52% in control group with most of those lost to follow-up because of moving or nurse lacking time to locate records. The subjects followed up matched for parity and infant's birth weight. Weight curves for both groups were similar.

Mothers in intervention group breastfed significantly longer than did the control-group mothers.

	Control	Intervention
Mean duration exclusive breastfeeding p<0.001	3.5 months (± 2.1)	4.5 months (± 1.8)
Duration of breastfeeding p<0.01	6.9 months (± 3.3)	8.0 months (± 2.4)
Any breastfeeding at 6 months	66%	87%

Conclusion: Study demonstrates that healthy, full-term infants usually have no need for supplements to their mother's milk provided that they have had a satisfactory start with early and frequent feeds at breast. The changes in policy increased the overall length of the exclusive breastfeeding period.

**Determinants of lactation performance across time
in an urban population from Mexico**
Refers to Slide 4.6.5

Reference: Perez-Escamilla, Sergura-Millan S, Pollitt E, Dewey KG. Determinants of lactation performance across time in an urban population from Mexico. *Soc Sci Med*, 1993, 37 (8): 1069-1078.

Method:

Determinants of breastfeeding and full breastfeeding were measured among 165 healthy mothers in Mexico who planned to breastfeed and vaginally delivered healthy term infants. Deliveries were either in a hospital with a nursery or rooming-in policy where formula supplementation was not allowed. Breastfeeding was recorded at 1 week, 2 months, and 4 months through questionnaires.

Findings:

	<u>Rooming-in hospital</u>	<u>Hospital with the nursery</u>
<u>Milk came in:</u>	Earlier	Later

Rooming-in mothers reported that their milk came in earlier. Milk arrival was later when a bottle was introduced in the first week. Breastfeeding was positively associated with early milk arrival and inversely associated with early introduction of supplementary bottles, maternal employment, maternal body mass index, and infant age.

**Clinical data: morbidity of newborn babies at Sanglah Hospital
before and after rooming-in
Refers to Slide 4.7.4**

Reference: Soetjningsih and Suraatmaja S. The advantages of rooming-in. *Pediatrica Indonesia*, 1986, 26:229-235.

Method: Prospective study in Bali, Indonesia, over one year in which this study examined morbidity, mortality, amount of milk formula and IV fluid consumed, and length of hospital stay in the maternity ward and newborn nursery for the 6 months when infants and babies were separated and compared it to the 6 months after instituting a rooming-in policy.

Findings: Infant profiles for the 2 periods were similar.

	Before rooming-in	After rooming-in
Total Live Births	1862	1965
Low birth-weight	241	232
Normal full-terms	1621	1733

After rooming-in was instituted for only the first 6 months:

Diarrhoeal diseases, otitis media, neonatal sepsis, and meningitis decreased in low-birth-weight and normal full-term infants (see slide 4.7.5 for details)

Mortality due to infection decreased (41 or 2.21% vs. 16 or 0.81%); whereas deaths due to other causes did not greatly change during this period (58 or 3.13 % versus 51 or 2.59%).

Need for milk formula decreased from 105.6 tins to 25.6 tins per month (400 g tin of powdered milk formula).

Need for IV fluid dropped from 135.8 bottles to 74.1 bottles per month (500 cc/bottle).

Number of days in the hospital was reduced from 4.2 to 1.8 days.

Conclusion:

There were advantages for the mother, infant, and the hospital when the rooming-in policy was introduced:

Mothers: less crowding secondary to shorter hospital stays.

Infants: decreased mortality and morbidity

Hospital: savings in milk, fuel, personnel to prepare milk and watch after infants, less IV fluids, less antibiotics.

Effects of rooming-in on frequency of breastfeeding per 24 hours Refers to Slide 4.7.5

Reference: Yamauchi Y and Yamanouchi I. The relationship between rooming-in/not rooming-in and breastfeeding variables. *Acta Paediatr Scand*, 1990, 1017-1022.

Methods: N=100 healthy, full-term breastfed newborns were selected in each of two study periods, one during non-rooming-in and the second during rooming-in. **Non-rooming-in infants** (N=112) were kept in the newborn nursery from birth, and mothers brought them to their room according to a predetermined schedule of breastfeeding for 2 hours every three or four hours. They were then taken back to the well-baby nursery. **Rooming-in infants** (N=92) stayed in their mother's rooms immediately after delivery. Mothers were encouraged to nurse their babies whenever they suspected they were hungry and were told not to limit the frequency or length of nursing. Data regarding the frequency of breastfeeding was obtained from the charts of the mother and infant.

Findings: The frequency of breastfeeding per 24 hours was significantly higher in rooming-in than non-rooming-in infants from day 2 to day 7 ($p < 0.01$).

Conclusions: This study demonstrated that rooming-in infants had significantly higher breastfeeding frequencies than non-rooming-in infants during the first week of life.

The authors conclude that some of the neonatal feeding problems related to breastfeeding such as the need for human milk supplements or poor weight recovery could be eliminated by education of mothers and nurses and by changes in hospital policies and practices regarding breastfeeding.

**Breastfeeding frequency during the first 24 hours after birth
and incidence of hyperbilirubinemia on day 6**
Refers to Slides 4.8.4

Reference: Yamauchi Y and Yamanouchi I. Breast-feeding frequency during the first 24 hours after birth in full-term neonates *Pediatrics*, 1990, 86 (2); 171-175.

Method: Study in Japan looked at the relation between the frequency of breastfeeding and intake, weight loss, meconium passage, and bilirubin levels. N=140 healthy, full-term, breastfed neonates born vaginally without complications.

All neonates remained in their mothers' rooms from the time of delivery. Mothers were encouraged to nurse their babies whenever they suspected they were hungry and were told not to limit the frequency or length of nursing. Mother recorded in detail the frequency and duration of each breastfeeding for the first 2 postpartum days. Transcutaneous bilirubin (TcB) levels were measured using the Minolta-Airshields jaundice meter. Measurements were obtained on day 6 from the forehead, chest, and sternum, and the mean value from these three sites was used instead of serum total bilirubin measurements. The accuracy and reliability of TcB measurements have been documented. The correlation coefficient was .930 and the 95% confidence limits were ± 2.68 mg/dL.

For analysis of the data, the neonates were separated into two groups according to whether their frequency of feedings during the first 24 hours of life was above or below seven feedings per 24 hours. This frequency was arbitrarily chosen because it fit with the traditional 3- to 4-hour breastfeeding schedules in their non-rooming-in nursery.

Findings: The incidence of significant hyperbilirubinemia (TcB > 23.5) (approximately equal to serum total bilirubin level of 15 mg/dL) decreased with increased frequency of breastfeedings during the first 24 hours after birth, as depicted in this graph.

In addition, the neonates fed seven or more times had significantly increased meconium passage, breast-milk intake, and weight gain compared with those fed less frequently.

Conclusions: There was a strong dose-response relationship between feeding frequency and a decreased incidence of hyperbilirubinemia.

Recommendations: Frequent suckling in the first days of life has numerous beneficial effects in the breastfed, full-term newborn.

Frequency of breastfeeding and serum bilirubin concentration

Refers to Slide 4.8.5

Reference: De Carvalho M, Klaus MH, Merkatz RB. Frequency of breast-feeding and serum bilirubin concentration. *Am J Dis Child*, 1982 Aug;136(8):737-8.

Background: Recent studies suggest that the three- to four-hour feeding regimens followed in many maternity units for breastfeeding mothers may not be physiological and that human infants should be fed more frequently.

Methods: To determine the effects of frequency and length of breastfeeding in the first days after birth, we studied 55 mothers and their infants.

Findings: Infants who nursed on average more than eight times per 24 hours in the first three days of life had significantly lower serum bilirubin levels (65. v 9.3 mg/dL, P less than .01) than those who fed less than eight times per 24 hours.

Conclusions: The results of this investigation suggest that present breastfeeding policies that reduce or limit the number of feedings may interfere with the normal processes that eliminate bilirubin from the newborn infant.

**Pacifier use and short breastfeeding duration:
Cause, consequence or coincidence?
Refers to Slide 4.9.4**

Reference: Victora C, Behague D, Barros F et al. Pacifier use and short breastfeeding duration: cause, consequence, or coincidence? *Pediatrics*, 1997, 99:445-453.

Methods: A population-based cohort of 650 mothers and infants were visited shortly after delivery and at 1, 3, and 6 months. Mothers were interviewed regarding pacifier use, breastfeeding patterns, and socio-economic, environmental, and reproductive variables. Breastfeeding duration refers to the total duration of any breastfeeding.

Findings: Intense pacifier users at 1 month (children who used the pacifiers during most of the day and at least until falling asleep) were four times more likely to stop breastfeeding at 6 months of age than nonusers.

