

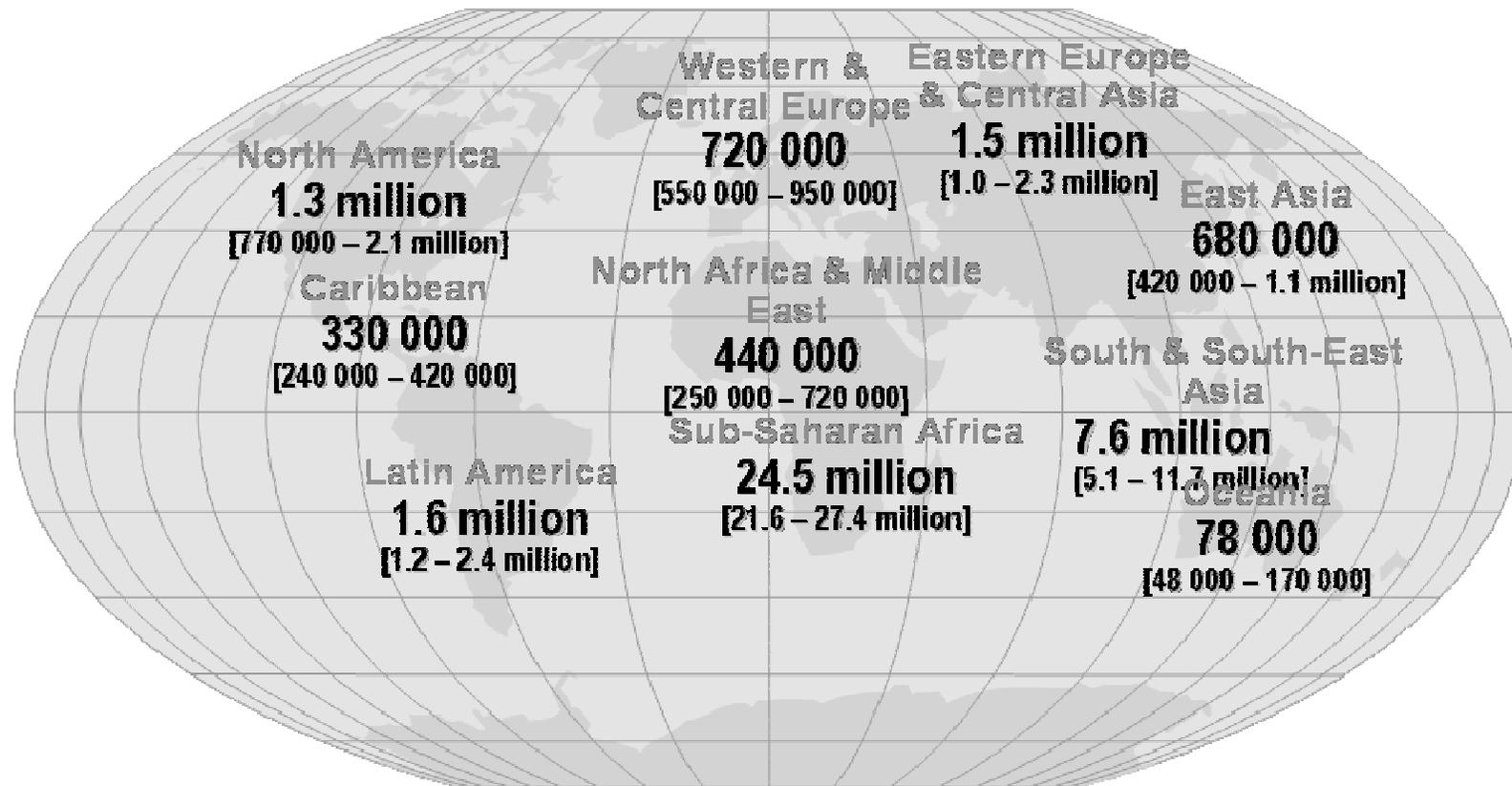
# Global summary of the HIV & AIDS epidemic, 2005

<b>Number of people living with HIV/AIDS</b>	<b>Total</b>	<b>38.6 million (33.4 – 46.0 million)</b>
	<b>Adults</b>	<b>36.3 million (31.4 – 43.4 million)</b>
	<b>Women</b>	<b>17.3 million (14.8-20.6 million)</b>
	<b>Children under 15</b>	<b>2.3 million (1.7 – 3.5 million)</b>
<b>People newly infected with HIV in 2005</b>	<b>Total</b>	<b>4.1 million (3.4-6.2 million)</b>
	<b>Adults</b>	<b>3.6 million (3.0-5.4 million)</b>
	<b>Children under 15</b>	<b>540 000 (420 000 - 670 000)</b>
<b>AIDS deaths in 2005</b>	<b>Total</b>	<b>2.8 million (2.4-3.3 million)</b>
	<b>Adults</b>	<b>2.4 million (2.0-2.8 million)</b>
	<b>Children under 15</b>	<b>380 000 (290 000 - 500 000)</b>

The ranges around the estimates in this table define the boundaries within which the actual numbers lie, based on the best available information.

From: UNAIDS/WHO. AIDS Epidemic Update, 2005.

## Adults and children estimated to be living with HIV, 2005



**Total: 38.6 (33.4 – 46.0) million**

## Regional HIV statistics for women, 2005

Region	# of women (15-49) living with HIV	% of HIV+ adults who are women
Sub-Saharan Africa	13.5 million	57%
N. Africa & Middle East	220,000	47%
S. & S.A. Asia	1.9 million	26%
East Asia	160,000	18%
Oceania	39,000	55%
Latin America	580,000	32%
Caribbean	140,000	50%
Eastern Europe & Central Asia	440,000	28%
W. & C. Europe	190,000	27%
North America	300,000	25%
<b>TOTAL:</b>	<b>17.5 million</b>	<b>46%</b>

From: UNAIDS/WHO. AIDS Epidemic Update, 2005.

Slide 4.Intro.3 (HIV)

# Ten steps to successful breastfeeding

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

A JOINT WHO/UNICEF STATEMENT (1989)

# 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

# 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

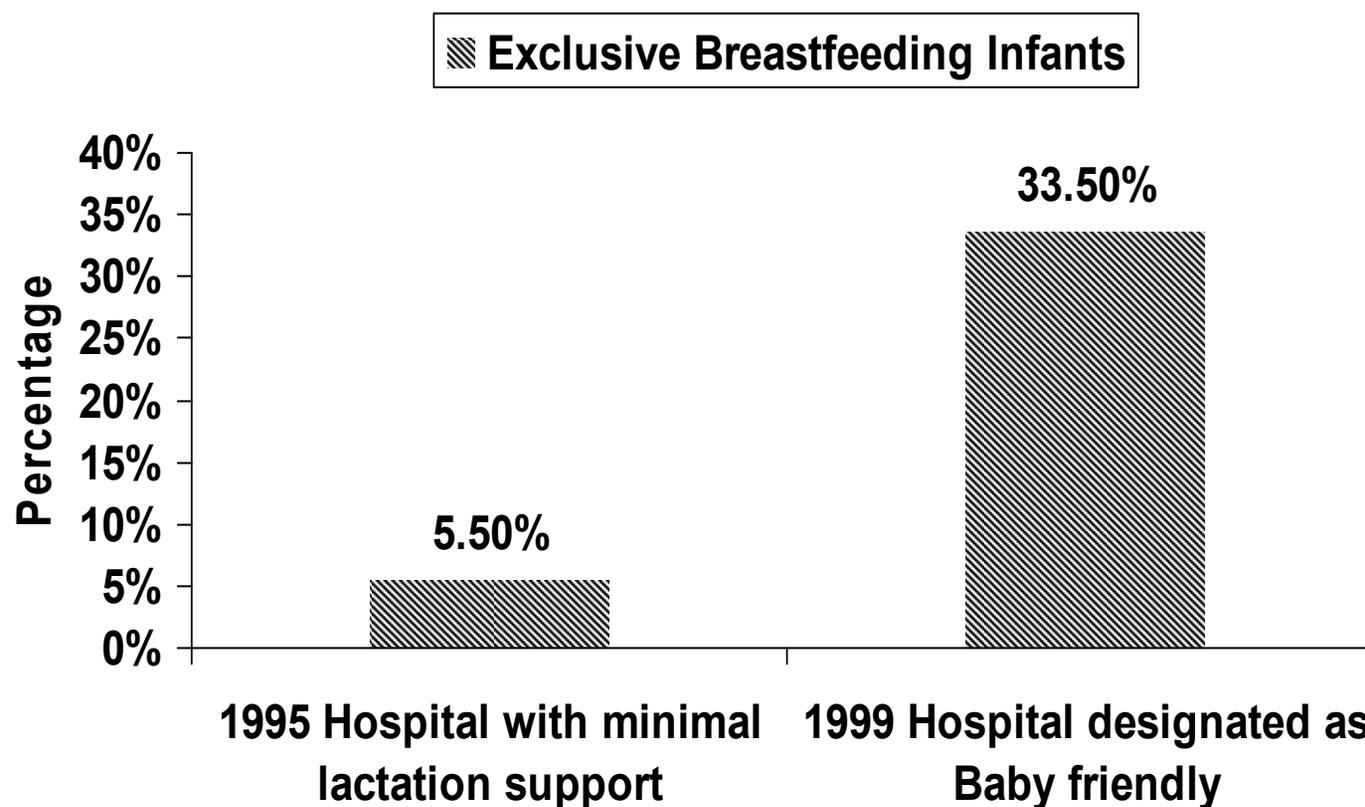
# **Breastfeeding policy**

*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

## 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.

# Ten steps to successful breastfeeding

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

A JOINT WHO/UNICEF STATEMENT (1989)

# Areas of knowledge

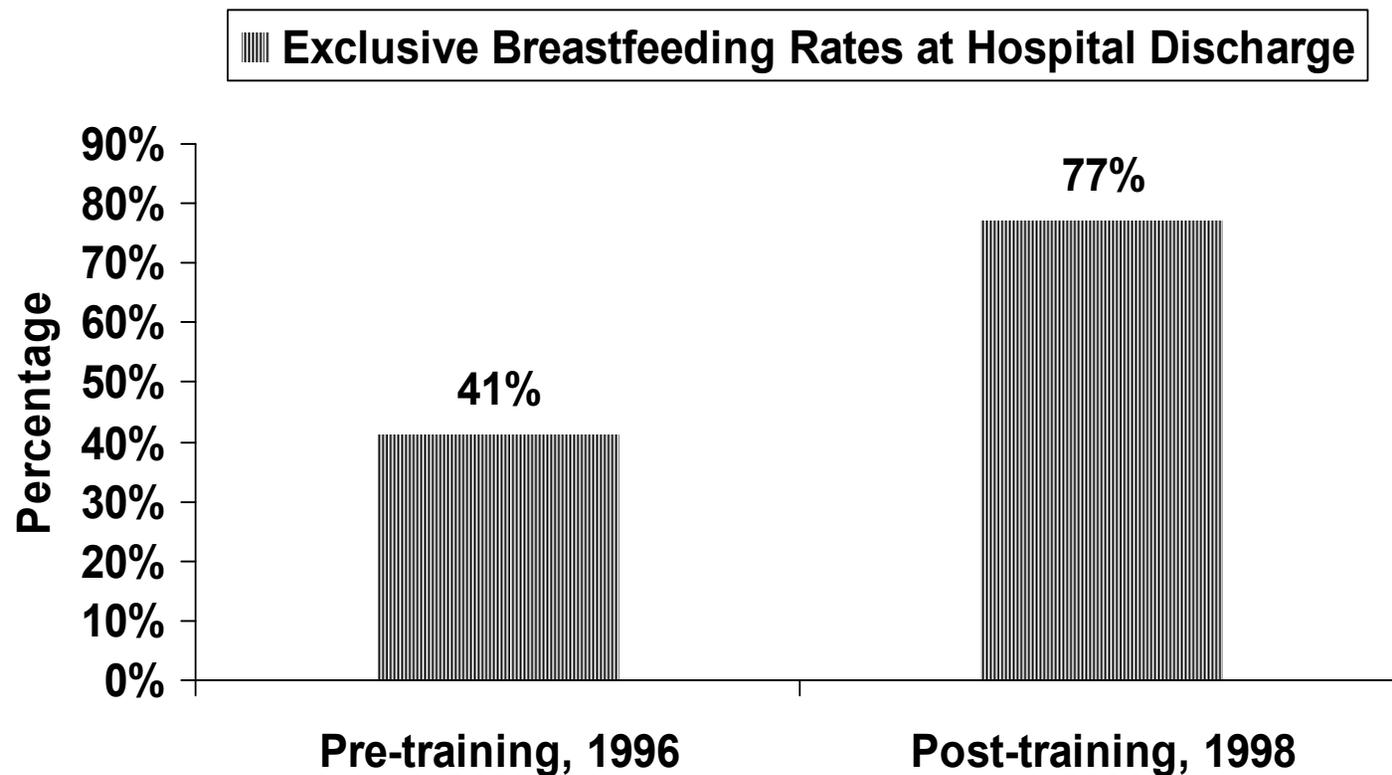
- Advantages of breastfeeding
- Risks of artificial feeding
- Mechanisms of lactation and suckling
- How to help mothers initiate and sustain breastfeeding
- How to assess a breastfeed
- How to resolve breastfeeding difficulties
- Hospital breastfeeding policies and practices
- Focus on changing negative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