	Users	Nonusers	
At one month:			
Receiving daily breastfeeds (n=450)	10.6	12.2	p<.001
Receiving formula (n=450)	12.2%	37%	p=.001
Receiving teas (n=450)	49.4%	76.1%	p=.001
BF at 3 mo (n=447)	86.4%	58.7%	p<.001
BF at 6 mo (n=437)	65%	16.3%	p<.001

Conclusions: Pacifiers may be an effective weaning mechanism used by mothers who have explicit or implicit difficulties in breastfeeding. To be successful, breastfeeding promotion campaigns to reduce pacifier use need to also help women face the challenges of nursing and address their anxieties

Training peer counsellors to promote and support exclusive breastfeeding in Bangladesh
Refers to Slide 4.10.5

Reference: Haider R, Kabir I, Huttly S and Ashworth A. A training peer counselors to promote and support exclusive breastfeeding in Bangladesh. *J Hum Lact* 2002, 18:7-12.

Method: A peer counselling intervention program was instituted in Dhaka, Bangladesh and exclusive breastfeeding rates at 5 months were compared in the intervention area and the control area. Peer counsellors lived in the neighbourhoods where they worked and they received classroom, practice, and supervised practice sessions. Peer counsellors visited mothers a minimum of twice in the last trimester of pregnancy and within 48 hours, 5th day, once during days 10-14, and then every 2 weeks until 5 months postpartum. A protocol for referring to breastfeeding supervisors and to study coordinator was developed.

Findings:

70% of mothers in the project area breastfed exclusively

6% of mothers in the control area breastfed exclusively

Conclusions: Community based peer counselling is useful and effective strategy in breastfeeding promotion. Providing the peer counsellors with on going supervision for support and linkages to health facilities for a doctor's treatment gave the peer counsellors confidence and credibility with the mothers.

**Efficacy of home-based peer counselling to promote exclusive breastfeeding:
a randomised controlled trial**
Refers to Slide 4.10.6

Reference: Morrow A, Guerrereo ML, Shultis J, Calva JJ, Lutter C, Bravo J, Ruiz-Palacios G, Morrow RC, Butterfoss FD. Efficacy of home-based peer counselling to promote exclusive breastfeeding: a randomised controlled trial. *Lancet*, 1999;353:1226-31

Background: Exclusive breastfeeding is recommended worldwide but not commonly practised. We undertook a randomised controlled study of the efficacy of home-based peer counselling to increase the proportion of exclusive breastfeeding among mothers and infants residing in periurban Mexico City.

Methods: Two intervention groups with different counselling frequencies, six visits (44) and three visits (52), were compared with a control group (34) that had no intervention. From March, 1995, to September, 1996, 170 pregnant women were identified by census and invited to participate in the study. Home visits were made during pregnancy and early post partum by peer counsellors recruited from the same community and trained by La Leche League. Data were collected by independent interview. Exclusive breastfeeding was defined by WHO criteria.

Findings: 130 women participated in the study. Only 12 women refused participation. Study groups did not differ in baseline factors. At 3 months post partum, exclusive breastfeeding was practised by 67% of six-visit, 50% of three-visit, and 12% of control mothers (intervention groups vs. controls, $p < 0.001$; six-visit vs. three-visit, $p = 0.02$). Duration of breastfeeding was significantly ($p = 0.02$) longer in intervention groups than in controls, and fewer intervention than control infants had an episode of diarrhoea (12% vs. 26%, $p = 0.03$).

Interpretation: This is the first reported community-based randomised trial of breastfeeding promotion. Early and repeated contact with peer counsellors was associated with a significant increase in breastfeeding exclusivity and duration. The two-fold decrease in diarrhoea demonstrates the importance of breastfeeding promotion to infant health.

**Promotion of Breastfeeding Intervention Trial (PROBIT):
a randomized trial in the Republic of Belarus
Refers to Slides 4.11.1-4**

Reference: Kramer MS, Chalmers B, Hodnett ED, Sevkovskaya Z, Dzikovich I, Shapiro S, Collet JP, Vanilovich I, Mezen I, Ducruet T, Shishko G, Zubovich V, Mknuk D, Gluchanina E, Dombrovskiy V, Ustinovitch A, Kot T, Bogdanovich N, Ovchinikova L, Helsing E; PROBIT Study Group (Promotion of Breastfeeding Intervention Trial). Promotion of Breastfeeding Intervention Trial (PROBIT): a randomized trial in the Republic of Belarus. *JAMA*, 2001, Jan 24-31;285(4):413-20.

Context: Current evidence that breastfeeding is beneficial for infant and child health is based exclusively on observational studies. Potential sources of bias in such studies have led to doubts about the magnitude of these health benefits in industrialized countries.

Objective: To assess the effects of breastfeeding promotion on breastfeeding duration and exclusivity and gastrointestinal and respiratory infection and atopic eczema among infants. **DESIGN:** The Promotion of Breastfeeding Intervention Trial (PROBIT), a cluster-randomised trial conducted June 1996-December 1997 with a 1-year follow-up.

Setting: Thirty-one maternity hospitals and polyclinics in the Republic of Belarus.

Participants: A total of 17 046 mother-infant pairs consisting of full-term singleton infants weighing at least 2500 g and their healthy mothers who intended to breastfeed, 16491 (96.7%) of which completed the entire 12 months of follow-up.

Interventions: Sites were randomly assigned to receive an experimental intervention (n = 16) modelled on the Baby-Friendly Hospital Initiative of the World Health Organization and United Nations Children's Fund, which emphasizes health care worker assistance with initiating and maintaining breastfeeding and lactation and postnatal breastfeeding support, or a control intervention (n = 15) of continuing usual infant feeding practices and policies.

Main outcome measures: Duration of any breastfeeding, prevalence of predominant and exclusive breastfeeding at 3 and 6 months of life and occurrence of 1 or more episodes of gastrointestinal tract infection, 2 or more episodes of respiratory tract infection, and atopic eczema during the first 12 months of life, compared between the intervention and control groups.

Results: Infants from the intervention sites were significantly more likely than control infants to be breastfed to any degree at 12 months (19.7% versus 11.4%; adjusted odds ratio [OR], 0.47; 95% confidence interval [CI], 0.32-0.69), were more likely to be exclusively breastfed at 3 months (43.3% versus 6.4%; $P < .001$) and at 6 months (7.9% versus 0.6%; $P = .01$), and had a significant reduction in the risk of 1 or more gastrointestinal tract infections (9.1% versus 13.2%; adjusted OR, 0.60; 95% CI, 0.40-0.91) and of atopic eczema (3.3% versus 6.3%; adjusted OR, 0.54; 95% CI, 0.31-0.95), but no significant reduction in respiratory tract infection (intervention group, 39.2%; control group, 39.4%; adjusted OR, 0.87; 95% CI, 0.59-1.28).

Conclusions: Our experimental intervention increased the duration and degree (exclusivity) of breastfeeding and decreased the risk of gastrointestinal tract infection and atopic eczema in the first year of life. These results provide a solid scientific underpinning for future interventions to promote breastfeeding.

The effects of the Baby-friendly Hospital Initiative on breastfeeding duration in Switzerland

Refers to Slide 4.11.5-7

Reference: Merten S et al. Do Baby-Friendly Hospitals Influence Breastfeeding Duration on a National Level? *Pediatrics*, 2005, 116: e702 – e708.

Objectives: This study examined the question of whether Baby-friendly hospital status and compliance with the 10 Steps influence breastfeeding duration on a national level in Switzerland.

Methods: Data was analysed for 2861 infants aged 0 to 11 months of age born in 145 different health facilities. Breastfeeding data was compared with both the progress towards Baby-friendly status of each hospital and the degree to which accredited hospitals were successfully maintaining the Baby-friendly standards.

Results: The proportion of babies exclusively breastfed for their first 5 months of life was 42% for those born in Baby-friendly hospitals, compared with 34% for infants born elsewhere. Median breastfeeding duration for infants born in Baby-friendly hospitals, compared with infants born in other hospitals, was longer if the hospital showed good compliance with the Ten Steps (35 weeks versus 29 weeks for any breastfeeding, 20 weeks versus 17 weeks for full breastfeeding, and 12 weeks versus 6 weeks for exclusive breastfeeding).

In 2003 the median duration of any breastfeeding across Switzerland was 31 weeks, compared with 22 weeks in 1994. The median duration of full breastfeeding was 17 weeks, compared with 15 weeks in 1994.

Conclusions: The authors conclude that the general increase in breastfeeding in Switzerland since 1994 can be interpreted in part as a consequence of the growing implementation of the Baby-friendly Hospital Initiative. Longer breastfeeding duration was also associated with 24 hour rooming-in, early initiation of breastfeeding, feeding on demand and avoiding dummy use.

Presentation for Session 4

Ten steps to successful breastfeeding

Step 1. Have a written breastfeeding policy that is routinely communicated to all health care staff.

A JOINT WHO/UNICEF STATEMENT (1989)

Transparency 4.1.1

Breastfeeding policy

Why have a policy?

- Requires a course of action and provides guidance
- Helps establish consistent care for mothers and babies
- Provides a standard that can be evaluated

Transparency 4.1.2

Breastfeeding policy

What should it cover?

- At a minimum, it should include:
 - The 10 steps to successful breastfeeding
 - An institutional ban on acceptance of free or low cost supplies of breast-milk substitutes, bottles, and teats and its distribution to mothers
 - A framework for assisting HIV positive mothers to make informed infant feeding decisions that meet their individual circumstances and then support for this decision
- Other points can be added

Transparency 4.1.3

Breastfeeding policy

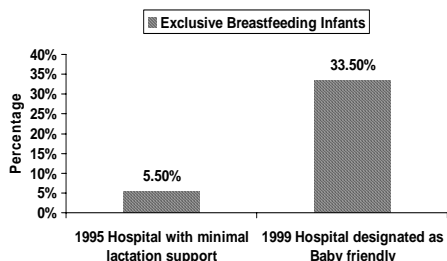
How should it be presented?

It should be:

- Written in the most common languages understood by patients and staff
- Available to all staff caring for mothers and babies
- Posted or displayed in areas where mothers and babies are cared for

Transparency 4.1.4

Step 1: Improved exclusive breast-milk feeds while in the birth hospital after implementing the Baby-friendly Hospital Initiative



Adapted from: Philipp BL, Merewood A, Miller LW et al. Baby-friendly Hospital Initiative improves breastfeeding initiation rates in a US hospital setting. *Pediatrics*, 2001, 108:677-681.

Transparency 4.1.5

Ten steps to successful breastfeeding

Step 2. Train all health-care staff in skills necessary to implement this policy.

A JOINT WHO/UNICEF STATEMENT (1989)

Transparency 4.2.1

Areas of knowledge

- Advantages of breastfeeding
- Risks of artificial feeding
- Mechanisms of lactation and suckling
- How to help mothers initiate and sustain breastfeeding
- How to assess a breastfeed
- How to resolve breastfeeding difficulties
- Hospital breastfeeding policies and practices
- Focus on changing negative attitudes which set up barriers

Transparency 4.2.2

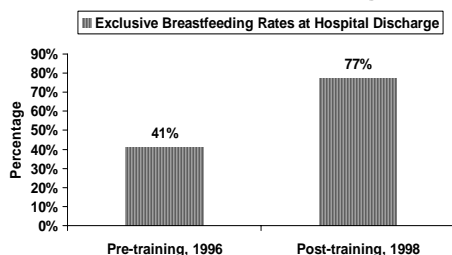
Additional topics for BFHI training in the context of HIV

Train all staff in:

- Basic facts on HIV and on Prevention of Mother-to-Child Transmission (PMTCT)
- Voluntary testing and counselling (VCT) for HIV
- Locally appropriate replacement feeding options
- How to counsel HIV + women on risks and benefits of various feeding options and how to make informed choices
- How to teach mothers to prepare and give feeds
- How to maintain privacy and confidentiality
- How to minimize the "spill over" effect (leading mothers who are HIV - or of unknown status to choose replacement feeding when breastfeeding has less risk)

Transparency 4.2.3

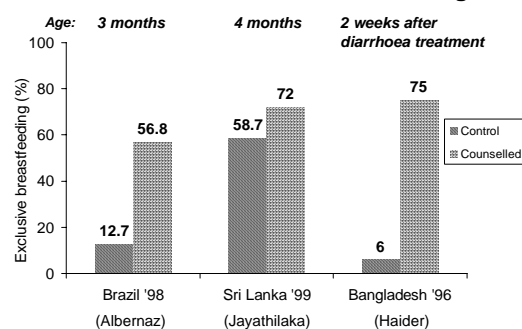
Step 2: Effect of breastfeeding training for hospital staff on exclusive breastfeeding rates at hospital discharge



Adapted from: Cattaneo A, Buzzetti R. Effect on rates of breast feeding of training for the Baby Friendly Hospital Initiative. *BMJ*, 2001, 323:1358-1362.

Transparency 4.2.4

Step 2: Breastfeeding counselling increases exclusive breastfeeding



All differences between intervention and control groups are significant at p<0.001. From: CAHWHO based on studies by Albernaz, Jayathilaka and Haider.

Transparency 4.2.5

Which health professionals other than perinatal staff influence breastfeeding success?

Transparency 4.2.6

Ten steps to successful breastfeeding

Step 3. Inform all pregnant women about the benefits of breastfeeding.

A JOINT WHO/UNICEF STATEMENT (1989)

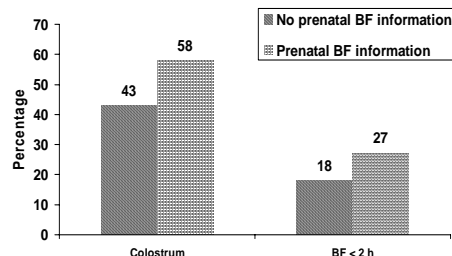
Transparency 4.3.1

Antenatal education should include:

- Benefits of breastfeeding
- Early initiation
- Importance of rooming-in (if new concept)
- Importance of feeding on demand
- Importance of exclusive breastfeeding
- How to assure enough breastmilk
- Risks of artificial feeding and use of bottles and pacifiers (soothers, teats, nipples, etc.)
- Basic facts on HIV
- Prevention of mother-to-child transmission of HIV (PMTCT)
- Voluntary testing and counselling (VCT) for HIV and infant feeding counselling for HIV+ women
- Antenatal education should not include group education on formula preparation

Transparency 4.3.2

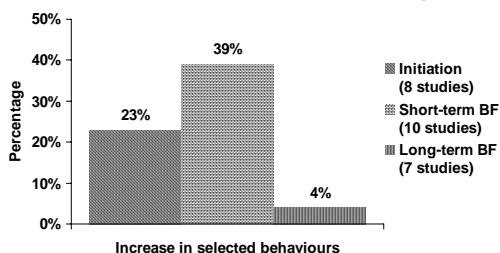
Step 3: The influence of antenatal care on infant feeding behaviour



Adapted from: Nielsen B, Hedegaard M, Thilsted S, Joseph A, Lijestrand J. Does antenatal care influence postpartum health behaviour? Evidence from a community based cross-sectional study in rural Tamil Nadu, South India. *British Journal of Obstetrics and Gynaecology*, 1998, 105:697-703.

Transparency 4.3.3

Step 3: Meta-analysis of studies of antenatal education and its effects on breastfeeding



Adapted from: Guise et al. The effectiveness of primary care-based interventions to promote breastfeeding: Systematic evidence review and meta-analysis... *Annals of Family Medicine*, 2003, 1(2):70-78.

Transparency 4.3.4

Ten steps to successful breastfeeding

Step 4. Help mothers initiate breastfeeding within a half-hour of birth.

A JOINT WHO/UNICEF STATEMENT (1989)

Transparency 4.4.1

New interpretation of Step 4 in the revised BFHI Global Criteria (2006):

“Place babies in skin-to-skin contact with their mothers immediately following birth for at least an hour and encourage mothers to recognize when their babies are ready to breastfeed, offering help if needed.”

Transparency 4.4.2

Early initiation of breastfeeding for the normal newborn

Why?

- Increases duration of breastfeeding
- Allows skin-to-skin contact for warmth and colonization of baby with maternal organisms
- Provides colostrum as the baby's first immunization
- Takes advantage of the first hour of alertness
- Babies learn to suckle more effectively
- Improved developmental outcomes

Transparency 4.4.3

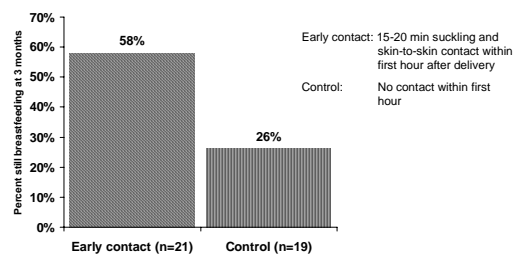
Early initiation of breastfeeding for the normal newborn

How?

- Keep mother and baby together
- Place baby on mother's chest
- Let baby start suckling when ready
- Do not hurry or interrupt the process
- Delay non-urgent medical routines for at least one hour

Transparency 4.4.4

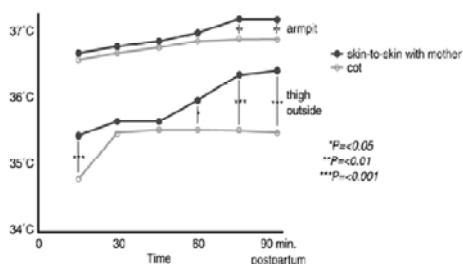
Impact on breastfeeding duration of early infant-mother contact



Adapted from: DeChateau P, Wiberg B. Long term effect on mother-infant behavior of extra contact during the first hour postpartum. *Acta Paediatr*, 1977, 66:145-151.