# Additional topics for BFHI training in the context of HIV

## *Train all staff in:*

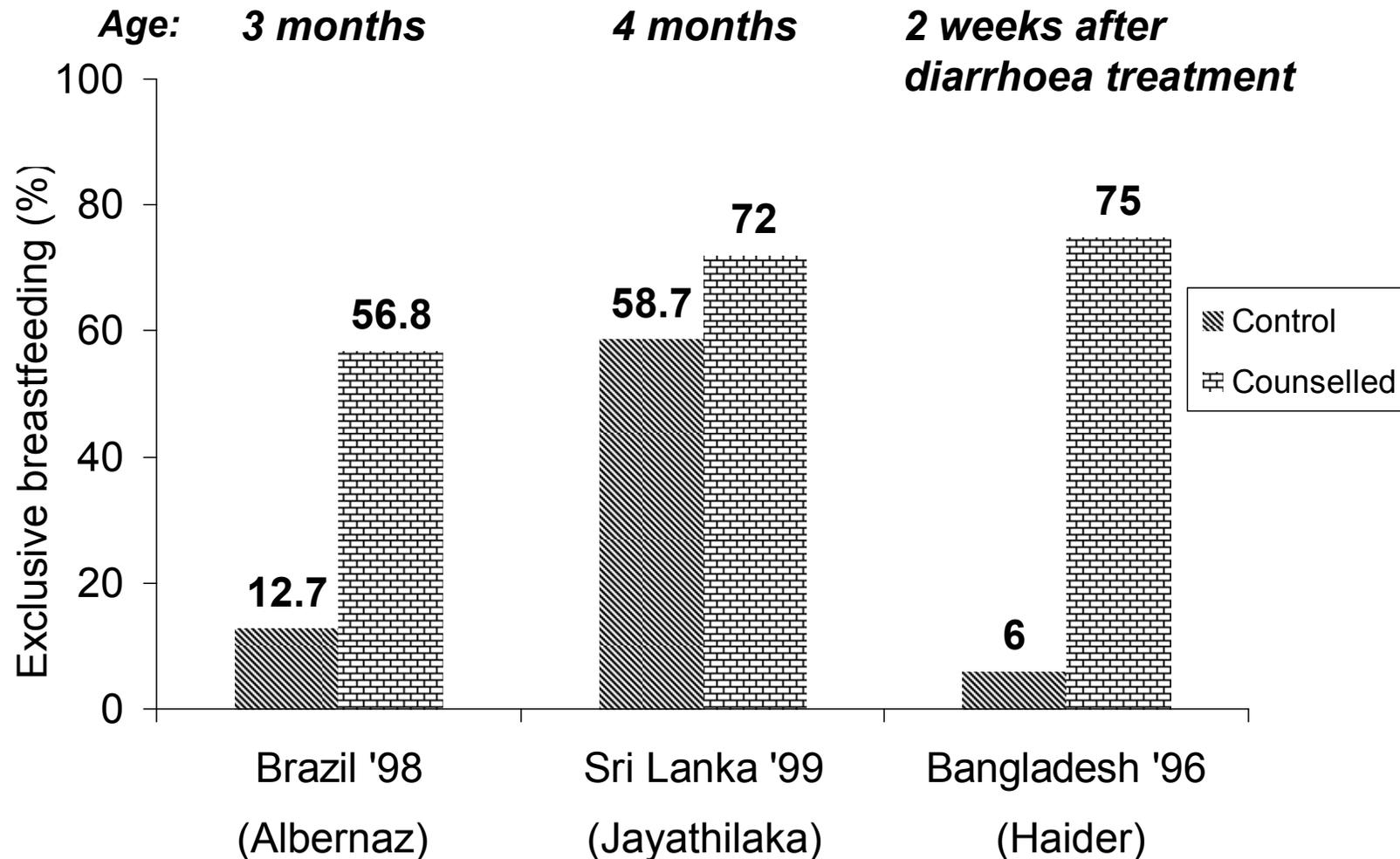
- Basic facts on HIV and on Prevention of Mother-to-Child Transmission (PMTCT)
- Voluntary testing and counselling (VCT) for HIV
- Locally appropriate replacement feeding options
- How to counsel HIV + women on risks and benefits of various feeding options and how to make informed choices
- How to teach 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)

## 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.

## Step 2: Breastfeeding counselling increases exclusive breastfeeding



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

**Which health professionals  
other than perinatal staff  
influence breastfeeding success?**

# Ten steps to successful breastfeeding

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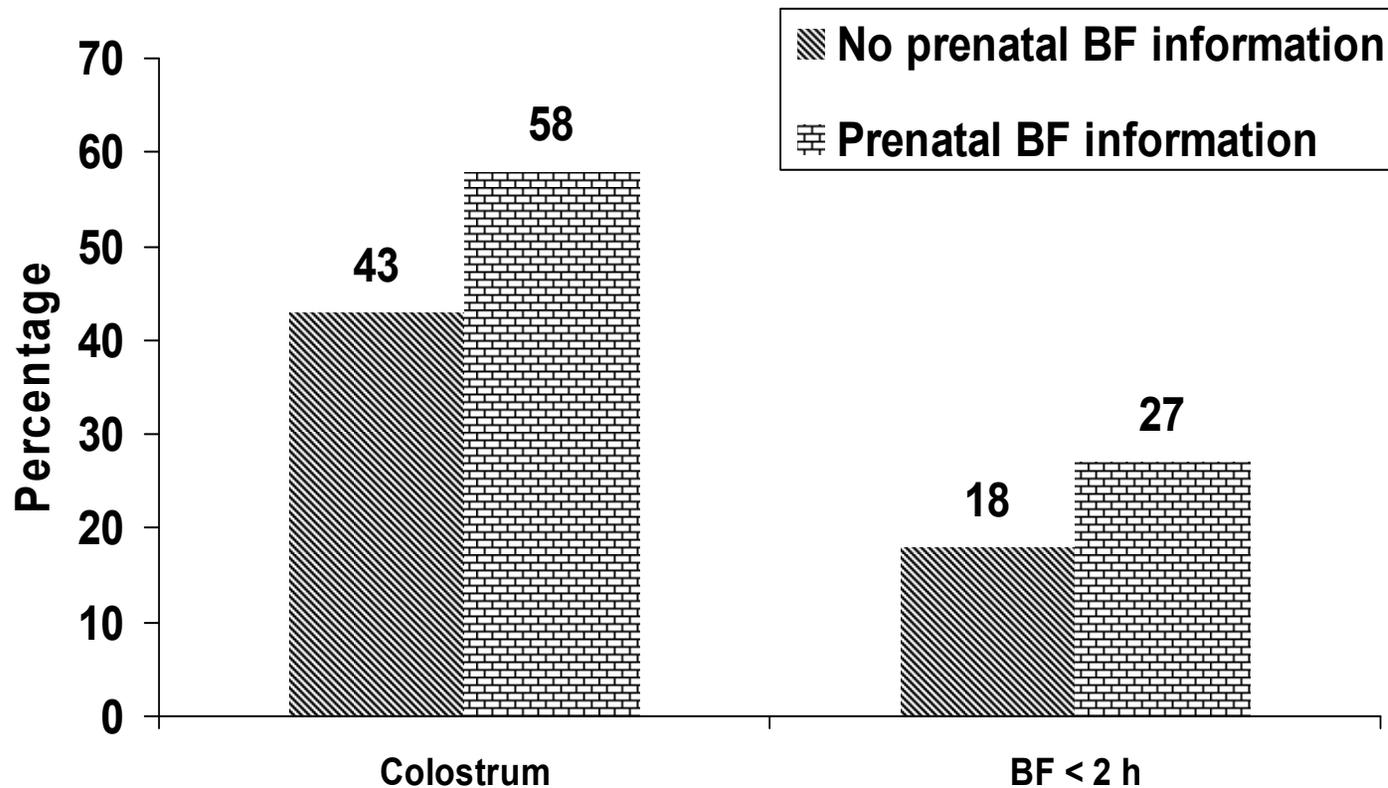
Step 3. Inform all pregnant women about the benefits of breastfeeding.

A JOINT WHO/UNICEF STATEMENT (1989)

# Antenatal education should include:

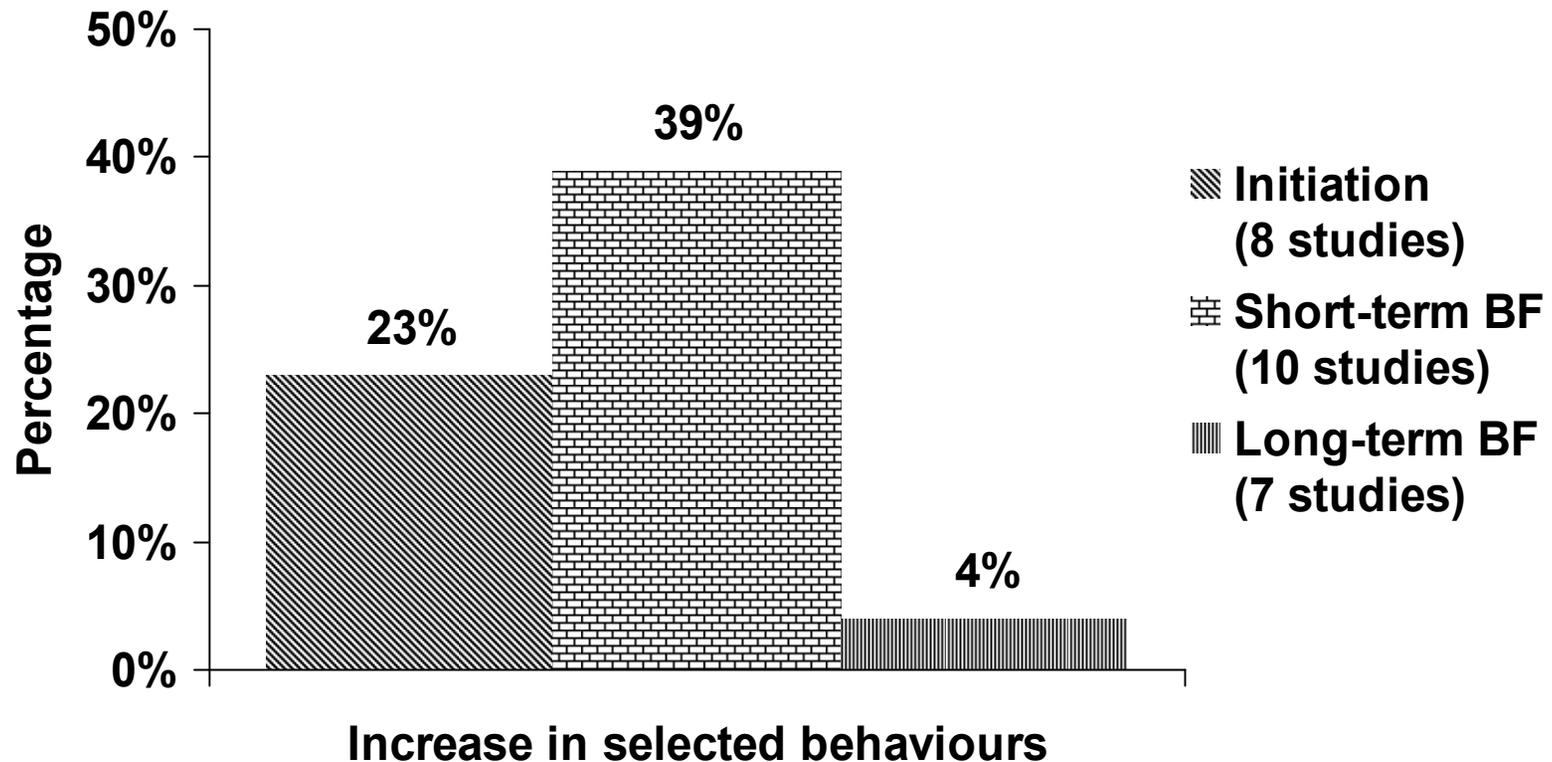
- Benefits of breastfeeding
- Early initiation
- Importance of rooming-in (if new concept)
- Importance of feeding on demand
- Importance of exclusive breastfeeding
- How to assure enough breastmilk
- Risks of artificial feeding and use of bottles and pacifiers (soothers, teats, nipples, etc.)
- Basic 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

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



Adapted from: Nielsen B, Hedegaard M, Thilsted S, Joseph A, Liljestrand 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.