Transparency 4.4.5

Temperatures after birth in infants kept either skin-to-skin with mother or in cot



Adapted from: Christensson K et al. Temperature, metabolic adaptation and crying in healthy full-term newborns cared for skin-to-skin or in a cot. *Acta Paediatr*, 1992, 81:490.

Transparency 4.4.6

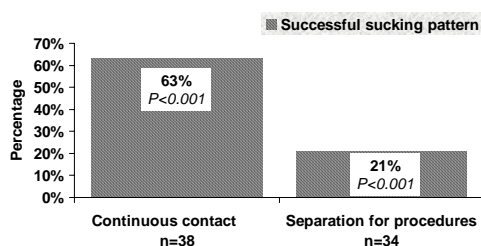
Protein composition of human colostrum and mature breast milk (per litre)

Constituent	Measure	Colostrum (1-5 days)	Mature Milk (>30 days)
Total protein	G	23	9-10.5
Casein	mg	1400	1870
α -Lactalbumin	mg	2180	1610
Lactoferrin	mg	3300	1670
IgA	mg	3640	1420

From: Worthington-Roberts B, Williams SR. *Nutrition in Pregnancy and Lactation*, 5th ed. St. Louis, MO, Times Mirror/Mosby College Publishing, p. 350, 1993.

Transparency 4.4.7

Effect of delivery room practices on early breastfeeding



Adapted from: Righard L, Alade O. Effect of delivery room routines on success of first breastfeed *Lancet*, 1990, 336:1105-1107.

Transparency 4.4.8

Ten steps to successful breastfeeding

Step 5. Show mothers how to breastfeed and how to maintain lactation, even if they should be separated from their infants.

A JOINT WHO/UNICEF STATEMENT (1989)

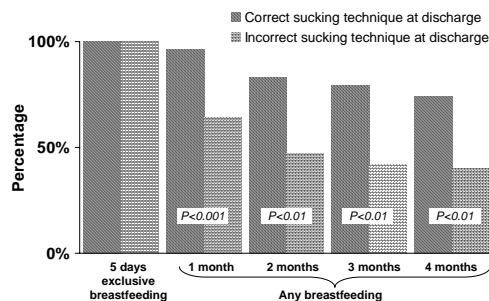
Transparency 4.5.1

“ *Contrary to popular belief, attaching the baby on the breast is not an ability with which a mother is [born...]; rather it is a learned skill which she must acquire by observation and experience.* **”**

From: Woolridge M. The "anatomy" of infant sucking. *Midwifery*, 1986, 2:164-171.

Transparency 4.5.2

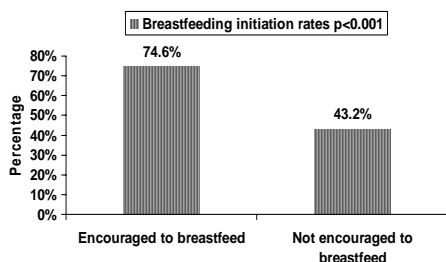
Effect of proper attachment on duration of breastfeeding



Adapted from: Righard L, Alade O. (1992) Sucking technique and its effect on success of breastfeeding. *Birth* 19(4):185-189.

Transparency 4.5.3

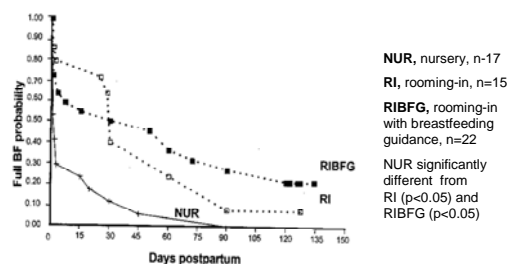
Step 5: Effect of health provider encouragement of breastfeeding in the hospital on breastfeeding initiation rates



Adapted from: Lu M, Lange L, Slusser W et al. Provider encouragement of breast-feeding: Evidence from a national survey. *Obstetrics and Gynecology*, 2001, 97:290-295.

Transparency 4.5.4

Effect of the maternity ward system on the lactation success of low-income urban Mexican women



From: Perez-Escamilla R, Segura-Millan S, Pollitt E, Dewey KG. Effect of the maternity ward system on the lactation success of low-income urban Mexican women. *Early Hum Dev.*, 1992, 31 (1): 25-40.

Transparency 4.5.5

Supply and demand

- Milk removal stimulates milk production.
- The amount of breast milk removed at each feed determines the rate of milk production in the next few hours.
- Milk removal must be continued during separation to maintain supply.

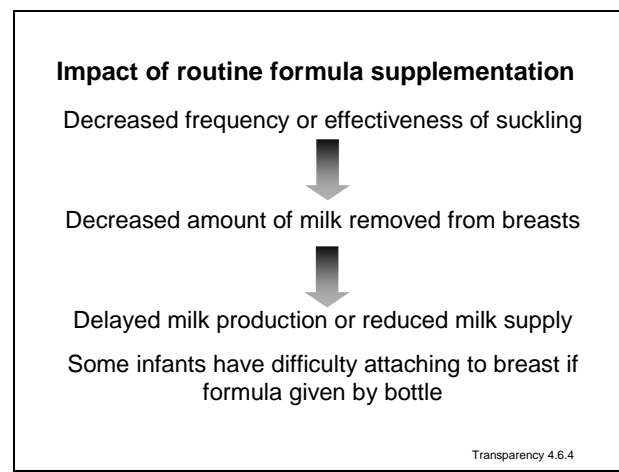
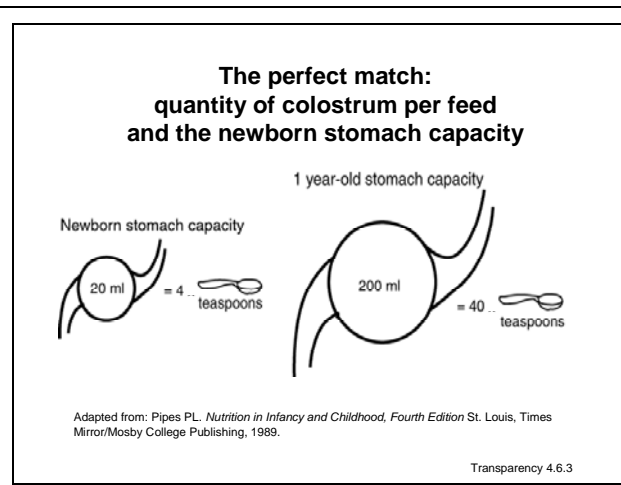
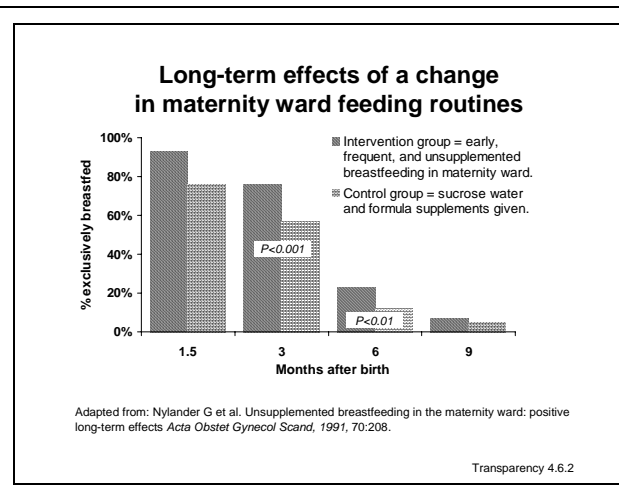
Transparency 4.5.6

Ten steps to successful breastfeeding

Step 6. Give newborn infants no food or drink other than breast milk unless medically indicated.

A JOINT WHO/UNICEF STATEMENT (1989)

Transparency 4.6.1



- ### Determinants of lactation performance across time in an urban population from Mexico
- Milk came in earlier in the hospital with rooming-in where formula was not allowed
 - Milk came in later in the hospital with nursery ($p < 0.05$)
 - Breastfeeding was positively associated with early milk arrival and inversely associated with early introduction of supplementary bottles, maternal employment, maternal body mass index, and infant age.
- From: Perez-Escamilla et al. Determinants of lactation performance across time in an urban population from Mexico. *Soc Sci Med*, 1993, (8):1069-78.
- Transparency 4.6.5

Summary of studies on the water requirements of exclusively breastfed infants

Country	Temperature °C	Relative Humidity %	Urine osmolarity (mOsm/l)
Argentina	20-39	60-80	105-199
India	27-42	10-60	66-1234
Jamaica	24-28	62-90	103-468
Peru	24-30	45-96	30-544

Note: Normal range for urine osmolarity is from 50 to 1400 mOsm/kg.