# 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.

# Why test for HIV in pregnancy?

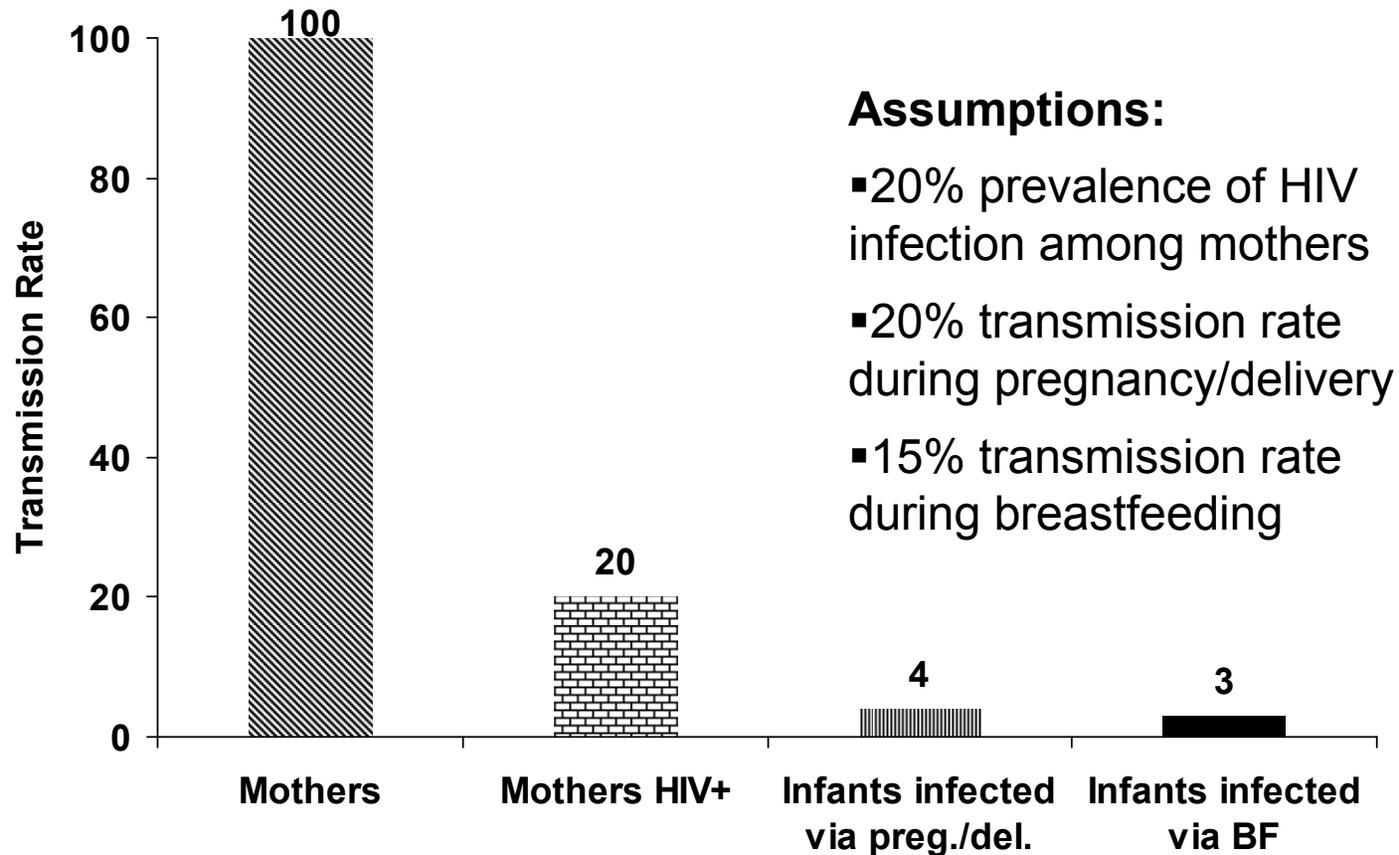
- **If HIV negative**
  - Can be counseled on prevention and risk reduction behaviors
  - Can be counseled on exclusive breastfeeding
- **If HIV positive**
  - Can learn ways to reduce risk of MTCT in pregnancy, at delivery and during infant feeding
  - Can better manage illnesses and strive for “positive” living
  - Can plan for safer infant feeding method and follow-up for baby
  - Can decide about termination (if a legal option) and future fertility
  - Can decide to share her status with partner /family for support



# Definition of replacement feeding

- The process, in the context of HIV/AIDS, of feeding a child who is not receiving any breast milk with a diet that provides all the nutrients the child needs.
- During the first six months this should be with a suitable breast-milk substitute - commercial formula, or home-prepared formula with micronutrient supplements.
- After six months it should preferably be with a suitable breast-milk substitute, and complementary foods made from appropriately prepared and nutrient-enriched family foods, given three times a day. If suitable breast-milk substitutes are not available, appropriately prepared family foods should be further enriched and given five times a day.

# Risk of mother-to-child transmission of HIV



Based on data from *HIV & infant feeding counselling tools: Reference Guide*. Geneva, World Health Organization, 2005.

# WHO recommendations on infant feeding for HIV+ women

When replacement feeding is acceptable, feasible, affordable, sustainable and safe, avoidance of all breastfeeding by HIV-infected mothers is recommended.

Otherwise, exclusive breastfeeding is recommended during the first months of life.

To minimize HIV transmission risk, breastfeeding should be discontinued as soon as feasible, taking into account local circumstances, the individual woman's situation and the risks of replacement feeding (including infections other than HIV and malnutrition).

*WHO, New data on the prevention of mother-to-child transmission of HIV and their policy implications. Conclusions and recommendations. WHO technical consultation ... Geneva, 11-13 October 2000. Geneva, World Health Organization, 2001, p. 12.*

Slide 4.3.8 (HIV)

# HIV & infant feeding recommendations

## If the mother's HIV status is unknown:

- Encourage her to obtain HIV testing and counselling
- Promote optimal feeding practices (exclusive BF for 6 months, introduction of appropriate complementary foods at about 6 months and continued BF to 24 months and beyond)
- Counsel the mother and her partner on how to avoid exposure to HIV

Adapted from WHO/Linkages, *Infant and Young Child Feeding: A Tool for Assessing National Practices, Policies and Programmes*. Geneva, World Health Organization, 2003 (Annex 10, p. 137).

## **If the mother's HIV status is negative:**

- Promote optimal feeding practices (see above)
- Counsel her and her partner on how to avoid exposure to HIV

## **If the mother's HIV status is positive:**

- Provide access to anti-retroviral drugs to prevent MTCT and refer her for care and treatment for her own health
- Provide counselling on the risks and benefits of various infant feeding options, including the acceptability, feasibility, affordability, sustainability and safety (AFASS) of the various options.
- Assist her to choose the most appropriate option
- Provide follow-up counselling to support the mother on the feeding option she chooses

# Ten steps to successful breastfeeding

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

A JOINT WHO/UNICEF STATEMENT (1989)

## **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.”*

# Early initiation of breastfeeding for the normal newborn

## *Why?*

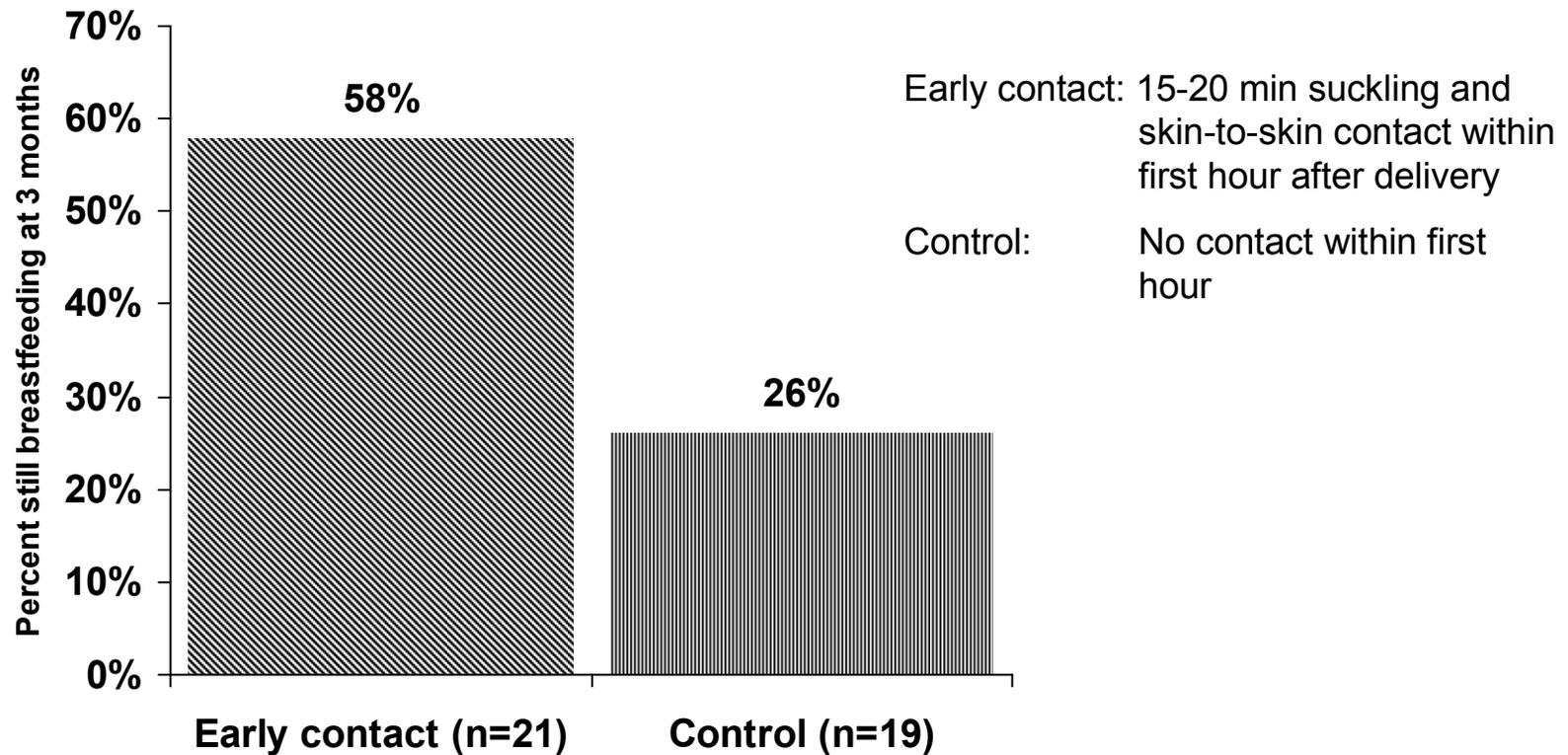
- Increases duration of breastfeeding
- Allows skin-to-skin contact for warmth and colonization of baby with maternal organisms
- Provides colostrum as the baby's first immunization
- Takes advantage of the first hour of alertness
- Babies learn to suckle more effectively
- Improved developmental outcomes

# **Early initiation of breastfeeding for the normal newborn**

## ***How?***

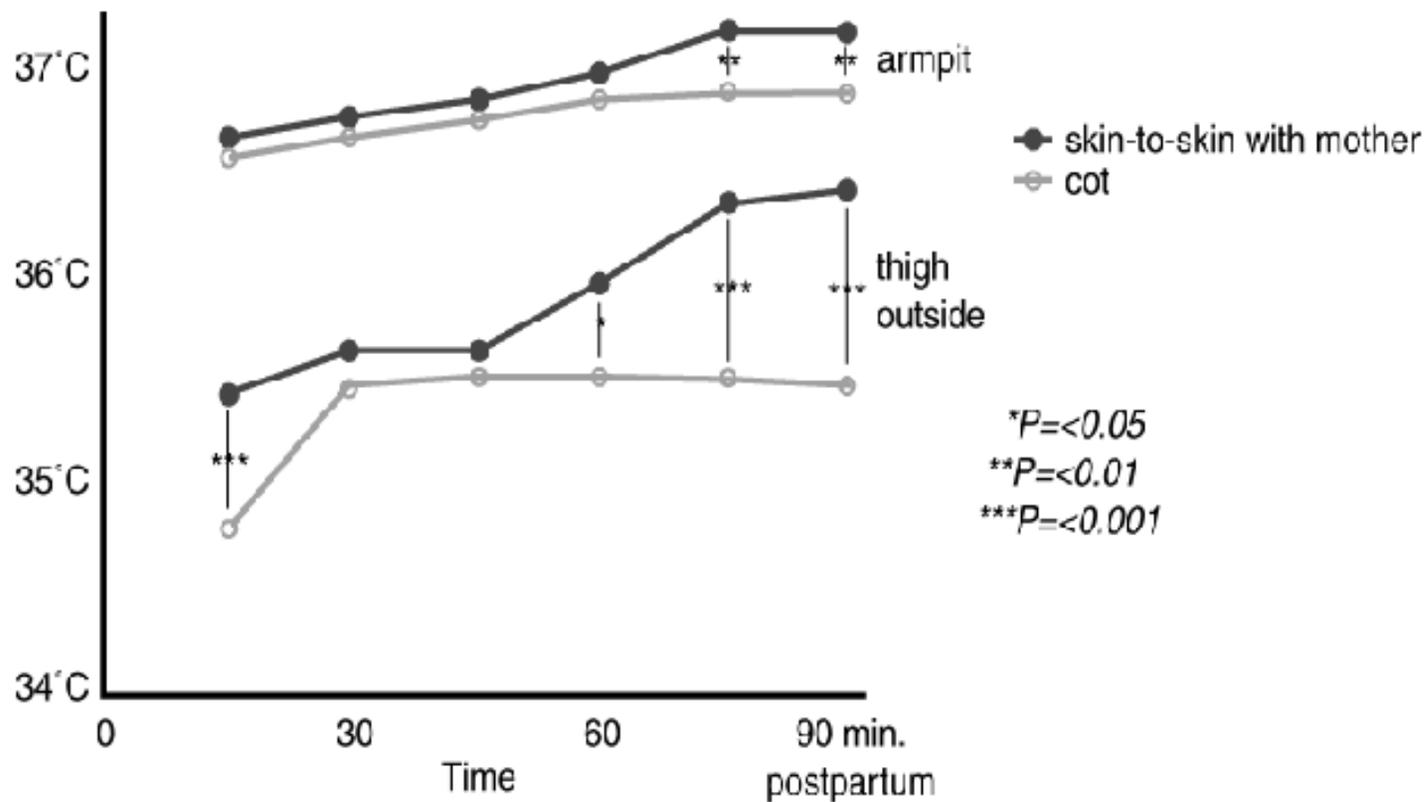
- Keep mother and baby together
- Place baby on mother's chest
- Let baby start suckling when ready
- Do not hurry or interrupt the process
- Delay non-urgent medical routines for at least one hour

# 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.

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



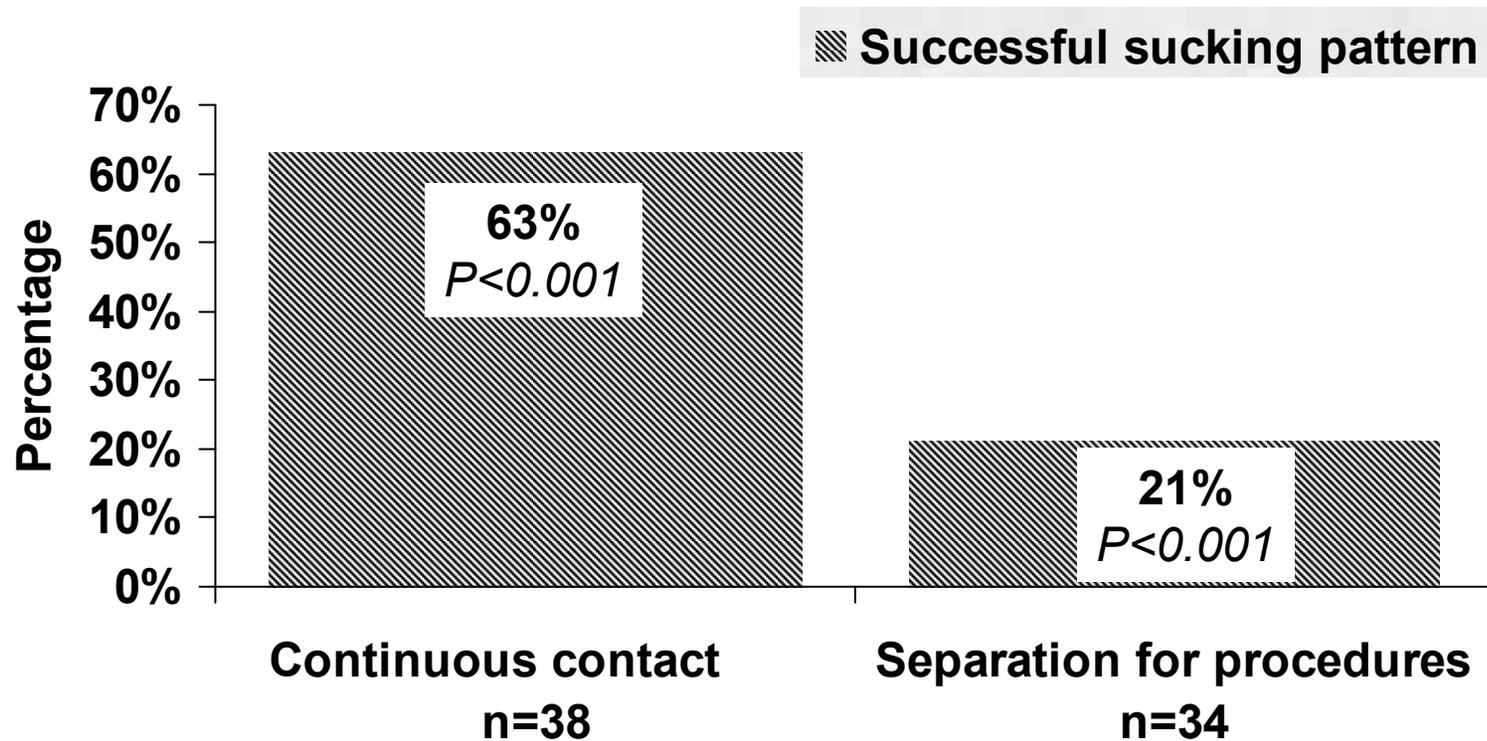
Adapted from: Christensson K et al. Temperature, metabolic adaptation and crying in healthy full-term newborns cared for skin-to-skin or in a cot. *Acta Paediatr*, 1992, 81:490.

## 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
$\alpha$ -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.

# 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.

# Ten steps to successful breastfeeding

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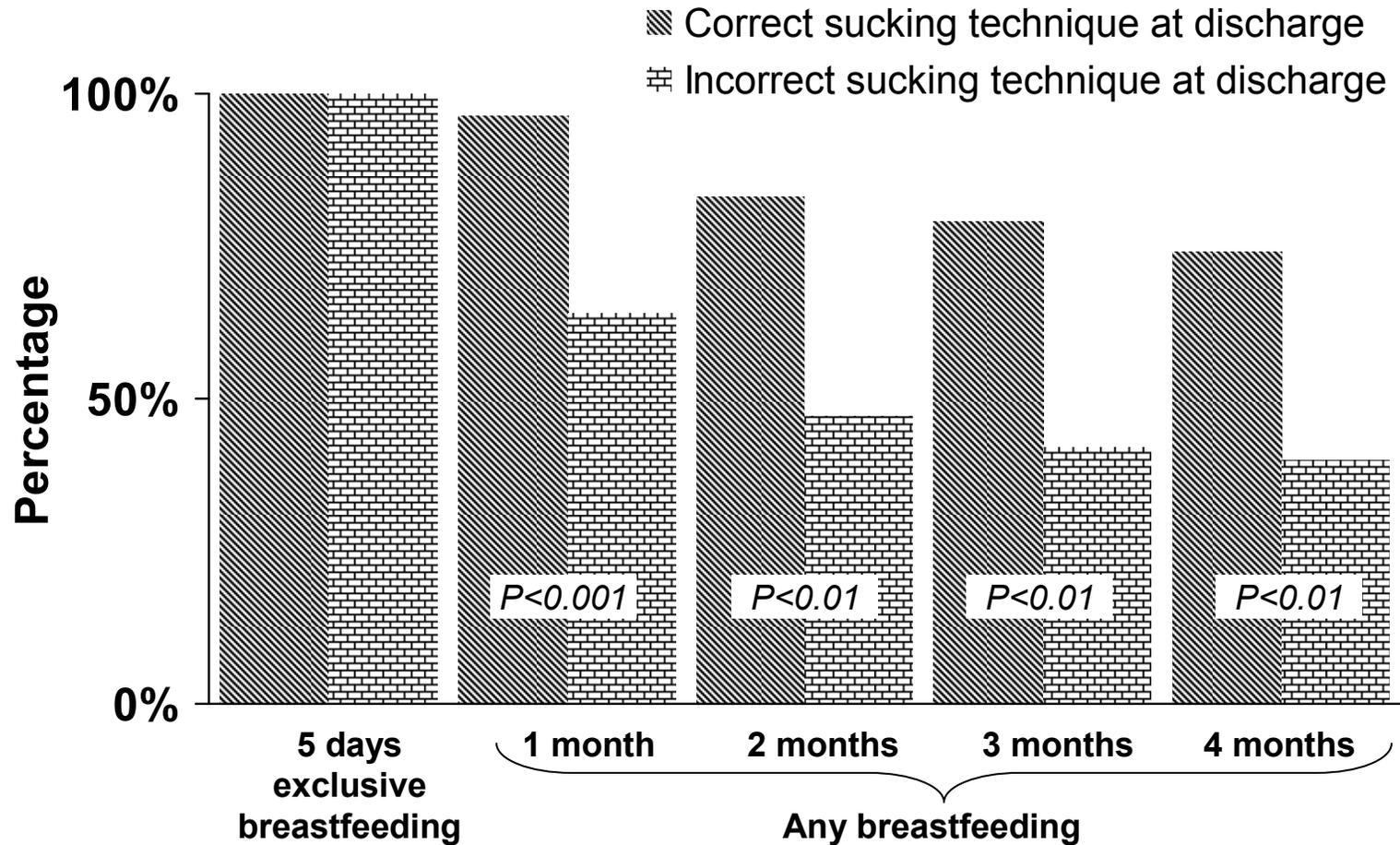
Step 5. Show mothers how to breastfeed and how to maintain lactation, even if they should be separated from their infants.

A JOINT WHO/UNICEF STATEMENT (1989)

*“ 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. ”*

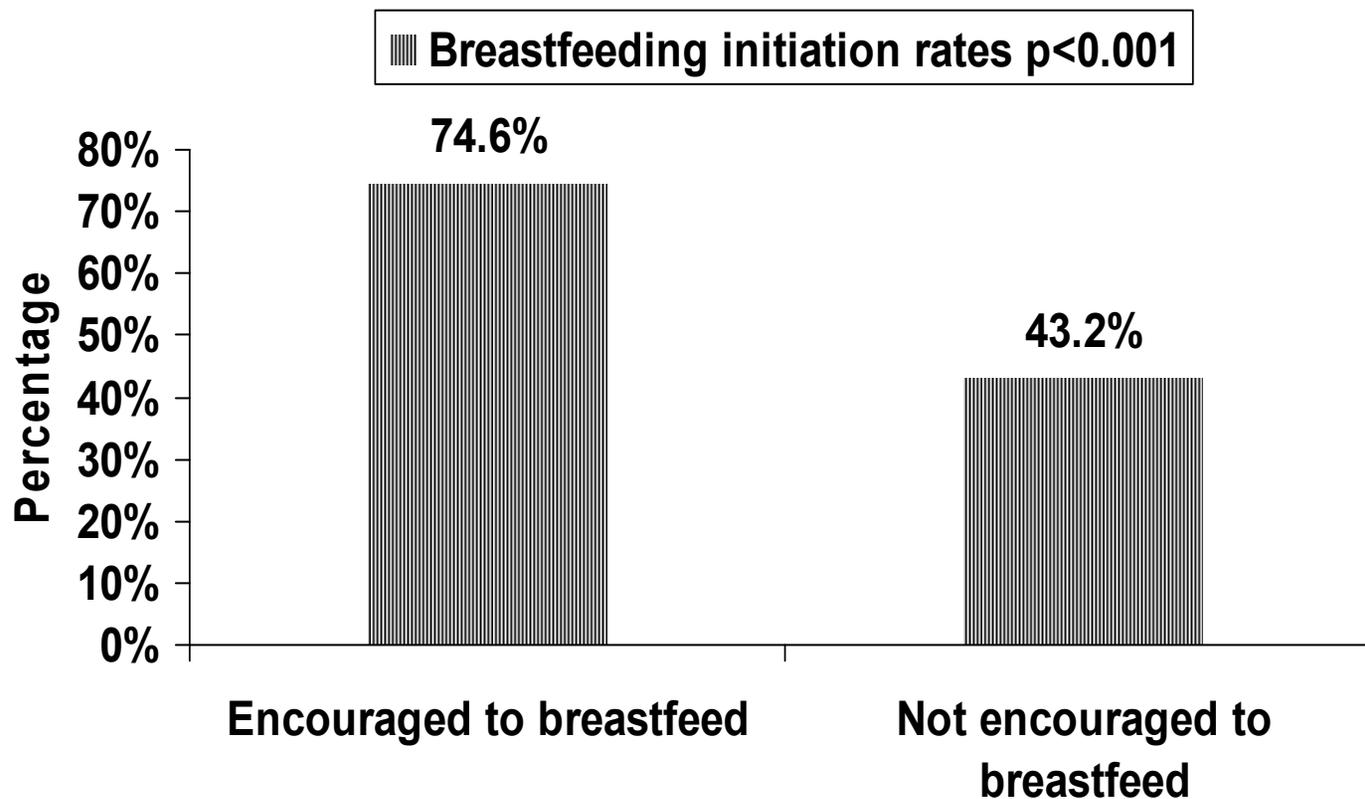
From: Woolridge M. The “anatomy” of infant sucking. *Midwifery*, 1986, 2:164-171.