From: *Breastfeeding and the use of water and teas*. Division of Child Health and Development Update No. 9, Geneva, World Health Organization, reissued, Nov. 1997.

Transparency 4.6.6

Medically indicated

There are rare exceptions during which the infant may require other fluids or food in addition to, or in place of, breast milk. The feeding programme of these babies should be determined by qualified health professionals on an individual basis.

Transparency 4.6.7

Acceptable medical reasons for supplementation or replacement

Infant conditions:

- Infants who cannot be BF but can receive BM include those who are very weak, have sucking difficulties or oral abnormalities or are separated from their mothers.
- Infants who may need other nutrition in addition to BM include very low birth weight or preterm infants, infants at risk of hypoglycaemia, or those who are dehydrated or malnourished, when BM alone is not enough.
- Infants with galactosemia should not receive BM or the usual BMS. They will need a galactose free formula.
- Infants with phenylketonuria may be BF and receive some phenylalanine free formula.

UNICEF, revised BFHI course and assessment tools, 2006 Transparency 4.6.8

Maternal conditions:

- BF should stop during therapy if a mother is taking anti-metabolites, radioactive iodine, or some anti-thyroid medications.
- Some medications may cause drowsiness or other side effects in infants and should be substituted during BF.
- BF remains the feeding choice for the majority of infants even with tobacco, alcohol and drug use. If the mother is an intravenous drug user BF is not indicated.
- Avoidance of all BF by HIV+ mothers is recommended when replacement feeding is acceptable, feasible, affordable, sustainable and safe. Otherwise EBF is recommended during the first months, with BF discontinued when conditions are met. Mixed feeding is not recommended.

Transparency 4.6.9

Maternal conditions (continued):

- If a mother is weak, she may be assisted to position her baby so she can BF.
- BF is not recommended when a mother has a breast abscess, but BM should be expressed and BF resumed once the breast is drained and antibiotics have commenced. BF can continue on the unaffected breast.
- Mothers with herpes lesions on their breasts should refrain from BF until active lesions have been resolved.
- BF is not encouraged for mothers with Human T-cell leukaemia virus, if safe and feasible options are available.
- BF can be continued when mothers have hepatitis B, TB and mastitis, with appropriate treatments undertaken.

Transparency 4.6.10

Ten steps to successful breastfeeding

Step 7. Practice rooming-in — allow mothers and infants to remain together — 24 hours a day.

A JOINT WHO/UNICEF STATEMENT (1989)

Transparency 4.7.1

Rooming-in

A hospital arrangement where a mother/baby pair stay in the same room day and night, allowing unlimited contact between mother and infant

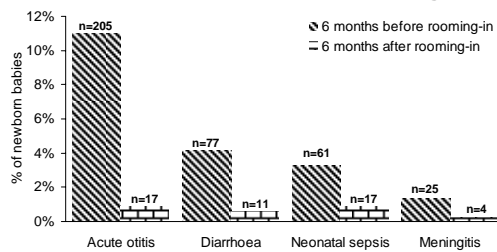
Transparency 4.7.2

**Rooming-in
Why?**

- Reduces costs
- Requires minimal equipment
- Requires no additional personnel
- Reduces infection
- Helps establish and maintain breastfeeding
- Facilitates the bonding process

Transparency 4.7.3

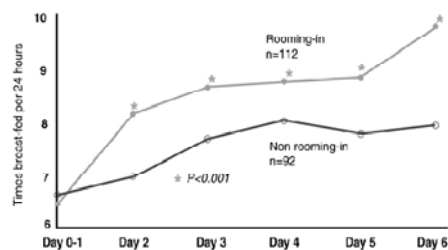
Morbidity of newborn babies at Sanglah Hospital before and after rooming-in



Adapted from: Soetjiningsih, Suraatmaja S. The advantages of rooming-in. *Pediatrica Indonesia*, 1986, 26:231.

Transparency 4.7.4

Effect of rooming-in on frequency of breastfeeding per 24 hours



Adapted from: Yamauchi Y, Yamanouchi I. The relationship between rooming-in/not rooming-in and breastfeeding variables. *Acta Paediatr Scand*, 1990, 79:1019.

Transparency 4.7.5

Ten steps to successful breastfeeding

Step 8. Encourage breastfeeding on demand.

A JOINT WHO/UNICEF STATEMENT (1989)

Transparency 4.8.1

Breastfeeding on demand:

Breastfeeding whenever the baby or mother wants, with no restrictions on the length or frequency of feeds.

Transparency 4.8.2

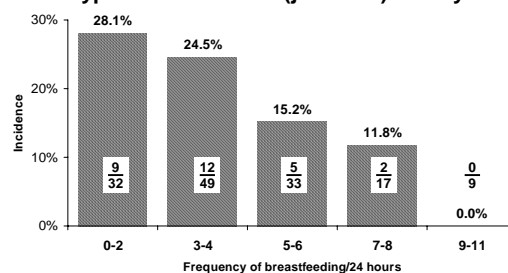
On demand, unrestricted breastfeeding *Why?*

- Earlier passage of meconium
- Lower maximal weight loss
- Breast-milk flow established sooner
- Larger volume of milk intake on day 3
- Less incidence of jaundice

From: Yamauchi Y, Yamanouchi I. Breast-feeding frequency during the first 24 hours after birth in full-term neonates. *Pediatrics*, 1990, 86(2):171-175.

Transparency 4.8.3

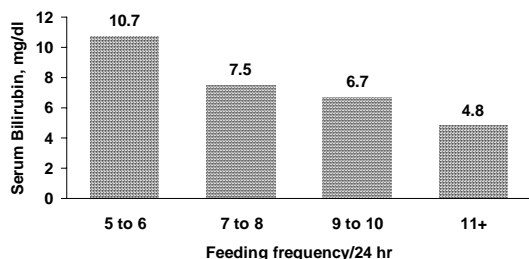
Breastfeeding frequency during the first 24 hours after birth and incidence of hyperbilirubinaemia (jaundice) on day 6



From: Yamauchi Y, Yamanouchi I. Breast-feeding frequency during the first 24 hours after birth in full-term neonates. *Pediatrics*, 1990, 86(2):171-175.

Transparency 4.8.4

Mean feeding frequency during the first 3 days of life and serum bilirubin



From: DeCarvalho et al. *Am J Dis Child* 1982; 136:737-738

Transparency 4.8.5

Ten steps to successful breastfeeding

Step 9. Give no artificial teats or pacifiers (also called dummies and soothers) to breastfeeding infants.

A JOINT WHO/UNICEF STATEMENT (1989)

Transparency 4.9.1

Alternatives to artificial teats

- cup
- spoon
- dropper
- Syringe

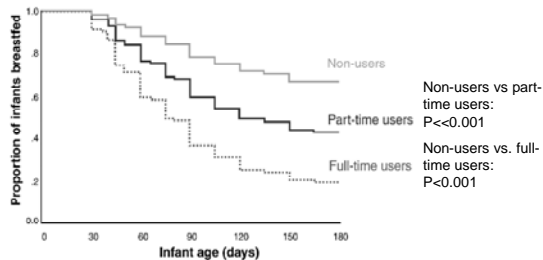
Transparency 4.9.2

Cup-feeding a baby



Transparency 4.9.3

Proportion of infants who were breastfed up to 6 months of age according to frequency of pacifier use at 1 month



From: Victora CG et al. Pacifier use and short breastfeeding duration: cause, consequence or coincidence? *Pediatrics*, 1997, 99:445-453.

Transparency 4.9.4

Ten steps to successful breastfeeding

Step 10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

A JOINT WHO/UNICEF STATEMENT (1989)

Transparency 4.10.1

“The key to best breastfeeding practices is continued day-to-day support for the breastfeeding mother within her home and community.”

From: Saadeh R.J, editor. *Breast-feeding: the Technical Basis and Recommendations for Action*. Geneva, World Health Organization, pp. 62-74, 1993.

Transparency 4.10.2

Support can include:

- Early postnatal or clinic checkup
- Home visits
- Telephone calls
- Community services
 - Outpatient breastfeeding clinics
 - Peer counselling programmes
- Mother support groups
 - Help set up new groups
 - Establish working relationships with those already in existence
- Family support system

Transparency 4.10.3

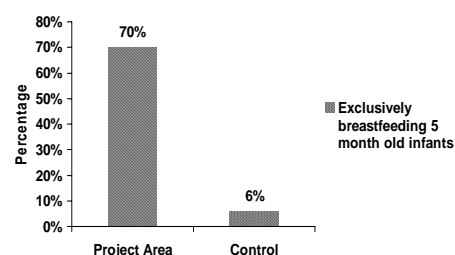
Types of breastfeeding mothers' support groups

- Traditional
 - extended family
 - culturally defined *doulas*
 - village women
- Modern, non-traditional
 - Self-initiated
 - by mothers
 - by concerned health professionals
 - Government planned through:
 - networks of national development groups, clubs, etc.
 - health services -- especially primary health care (PHC) and trained traditional birth attendants (TBAs)

From: Jelliffe DB, Jelliffe EFP. The role of the support group in promoting breastfeeding in developing countries. *J Trop Pediatr*, 1983, 29:244.