# Effect of proper attachment on duration of breastfeeding



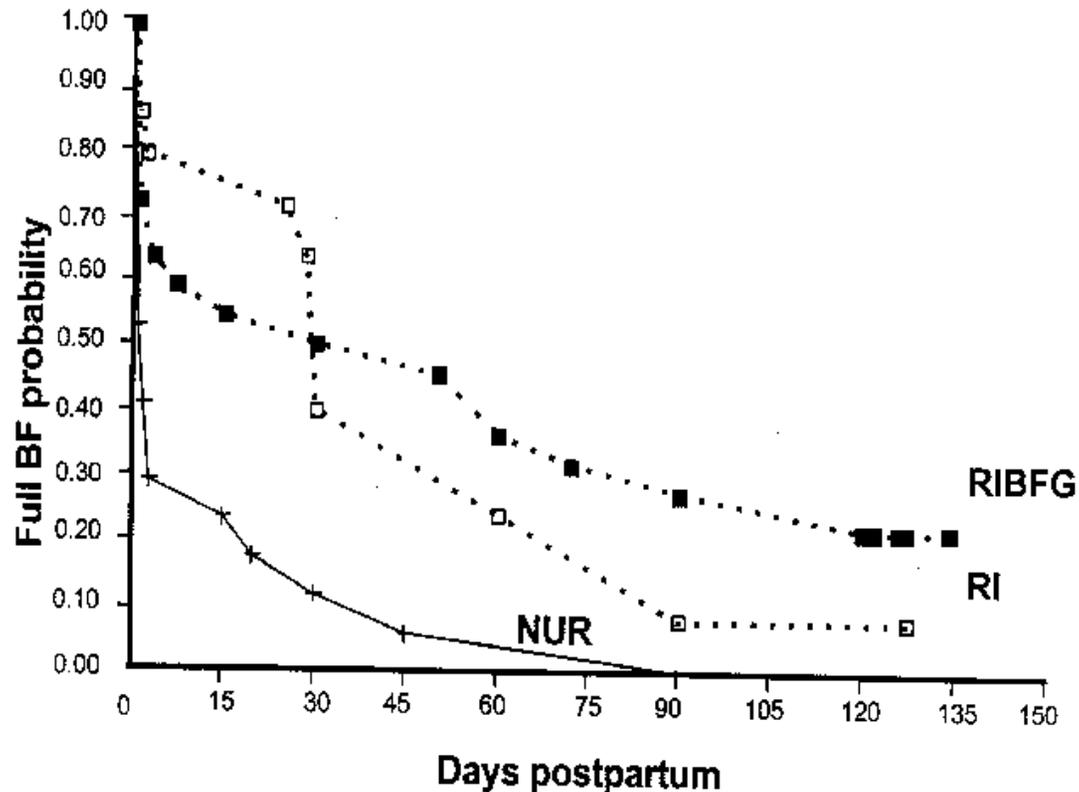
Adapted from: Righard L , Alade O. (1992) Sucking technique and its effect on success of breastfeeding. *Birth* 19(4):185-189.

# 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.

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



**NUR**, nursery, n=17

**RI**, rooming-in, n=15

**RIBFG**, rooming-in with breastfeeding guidance, n=22

NUR significantly different from RI ( $p < 0.05$ ) and RIBFG ( $p < 0.05$ )

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.

# 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.

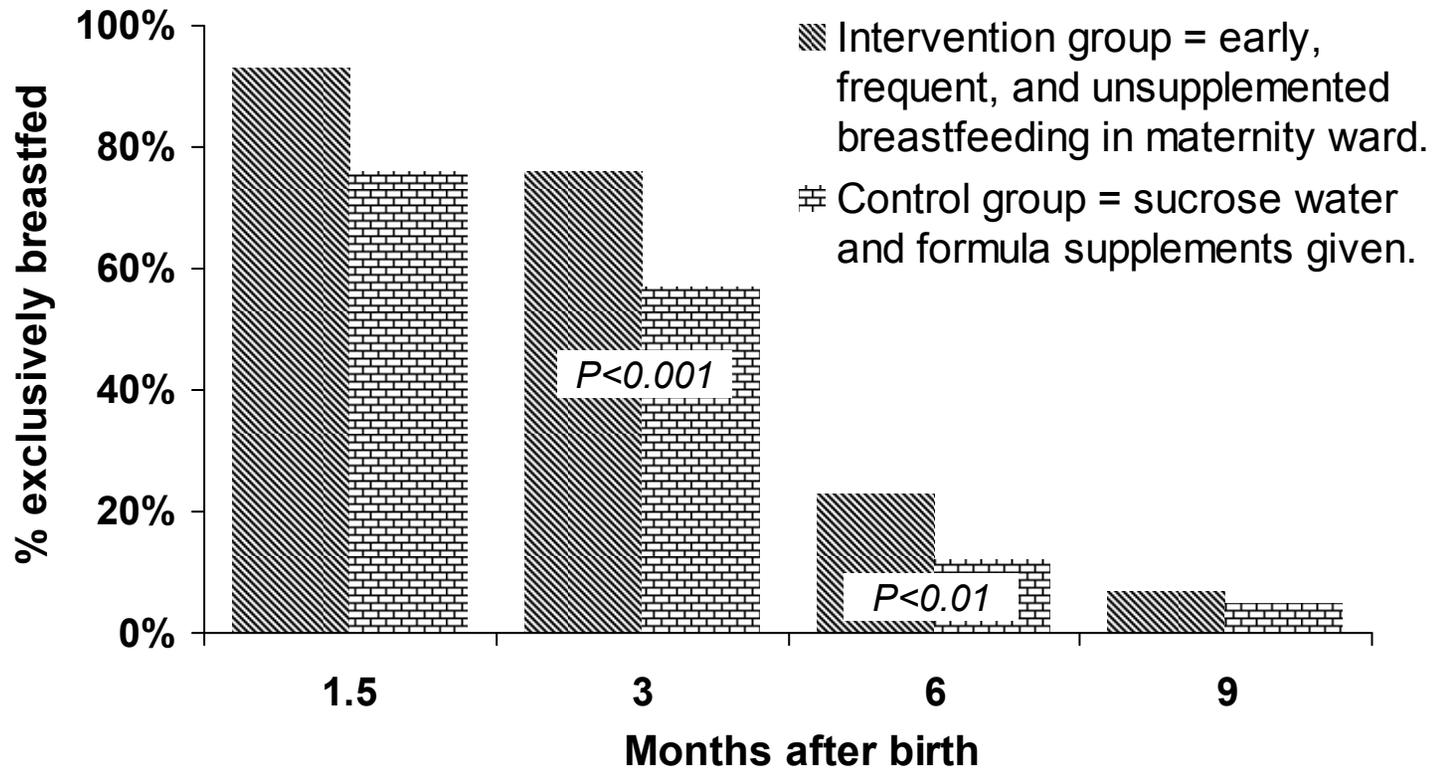
# Ten steps to successful breastfeeding

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

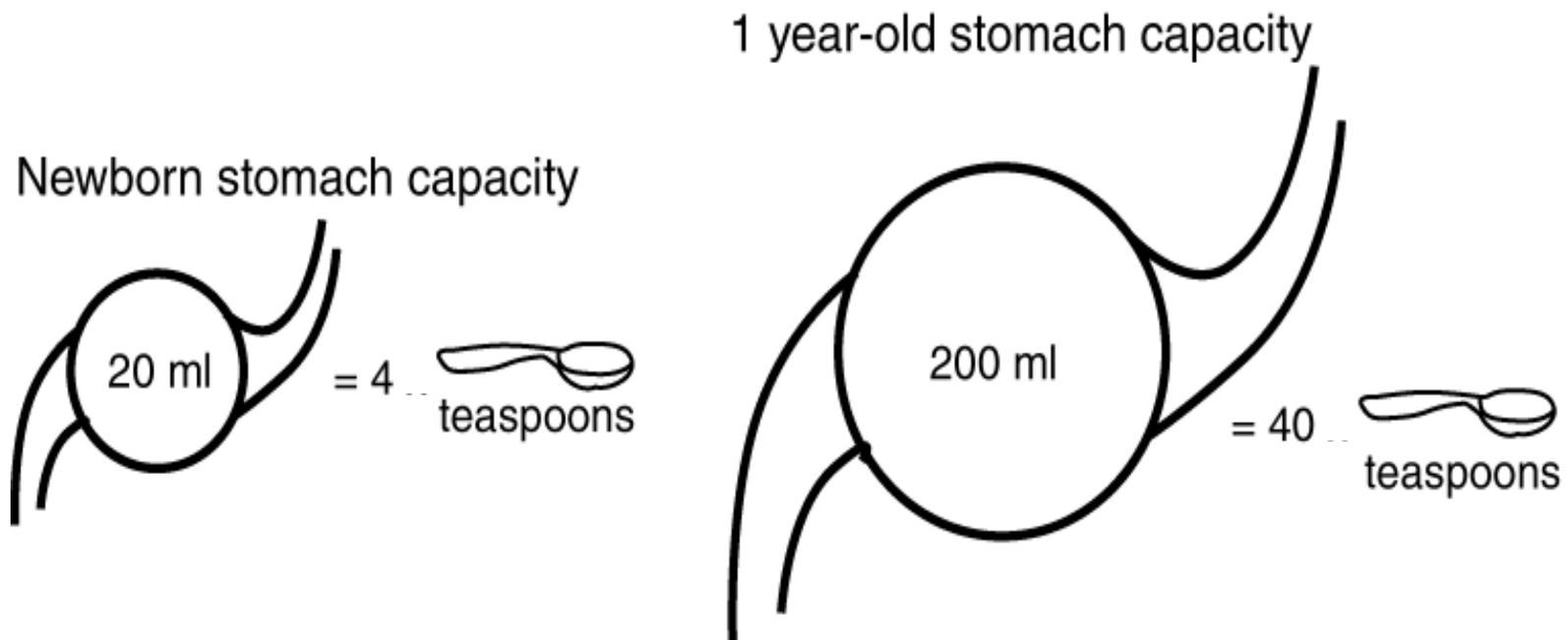
A JOINT WHO/UNICEF STATEMENT (1989)

# Long-term effects of a change in maternity ward feeding routines



Adapted from: Nylander G et al. Unsupplemented breastfeeding in the maternity ward: positive long-term effects *Acta Obstet Gynecol Scand*, 1991, 70:208.

# The perfect match: quantity of colostrum per feed and the newborn stomach capacity



Adapted from: Pipes PL. *Nutrition in Infancy and Childhood, Fourth Edition*. St. Louis, Times Mirror/Mosby College Publishing, 1989.