Transparency 4.10.4

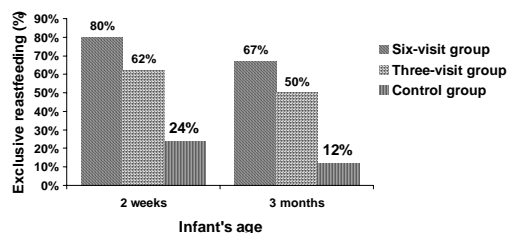
Step 10: Effect of trained peer counsellors on the duration of exclusive breastfeeding



Adapted from: Haider R, Kabir I, Huttly S, Ashworth A. Training peer counsellors to promote and support exclusive breastfeeding in Bangladesh. *J Hum Lact*. 2002;18(1):7-12.

Transparency 4.10.5

Home visits improve exclusive breastfeeding



From: Morrow A, Guerrero ML, Shultz J, et al. Efficacy of home-based peer counselling to promote exclusive breastfeeding: a randomised controlled trial. *Lancet*. 1999, 353:1226-31

Transparency 4.10.6

Combined Steps: The impact of baby-friendly practices: The Promotion of Breastfeeding Intervention Trial (PROBIT)

- In a randomized trial in Belarus 17,000 mother-infant pairs, with mothers intending to breastfeed, were followed for 12 months.
- In 16 control hospitals & associated polyclinics that provide care following discharge, staff were asked to continue their usual practices.
- In 15 experimental hospitals & associated polyclinics staff received baby-friendly training & support.

Adapted from: Kramer MS, Chalmers B, Hodnett E, et al. Promotion of breastfeeding intervention trial (PROBIT) A randomized trial in the Republic of Belarus. *JAMA*, 2001, 285:413-420.

Transparency 4.11.1

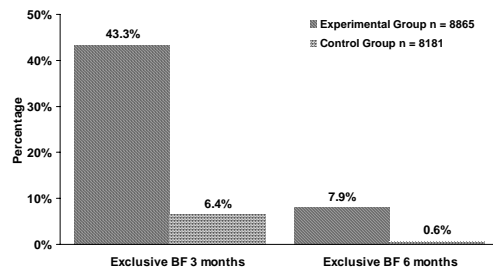
Differences following the intervention

Control hospitals:	Experimental hospitals:
▪ Routine separation of mothers & babies at birth	▪ Mothers & babies together from birth
▪ Routine tight swaddling	▪ No swaddling—skin-to-skin contact encouraged
▪ Routine nursery-based care	▪ Rooming-in on a 24-hr basis
▪ Incorrect latching & positioning techniques	▪ Correct latching & positioning techniques
▪ Routine supplementation with water & milk by bottle	▪ No supplementation
▪ Scheduled feedings every 3 hrs	▪ Breastfeeding on demand
▪ Routine use of pacifiers	▪ No use of pacifiers
▪ No BF support after discharge	▪ BF support in polyclinics

Communication from Chalmers and Kramer (2003)

Transparency 4.11.2

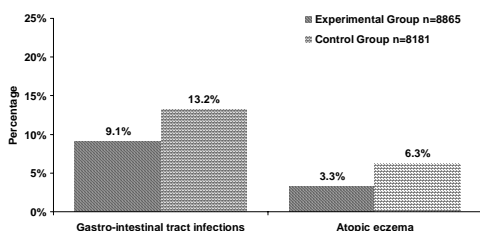
Effect of baby-friendly changes on breastfeeding at 3 & 6 months



Adapted from: Kramer et al. (2001)

Transparency 4.11.3

Impact of baby-friendly changes on selected health conditions



Note: Differences between experimental and control groups for various respiratory tract infections were small and statistically non-significant.

Adapted from: Kramer et al. (2001)

Transparency 4.11.4

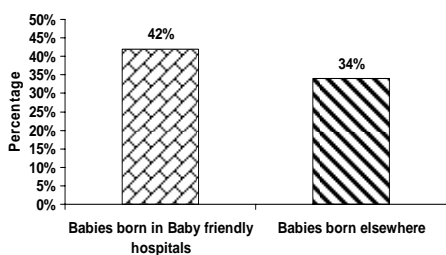
Combined Steps: The influence of Baby-friendly hospitals on breastfeeding duration in Switzerland

- Data was analyzed for 2861 infants aged 0 to 11 months in 145 health facilities.
- Breastfeeding data was compared with both the progress towards Baby-friendly status of each hospital and the degree to which designated hospitals were successfully maintaining the Baby-friendly standards.

Adapted from: Merten S et al. Do Baby-Friendly Hospitals Influence Breastfeeding Duration on a National Level? *Pediatrics*, 2005, 116: e702 – e708.

Transparency 4.11.5

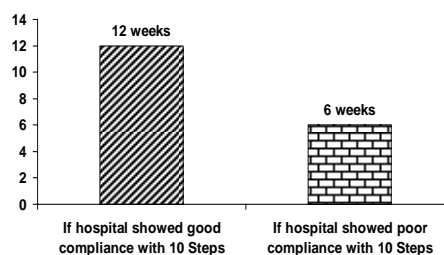
Proportion of babies exclusively breastfed for the first five months of life -- Switzerland



Adapted from: Merten S et al. Do Baby-Friendly Hospitals Influence Breastfeeding Duration on a National Level? *Pediatrics*, 2005, 116: e702 – e708.

Transparency 4.11.6

Median duration of exclusive breastfeeding for babies born in Baby-friendly hospitals -- Switzerland



Adapted from: Merten S et al. Do Baby-Friendly Hospitals Influence Breastfeeding Duration on a National Level? *Pediatrics*, 2005, 116: e702 – e708.

Transparency 4.11.7

Handout 4.2



Sultanate of Oman
Ministry of Health
Department of Nutrition

National policy on infant and young child feeding (for health facilities)

This policy is developed to ensure and improve the survival, health, nutritional status, growth and development of infants and young children through optimal feeding.

To ensure optimal infant and young child feeding, the following should be practiced by all health institutions:

1. Initiate breastfeeding within one hour from birth and promote exclusive breastfeeding for about the first 6 months of age.
2. Ensure timely introduction of complementary feeds at the end of the sixth month. If signs of hunger are observed earlier, complementary feeding could be started after completing four months.
3. Ensure that all children are fed adequate and hygienically prepared complementary foods.
4. Educate the mothers to increase food quality, quantity and frequency with a combination of meals and snacks, as the child gets older, with continued breastfeeding into the second year.
5. Encourage the mothers to diversify the diet to improve quality and micronutrients intake, satisfy protein, iron, vitamin A, and iodine requirements.
6. Encourage caregivers to practice active feeding, respond to motor development, and appropriate care practices.
7. During illness, advise the mother to increase frequency and quantity of meals, and continue breastfeeding.
8. Integration of the specific monitoring and evaluation system is an essential part of the implementation of this policy.
9. The implementation of the Oman Code 55/98 on the marketing of the breast-milk substitutes is the responsibility of all health personal at the health facility, wilayat, and regional levels.
10. Check baby's weight regularly as an indicator of adequate nutrition and refer malnourished children to the nutrition clinic in the health facility for management, counseling and follow up.
11. Train all health worker on the infant and young child feeding policy. Foster establishment of infant and young child feeding support groups in the health facilities and the communities.

HE – 49

First edition – November 2003

Baby and Mother Friendly Hospital Programme Ministry of Health, Mexico

What are the 25 actions which the programme promotes?

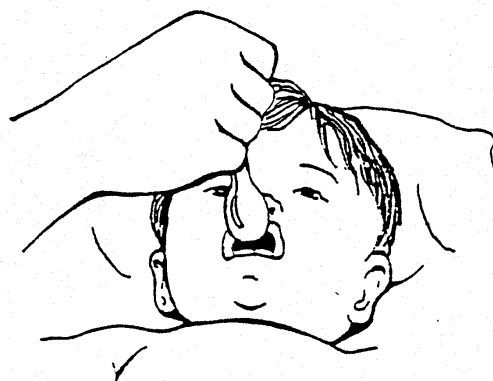
For a hospital to be considered BABY- AND MOTHER-FRIENDLY, it must implement the following 25-point programme:

Actions for the support and promotion of breast-feeding:

1. To have a written breast-feeding policy that is routinely communicated to all health care staff.
2. To train all health care staff in those skills necessary to implement this policy.
3. To practise rooming-in—allowing mothers and infants to remain together—24 hours a day.
4. To foster the establishment of breast-feeding support groups and refer mothers to them on discharge from the hospital or clinic.
5. To inform all pregnant women about the benefits and practice of breast-feeding.
6. To practise skin to skin contact in the delivery room and to help mothers initiate breast-feeding within a half-hour of birth.
7. To show mothers how to breast-feed and how to maintain lactation even if they should be separated from their infants.
8. To encourage breast-feeding on demand.
9. To encourage mothers to give newborn infants no food or drink other than breast milk, unless MEDICALLY PRESCRIBED.
10. To give no ARTIFICIAL TEATS OR PACIFIERS to infants which might cause them to refuse the breast.

Actions aimed at protecting the health of the mother:

11. To carry out pre-natal care and immunise women against tetanus.
12. Early detection of high risk pregnancies.
13. To give orientation on nutrition to pregnant women.
14. To deliver all babies in health facilities.
15. To promote family planning.
16. Early detection of breast cancer.
17. Early detection of cancer of the womb.
18. To study and prevent peri-natal maternal mortality.



Actions for neo-natal and infant care:

19. Application of neo-natal vaccinations (Polio and tuberculosis).
20. To check the scheme of vaccinations of under-fives.
21. To monitor growth and development.
22. To control acute diarrhoeal diseases and to promote the use of oral rehydration salts.
23. To detect and control acute respiratory infections in under fives.

Research activities:

24. To investigate risk factors, to identify and take advantage of lost opportunities.
25. To systematise all experience gained.

UNICEF UK Baby Friendly Initiative: Sample combined maternity/community services policy on breastfeeding¹

PRINCIPLES

This facility believes that breastfeeding is the healthiest way for a woman to feed her baby and recognises the important health benefits now known to exist for both the mother and her child. (1)

All mothers have the right to make a fully informed choice as to how they feed and care for their babies. The provision of clear and impartial information to all mothers at an appropriate time is therefore essential.

Health care staff will not discriminate against any woman in her chosen method of infant feeding and will fully support her when she has made that choice. This policy is designed to ensure good professional practice, not to dictate the choices of mothers.

AIMS

To ensure that the health benefits of breastfeeding and the potential health risks of formula feeding are discussed with all women and their families as appropriate, so that they can make an informed choice about how they will feed their babies.

To create an environment where more women choose to breastfeed their babies, and where more women are given sufficient information and support to enable them to breastfeed exclusively for at least 4 months (and preferably up to 6 months), and then as part of their infant's diet for as long as they both wish. (2)

To enable all health care staff who have contact with breastfeeding women to provide full and competent support through specialised training in all aspects of breastfeeding management.

To encourage liaison with other health care facilities and delivery of a seamless service, together with the development of a breastfeeding culture throughout the local community.

IN SUPPORT OF THIS POLICY

Adherence to this policy is required for all staff. Any deviation from the policy must be justified and recorded in the mother's and/or baby's health care records. This should be done in the context of professional judgment and codes of conduct. The policy should be implemented in conjunction with both the facility's breastfeeding guidelines [*where these exist*] and the parents' guide to the policy [*where this exists*].

It is the responsibility of all health care professionals to liaise with others should concerns arise about the baby's health. Any guidelines for the support of breastfeeding in special situations and the management of common complications will be drawn up and agreed by a multi-disciplinary team of professionals with clinical responsibility for the care of mothers and babies.

¹ From <http://www.babyfriendly.org.uk/pol-both.asp>

The policy and guidelines will be reviewed annually. Compliance with the policy will be audited on an annual basis.

No advertising of breast-milk substitutes, feeding bottles, teats or dummies is permissible in this Trust/health centre. The display of logos of manufacturers of these products on such items as calendars and stationery is also prohibited. (3)

No literature provided by manufacturers of breast-milk substitutes is permitted. Educational materials for distribution to women or their families must be approved by the lead professional.

Parents who have made a fully informed choice to feed their babies artificially should be shown how to prepare formula feeds correctly, either individually or in small groups, in the postnatal period. No routine group instruction on the preparation of artificial feeds will be given in the antenatal period, as this does not provide the information adequately and has the potential to undermine confidence in breastfeeding.

THE POLICY

Communicating the Breastfeeding Policy

- 1.1 This policy is to be communicated to all health care staff who have any contact with pregnant women and mothers, including those employed outside the facility. All staff will receive a copy of the policy.
- 1.2 All new staff will be orientated to the policy as soon as their employment begins.
- 1.3 The policy will be displayed in all areas of Trust premises/clinics/ parts of the health centre. *[Where appropriate -]* The policy will also be accessible to women in other forms, for example on audio or video tapes and in appropriate languages.

Training Health Care Staff

- 2.1 Midwives and/or health visitors have the primary responsibility for supporting breastfeeding women and for helping them to overcome related problems.
- 2.2 All professional, clerical and ancillary staff who have contact with pregnant women and mothers will receive training in breastfeeding management at a level appropriate to their professional group. New staff will receive training within six months of taking up their posts.
- 2.3 The responsibility for providing training lies with the lead professional *[insert post]*, who will audit the uptake and efficacy of the training and publish results on an annual basis.

Informing Pregnant Women of the Benefits and Management of Breastfeeding

- 3.1 Every effort must be made to ensure that all pregnant women are aware of the benefits of breastfeeding and of the potential health risks of formula feeding.
- 3.2 All pregnant women should be given an opportunity to discuss infant feeding on a one-to-one basis with a midwife or health visitor. Such discussion should not solely be attempted during a group parentcraft class.

- 3.3 The physiological basis of breastfeeding should be clearly and simply explained to all pregnant women, together with good management practices and some of the common experiences they may encounter. The aim should be to give women confidence in their ability to breastfeed.
- 3.4 All materials and teaching should reflect the WHO/UNICEF Baby Friendly best practice standards.

Supporting the Initiation of Breastfeeding

- 4.1 All mothers should be encouraged to hold their babies in skin-to-skin contact as soon as possible after delivery in an unhurried environment, regardless of their intended feeding method.
- 4.2 All women should be encouraged to offer the first breastfeed when mother and baby are ready. Help must be available from a midwife if needed.

Showing Women how to Breastfeed and how to Maintain Lactation even if Mother and Baby are Separated

- 5.1 A midwife should be available to assist a mother if necessary at all breastfeeds during her hospital stay.
- 5.2 Midwives and health visitors should ensure that mothers are offered the support necessary to acquire the skills of positioning and attachment. They should be able to explain the necessary techniques to the mother, thereby helping her to acquire this skill for herself.
- 5.3 All breastfeeding mothers should be shown how to hand express their milk. A leaflet outlining the process should be provided for women to use for reference.
- 5.4 It is the responsibility of those health professionals caring for both mother and baby to ensure the mother is given help and encouragement to express her milk and to maintain her lactation during periods of separation from her baby.
- 5.5 Mothers who are separated from their babies should be encouraged to express milk at least six to eight times in a 24 hour period.

Supporting Exclusive Breastfeeding

- 6.1 For around the first 6 months, breastfed babies should receive no water or artificial feed except in cases of medical indication or fully informed parental choice. In hospital, no water or artificial feed should be given to a breastfed baby unless prescribed by a midwife or paediatrician who has been appropriately trained. Once home, no water or artificial feed is to be recommended for a breastfed baby by a member of staff unless s/he is trained in lactation management.
- 6.2 Parents should always be consulted if supplementary feeds are recommended and the reasons discussed with them in full.
- 6.3 Any supplements which are prescribed or recommended should be recorded in the baby's hospital notes or health record along with the reason for supplementation.

- 6.4 Parents who elect to supplement their baby's breastfeeds with formula milk or other foods or drinks should be made aware of the health implications and of the harmful impact supplementation may have on breastfeeding to allow them to make a fully informed choice.
- 6.5 All weaning information should reflect the aim of exclusive breastfeeding for around 6 months and partial breastfeeding for at least the first year. (2)
- 6.6 Data on infant feeding showing the prevalence of both exclusive and partial breastfeeding will be collected at the following ages: *[for example: delivery, transfer home, 10 days, 6/8 weeks, 4 months, 1 year - we await national recommendations]*
- 6.7 Breast-milk substitutes will not be sold by facility staff or on health care premises. [Formula milk may be exchanged for welfare tokens (and sold to families in receipt of Working Families Tax Credit) if there is no other local outlet providing this facility.]

Rooming-in

- 7.1 Mothers will normally assume primary responsibility for the care of their babies.
- 7.2 Separation of mother and baby while hospitalised will normally occur only where the health of either the mother or her infant prevents care being offered in the postnatal areas.
- 7.3 There is no designated nursery space in the hospital postnatal areas.
- 7.4 Babies should not be routinely separated from their mothers at night. This applies to babies who are being bottle fed as well as those being breastfed. Mothers who have delivered by Caesarean section should be given appropriate care, but the policy of keeping mother and baby together should normally apply.
- 7.5 Mothers will be encouraged to continue to keep their babies near them when they are at home. They will be given appropriate information about the benefits of and contraindications to bed-sharing.