# Impact of routine formula supplementation

Decreased frequency or effectiveness of suckling



Decreased amount of milk removed from breasts



Delayed milk production or reduced milk supply

Some infants have difficulty attaching to breast if  
formula given by bottle

# 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.

## 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.

# **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.

# 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.

## **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.

## **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.

# Risk factors for HIV transmission during breastfeeding\*

## Mother

- Immune/health status
- Plasma viral load
- Breast milk virus
- Breast inflammation (mastitis, abscess, bleeding nipples)
- New HIV infection

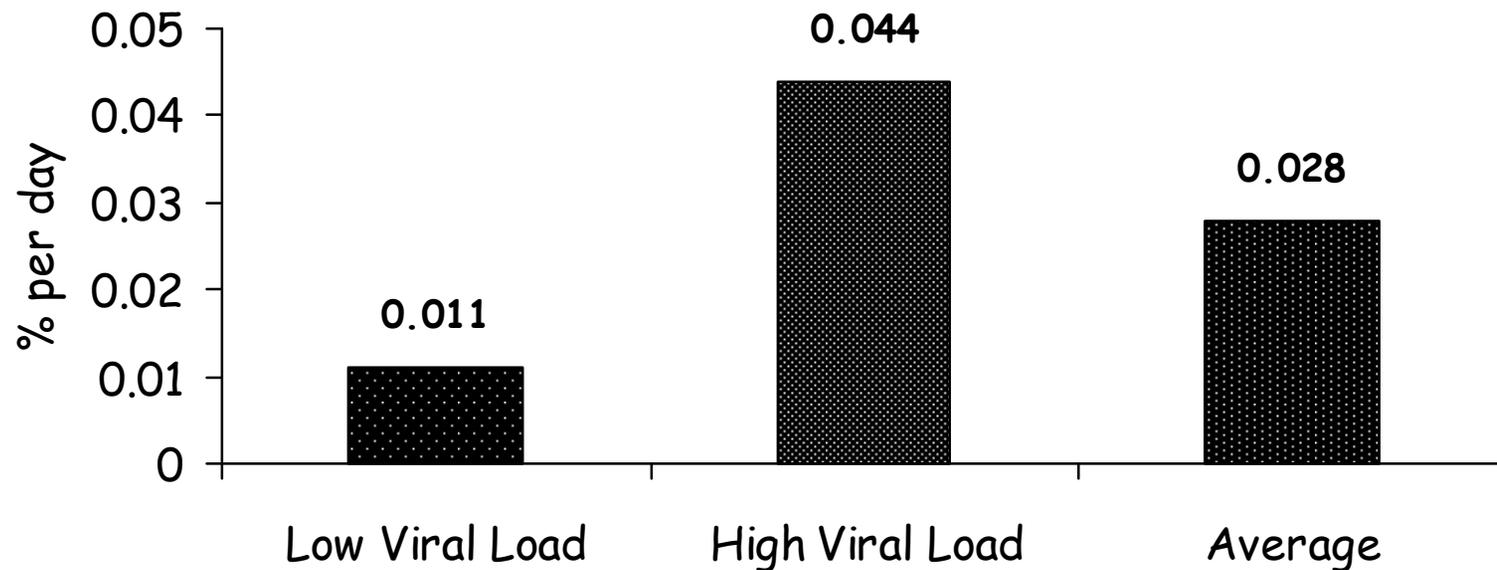
## Infant

- Age (first month)
- Breastfeeding duration
- Non-exclusive BF
- Lesions in mouth, intestine
- Pre-maturity, low birth weight
- Genetic factors – host/virus

\* Also referred to as *postnatal transmission of HIV (PNT)*

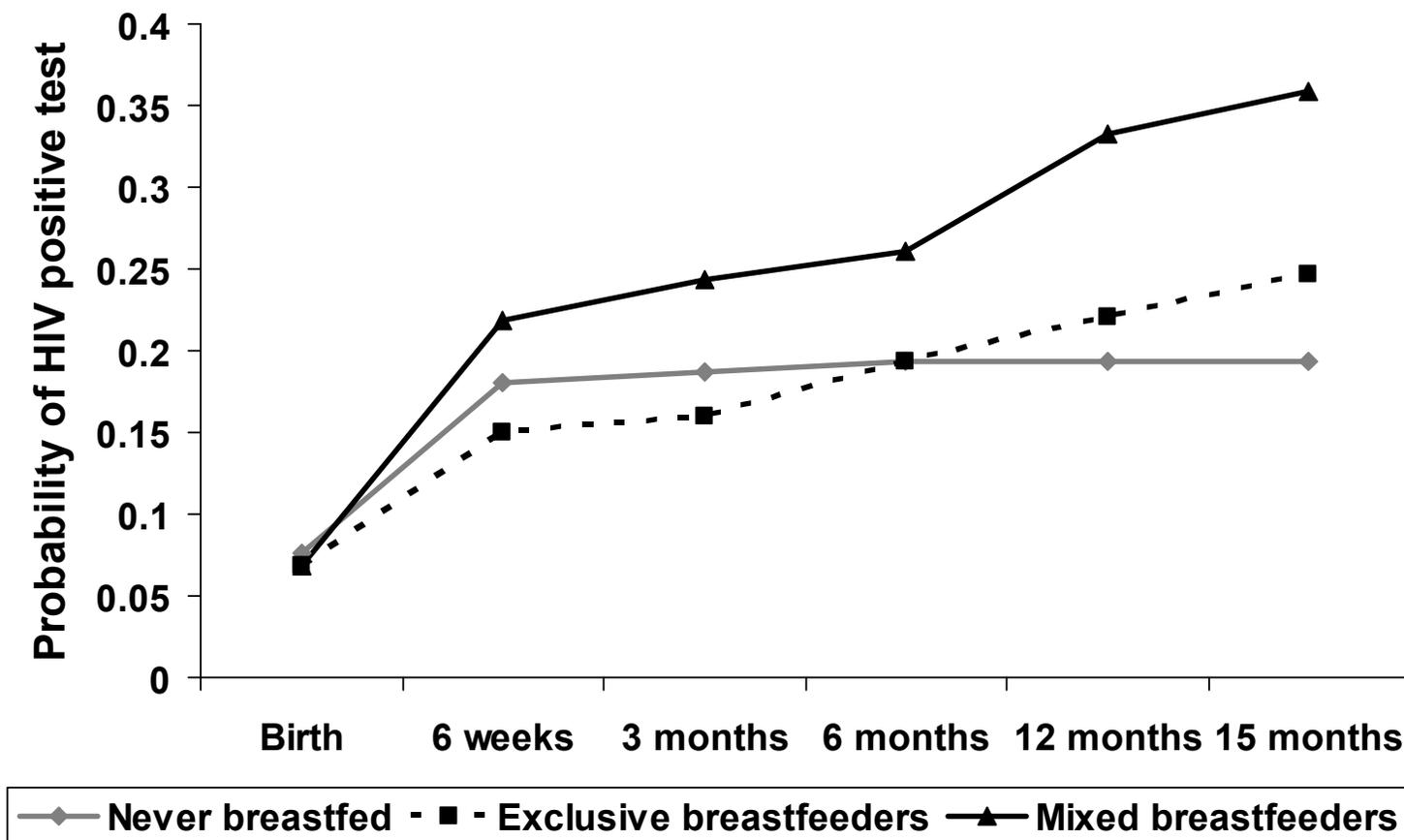
**Risk factor:  
Maternal blood viral load**

**Risk of HIV transmission per day of  
BF in Nairobi, Kenya (%)**



From: Richardson et al, Breast-milk Infectivity in Human Immunodeficiency Virus Type 1 – Infected Mothers, *JID*, 2003 187:736-740 (adapted by Ellen Piwoz)

# Feeding pattern & risk of HIV transmission



From: Coutsooudis et al. 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.

# HIV & Infant feeding study in Zimbabwe

## Elements of safer breastfeeding:

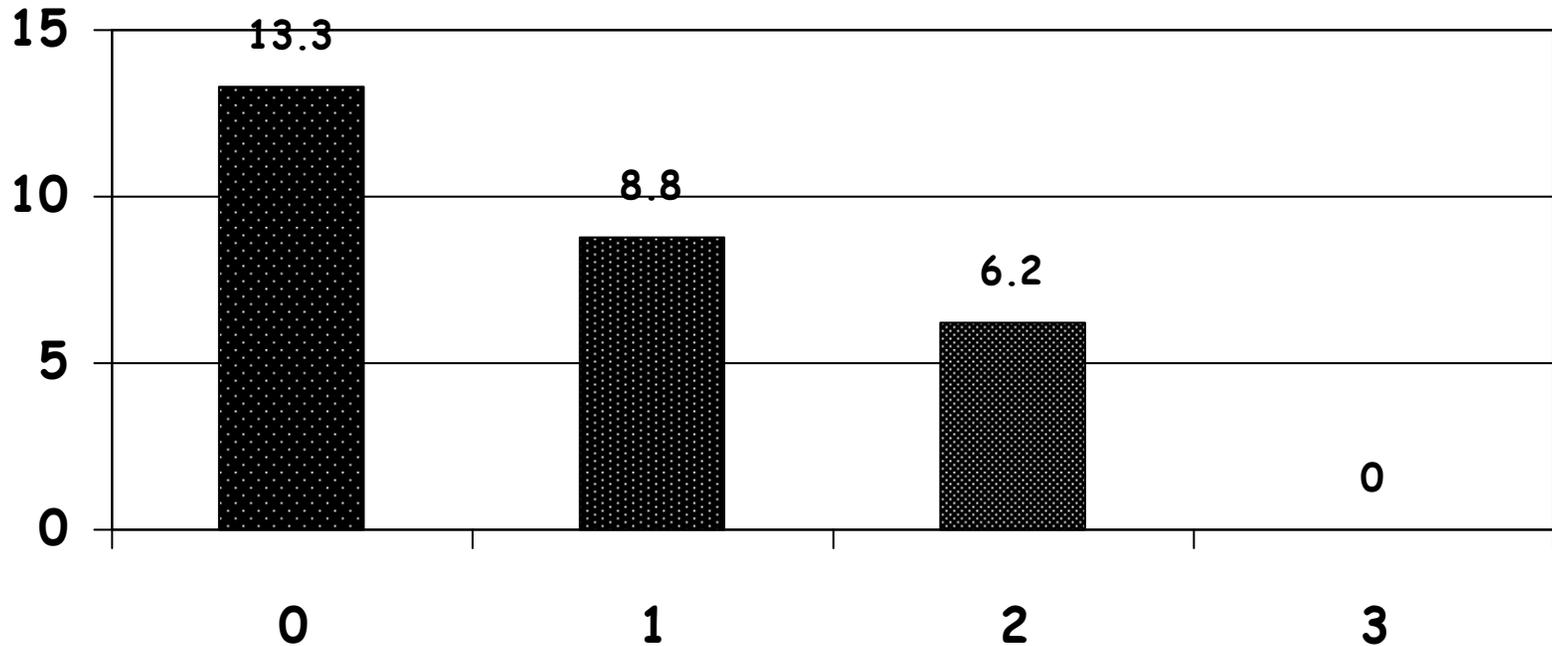
- Exclusive breastfeeding
- Proper positioning & attachment to the breast to minimize breast pathology
- Seeking medical care quickly for breast problems
- Practicing safe sex

Piwoz et al. An education and counseling program for preventing breastfeeding-associated HIV transmission in Zimbabwe: Design & Impact on Maternal Knowledge & Behavior *Amer. Soc. for Nutr Sci* 950-955 (2005)

Transparency 4.6.14 (HIV)

**Exposure to safer breastfeeding intervention was associated with reduced postnatal transmission (PNT) by mothers who did not know their HIV status**

***Cumulative PNT HIV transmission (%) according to reported exposure to SBF program***



*N=365; p=0.04 in test for trend. Each additional intervention contact was associated with a 38% reduction in PNT after adjusting for maternal CD4*

# Ten steps to successful breastfeeding

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

A JOINT WHO/UNICEF STATEMENT (1989)

# Rooming-in

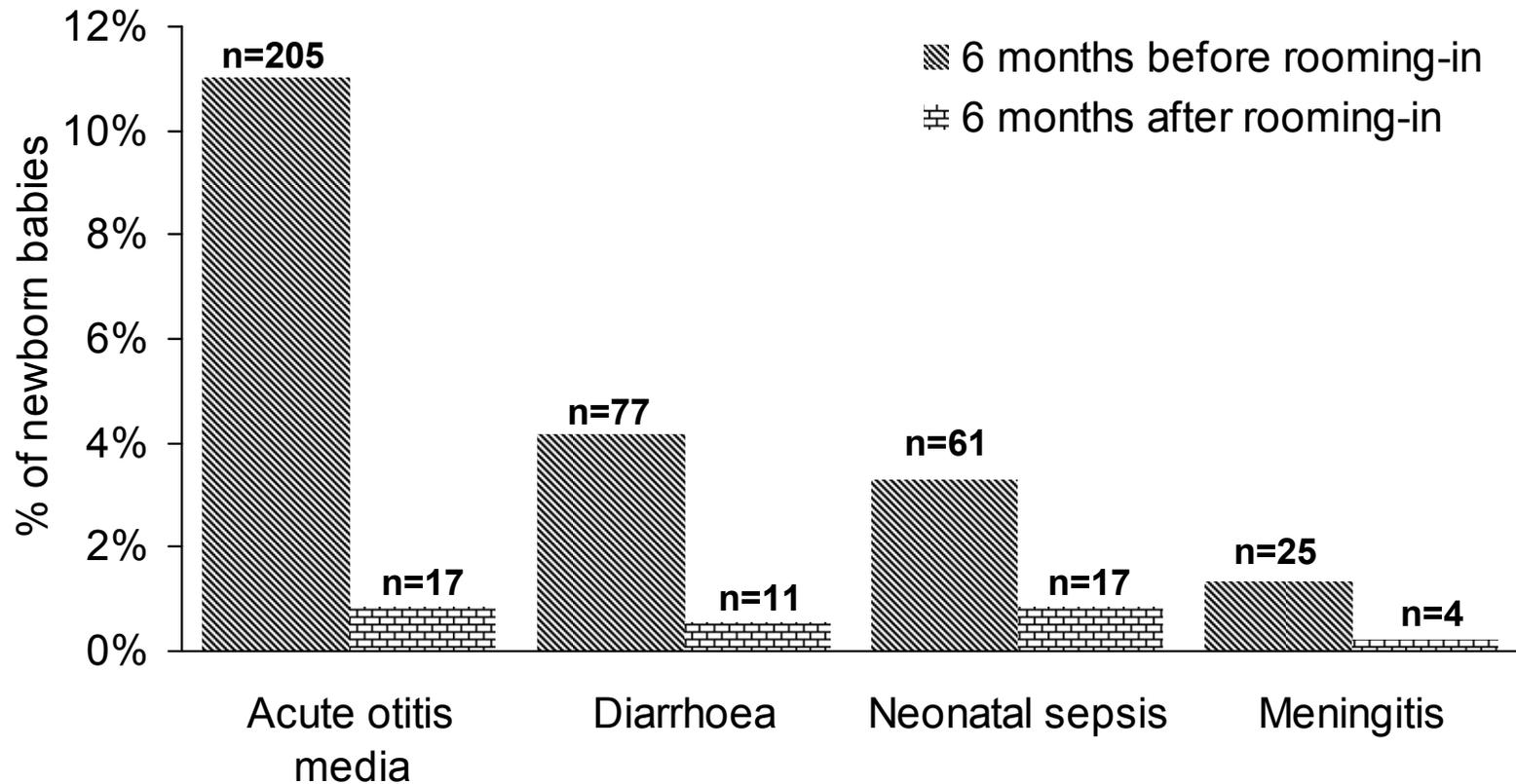
A hospital arrangement where a mother/baby pair stay in the same room day and night, allowing unlimited contact between mother and infant

# Rooming-in

## *Why?*

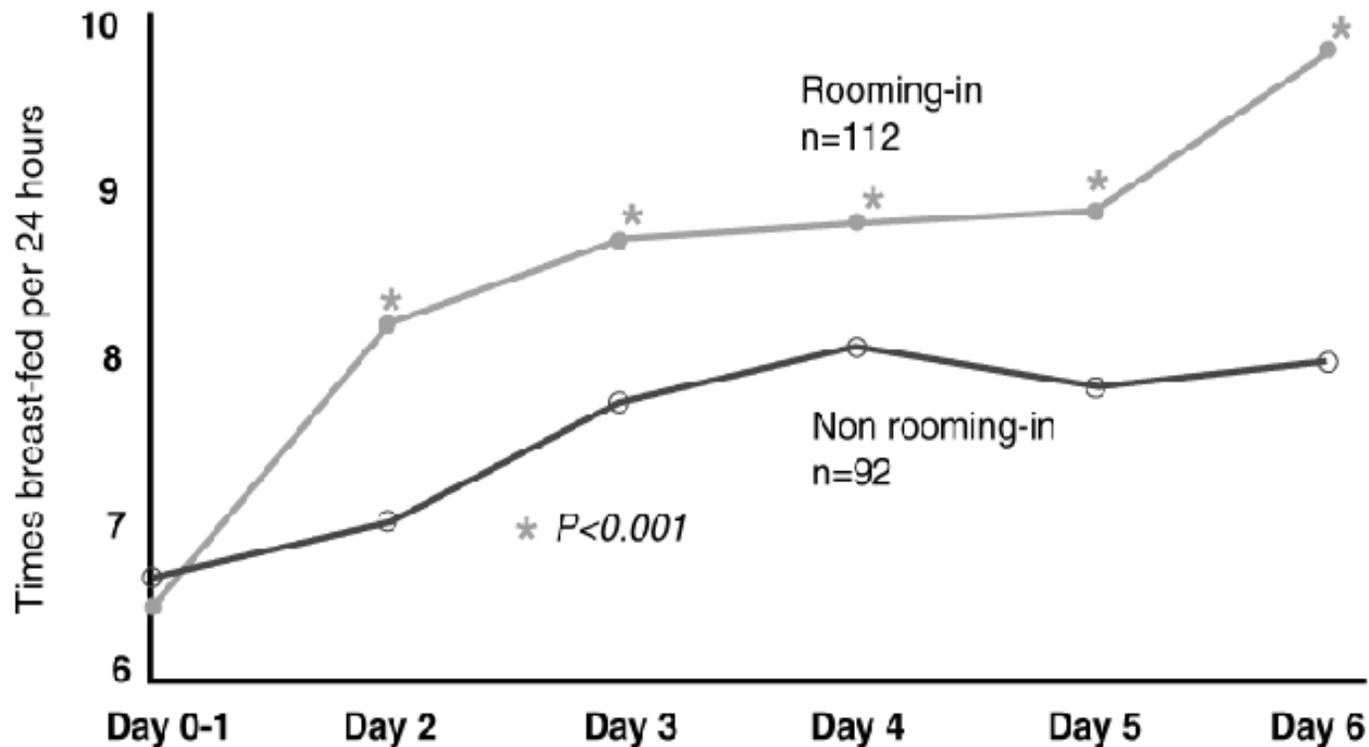
- Reduces costs
- Requires minimal equipment
- Requires no additional personnel
- Reduces infection
- Helps establish and maintain breastfeeding
- Facilitates the bonding process

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



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

## 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.

# Ten steps to successful breastfeeding

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Step 8. Encourage breastfeeding on demand.

A JOINT WHO/UNICEF STATEMENT (1989)

# **Breastfeeding on demand:**

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

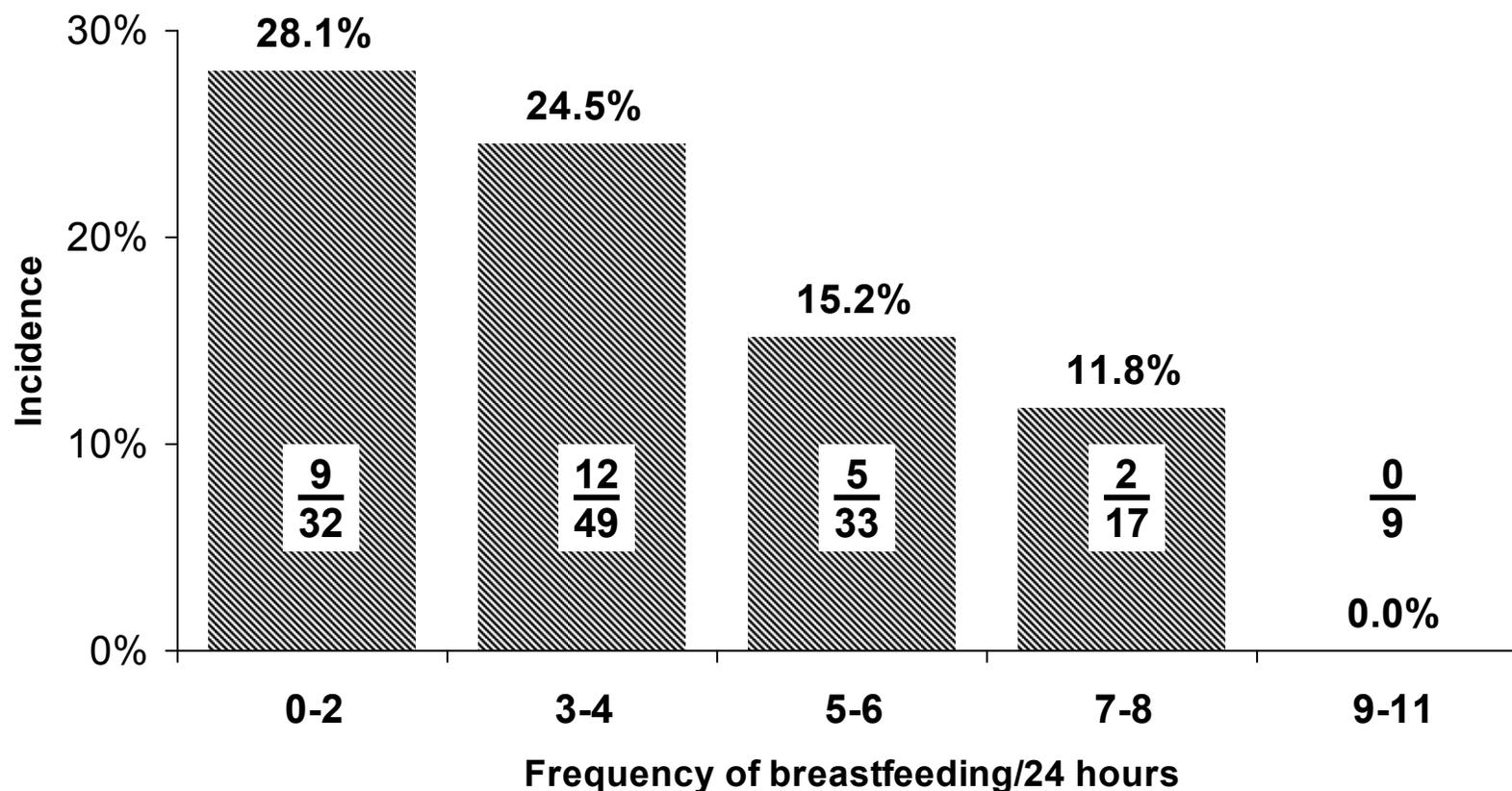
# On demand, unrestricted breastfeeding

## *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

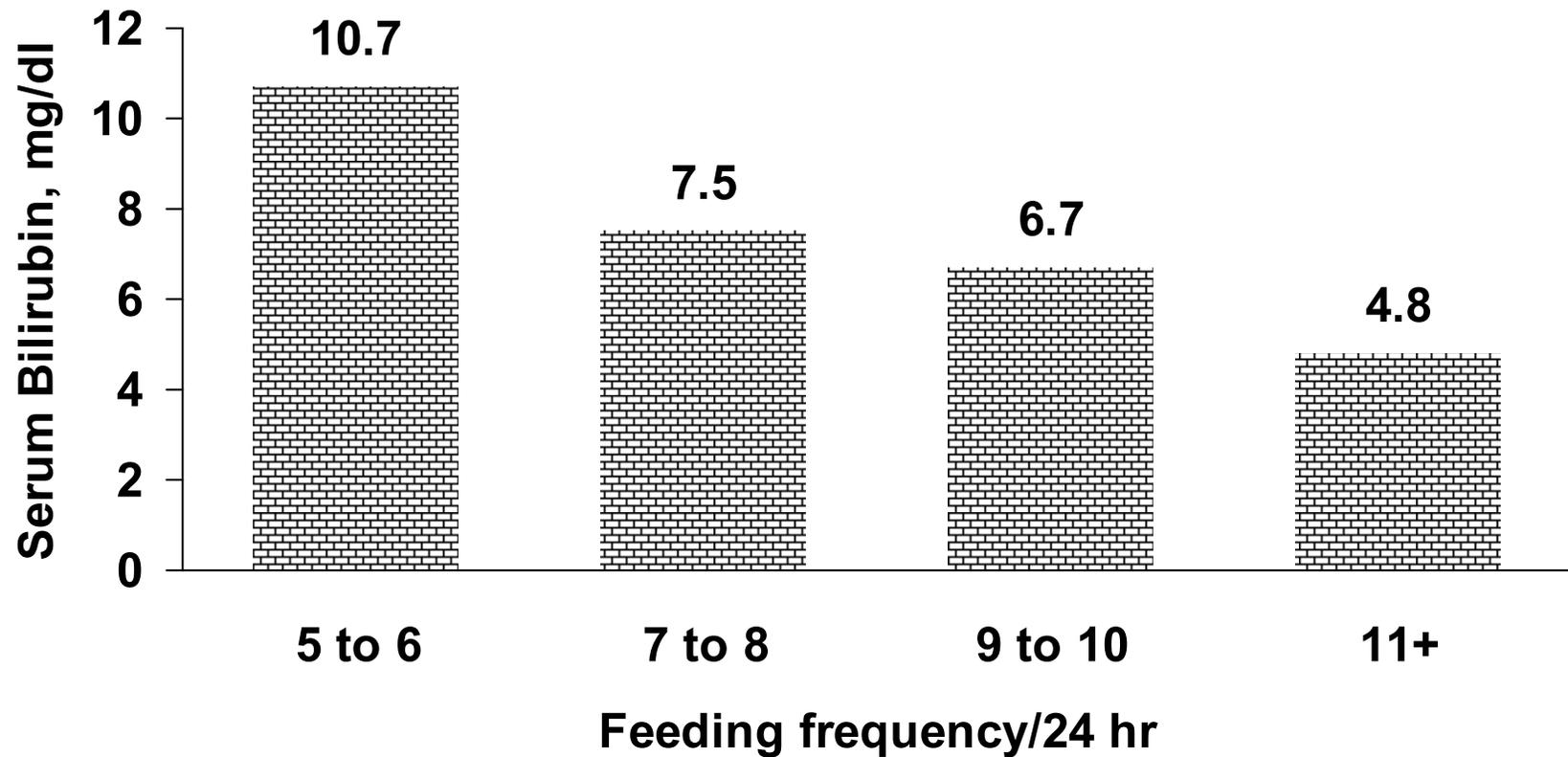
From: Yamauchi Y, Yamanouchi I. Breast-feeding frequency during the first 24 hours after birth in full-term neonates. *Pediatrics*, 1990, 86(2):171-175.