Baby-led Feeding

- 8.1 Demand feeding should be encouraged for all babies unless clinically indicated. Hospital procedures should not interfere with this principle.
- 8.2 Mothers should be encouraged to continue to practise baby-led feeding throughout the time they are breastfeeding.

Use of Artificial Teats, Dummies and Nipple Shields

- 9.1 Health care staff should not recommend the use of artificial teats or dummies during the establishment of breastfeeding. Parents wishing to use them should be advised of the possible detrimental affects on breastfeeding to allow them to make a fully informed choice. The information given and the parents' decision should be recorded in the appropriate health record.

- 9.2 Nipple shields will not be recommended except in extreme circumstances and then only for as short a time as possible. Any mother considering using a nipple shield must have the disadvantages fully explained to her prior to commencing use. She should be under the care of a skilled practitioner whilst using the shield and should be given every help to discontinue use as soon as possible.

Breastfeeding Support Groups

- 10.1 This facility supports co-operation between health care professionals and voluntary support groups whilst recognising that health care facilities have their own responsibility to promote breastfeeding.
- 10.2 Telephone numbers (or other means of contact) for infant feeding advisors [*where these exist*], community midwives, health visitors, and voluntary breastfeeding counsellors will be issued to all mothers and be routinely displayed in all areas relevant to maternity and child health. Details will be given of the times at which these advisors can be contacted.
- 10.3 Breastfeeding support groups will be invited to contribute to further development of the breastfeeding policy through involvement in appropriate meetings.

A Welcome for Breastfeeding Families

- 11.1 Breastfeeding will be regarded as the normal way to feed babies and young children. Mothers will be enabled and supported to feed their infants in all public areas of Trust premises/the health centre.
- 11.2 Comfortable facilities will be made available for mothers who prefer privacy.
- 11.3 Signs in all public areas of the facility will inform users of this policy.

Encouraging Community Support for Breastfeeding

- 12.1 Handover of care from midwife to health visitor will follow established procedure.
- 12.2 Health professionals should ask about the progress of breastfeeding at each contact with a breastfeeding mother. This will enable early identification of any potential complications and allow appropriate information to be given to prevent or remedy them.
- 12.3 Members of the health care team should use their influence wherever and whenever possible to encourage a breastfeeding culture in the local community.
- 12.4 Health care facilities will work with local breastfeeding support groups to raise society's awareness of the importance of breastfeeding and to encourage the provision of facilities for breastfeeding mothers and infants through liaison with local businesses, authorities, community groups and the media.
- 12.5 Opportunities to influence or take part in educational programmes in local schools (e.g. as part of the role of school nurses) will be explored.

1. Standing Committee on Nutrition of the British Paediatric Association (1994): Is breast feeding beneficial in the UK? *Arch Dis Child*, 71: 376-80.
2. The COMA Working Group on the Weaning Diet (1994) recommends that 'the majority of infants should not be given solid foods before the age of four months, and that a mixed diet should be offered by the age of six months'. The World Health Assembly (Resolution 47.5, 1994) recommends that babies should be exclusively breastfed until 'about 6 months'.
3. The Infant Formula and Follow-on Formula Regulations 1995 stipulate a legal requirement that infant formula advertising should be restricted to baby care publications distributed through the health care system. There is no legal requirement for facilities in the UK to comply with the International Code of Marketing of Breast-milk Substitutes (WHO, Geneva, 1981). However, the requirements of the Baby Friendly Initiative are based on the International Code, which aims 'to contribute to the provision of safe and adequate nutrition for infants, by the protection and promotion of breastfeeding, and by ensuring the proper use of breast-milk substitutes, when these are necessary, on the basis of adequate information and through appropriate marketing and distribution.' Articles 5 and 6 of the Code state that no promotion of breast-milk substitutes, bottles or teats should occur.

Handout 4.5

Acceptable medical reasons for supplementation (DRAFT)²

Exclusive breastfeeding is the norm. In a small number of situations there may be a medical indication for supplementing breast milk or for not using breast milk at all. It is useful to distinguish between:

- infants who cannot be fed at the breast but for whom breast milk remains the food of choice;
- infants who may need other nutrition in addition to breast milk;
- infants who should not receive breast milk, or any other milk, including the usual breast milk substitutes and need a specialised formula;
- infants for whom breast milk is not available;
- maternal conditions that affect breastfeeding recommendations.

Infants who cannot be fed at the breast but for whom breast milk remains the food of choice may include infants who are very weak, have sucking difficulties or oral abnormalities, or are separated from their mother who is providing expressed milk. These infants may be fed expressed milk by tube, cup, or spoon.

Infants who may need other nutrition in addition to breast milk may include very low birth weight or very preterm infants, i.e., those born less than 1500 g or 32 weeks gestational age; infants who are at risk of hypoglycaemia because of medical problems, when sufficient breast milk is not immediately available; infants who are dehydrated or malnourished when breast milk alone cannot restore the deficiencies. These infants require an individualised feeding plan, and breast milk should be used to the extent possible. Efforts should be made to sustain maternal milk production by encouraging expression of milk. Milk from tested milk donors may also be used. Hind milk is high in calories and particularly valuable for low birth weight infants.

Infants who should not receive breast milk, or any other milk, including the usual breast-milk substitutes may include infants with certain rare metabolic conditions such as galactosemia who may need feeding with a galactose free special formula or phenylketonuria where some breastfeeding may be possible, partly replaced with phenylalanine free formula.

Infants for whom breast milk is not available may include when the mother had died, or is away from the baby and not able to provide expressed breast milk. Breastfeeding by another woman may be possible; or the need for a breast-milk substitute may be only partial or temporary. There are a very few maternal medical conditions where breastfeeding is not recommended.

Maternal conditions that may affect breastfeeding recommendations include where the mother is physically weak, is taking medications, or has an infectious illness.

- A weak mother may be assisted to position her baby so her baby can breastfeed.
- A mother with a fever needs sufficient fluids.

Maternal medication

If mother is taking a small number of medications such as anti-metabolites, radioactive iodine, or some anti-thyroid medications, breastfeeding should stop during therapy. Some medications may cause drowsiness or other side effects in the infant. Check medications with the WHO list, and where possible choose a medication that is safer and monitor the infant for side effects, while breastfeeding continues.

² WHO and UNICEF, *BFHI: Revised, Updated and Expanded for Integrated Care, Section 1: Background and Implementation*, Annex 1.3, New York, UNICEF, pp. 37-38. (http://www.unicef.org/nutrition/index_24850.html?q=printme).

Maternal addiction

Even in situations of tobacco, alcohol and drug use, breastfeeding remains the feeding method of choice for the majority of infants. If mother is an intravenous drug user, breastfeeding is not indicated.

HIV-infected mothers

When replacement feeding is acceptable, feasible, affordable, sustainable and safe, (AFASS) avoidance of all breastfeeding by HIV-infected mothers is recommended. Otherwise, exclusive breastfeeding is recommended during the first months of life, and should then be discontinued as soon as the specified conditions are met. Mixed feeding (breastfeeding and giving replacement feeds at the same time), is not recommended.

Other maternal infectious illnesses

Breast abscess - feeding from the affected breast is not recommended but milk should be expressed from the breast. Feeding can be resumed once the abscess has been drained and the mother's treatment with antibiotics has commenced. Breastfeeding should continue on the unaffected breast.

Herpes Simplex Virus Type I (HSV-1) – Women with herpes lesions on their breasts should refrain from breastfeeding until all active lesions on the breast have resolved.

Varicella-zoster – Breastfeeding of a newborn infant is discouraged while the mother is infectious, but should be resumed as soon as the mother becomes non-infectious.

Lyme disease – Breastfeeding may continue during mother's treatment.

HTLV-I (Human T-cell leukaemia virus) - breastfeeding is not encouraged if safe and feasible options (AFASS) for replacement feeding are available.

Maternal conditions of common concern for which breastfeeding is not contraindicated

Hepatitis B: Infected mothers should continue breastfeeding as usual. Infants should be given hepatitis B vaccine, within the first 48 hours or as soon as possible thereafter.

Tuberculosis: Breastfeeding by the TB-positive mother should be continued as usual. Mother and baby should be managed according to national tuberculosis guidelines.

Mastitis: In general, continued breastfeeding is recommended during antibiotic therapy.

References:

Available from Child and Adolescent Health, WHO, Geneva
(<http://www.who.int/child-adolescent-health/publications/pubnutrition.htm>)

HIV transmission through breastfeeding. A review of available evidence, 2004. ISBN 92 4 159271 4.

Breastfeeding and Maternal Medication: Recommendations for Drugs in the UNICEF/WHO Eleventh WHO Model List of Essential Drugs. Geneva: World Health Organization, 2002.