## 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.

## 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

# Ten steps to successful breastfeeding

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

A JOINT WHO/UNICEF STATEMENT (1989)

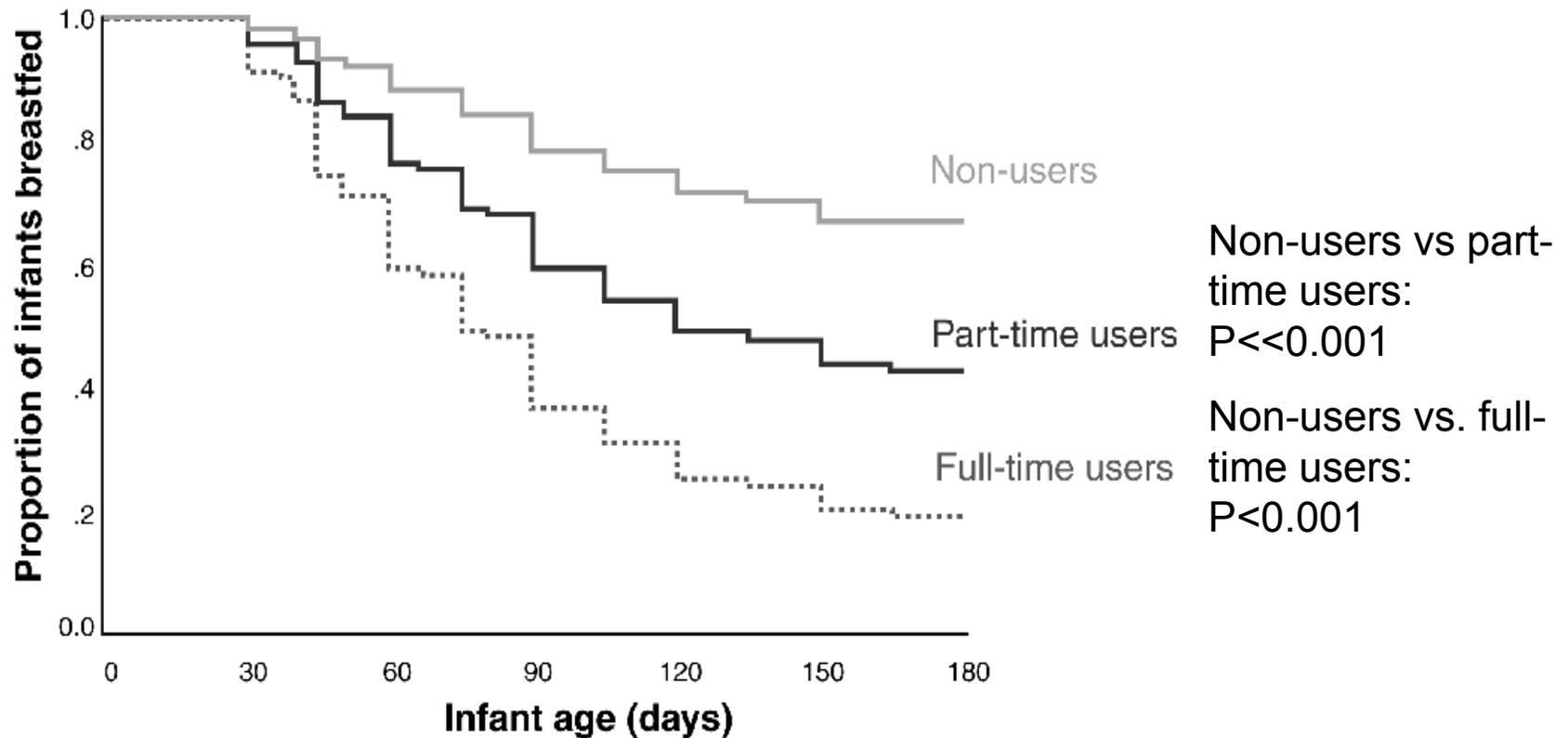
# Alternatives to artificial teats

- cup
- spoon
- dropper
- Syringe

# Cup-feeding a baby



# 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.

# Ten steps to successful breastfeeding

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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)

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

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

# Support can include:

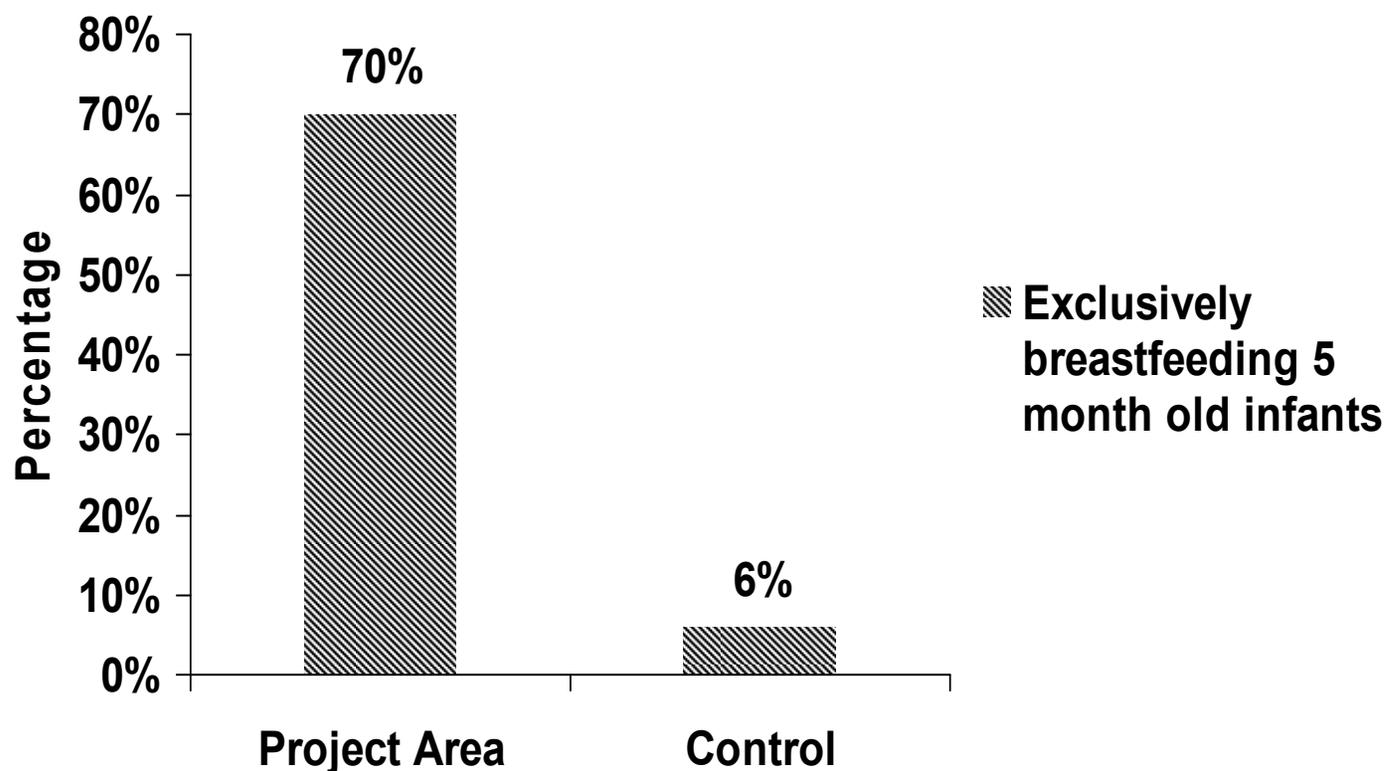
- Early postnatal or clinic checkup
- Home visits
- Telephone calls
- Community services
  - Outpatient breastfeeding clinics
  - Peer counselling programmes
- Mother support groups
  - Help set up new groups
  - Establish working relationships with those already in existence
- Family support system

# 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)

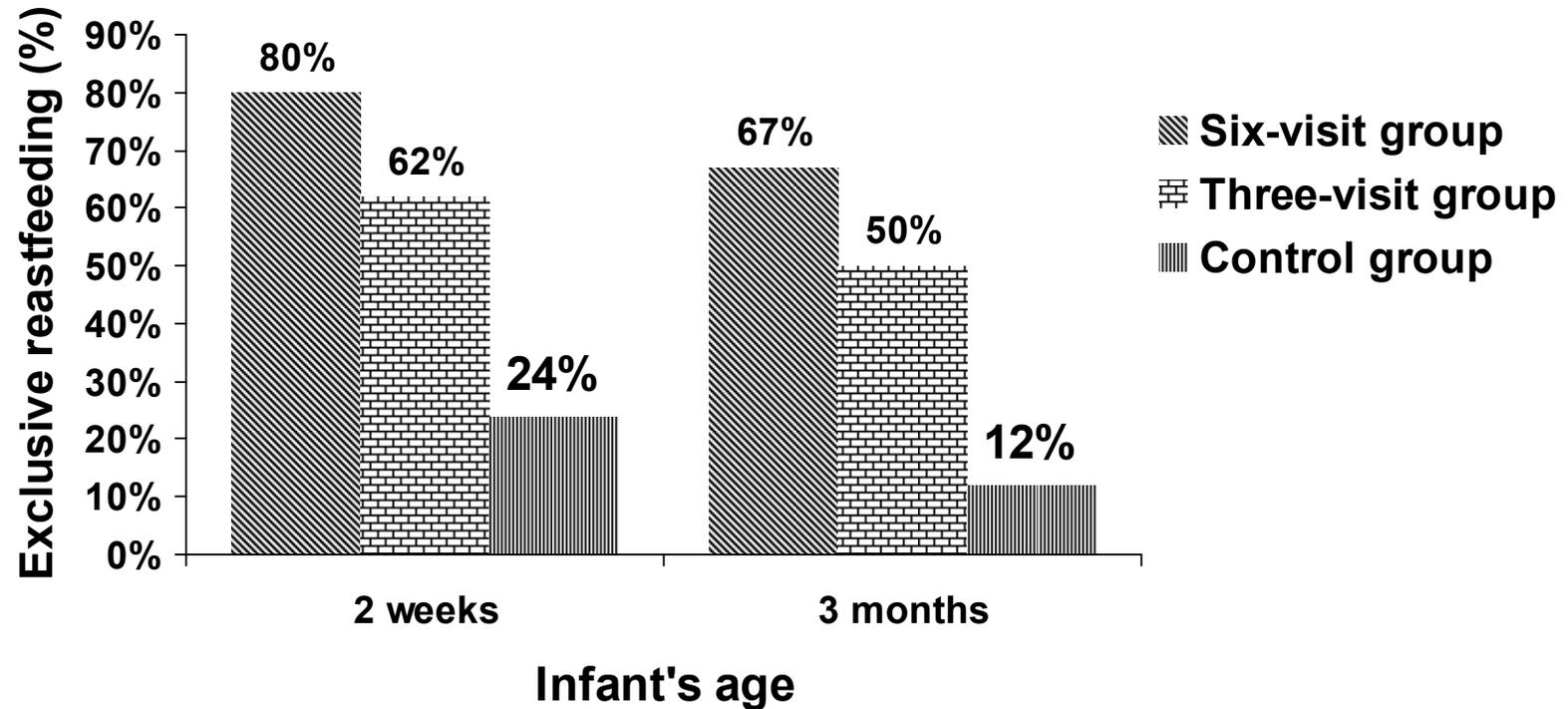
From: Jelliffe DB, Jelliffe EFP. The role of the support group in promoting breastfeeding in developing countries. *J Trop Pediatr*, 1983, 29:244.

## 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 counselors to promote and support exclusive breastfeeding in Bangladesh. *J Hum Lact*, 2002;18(1):7-12.

# Home visits improve exclusive breastfeeding



From: 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

## **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.**

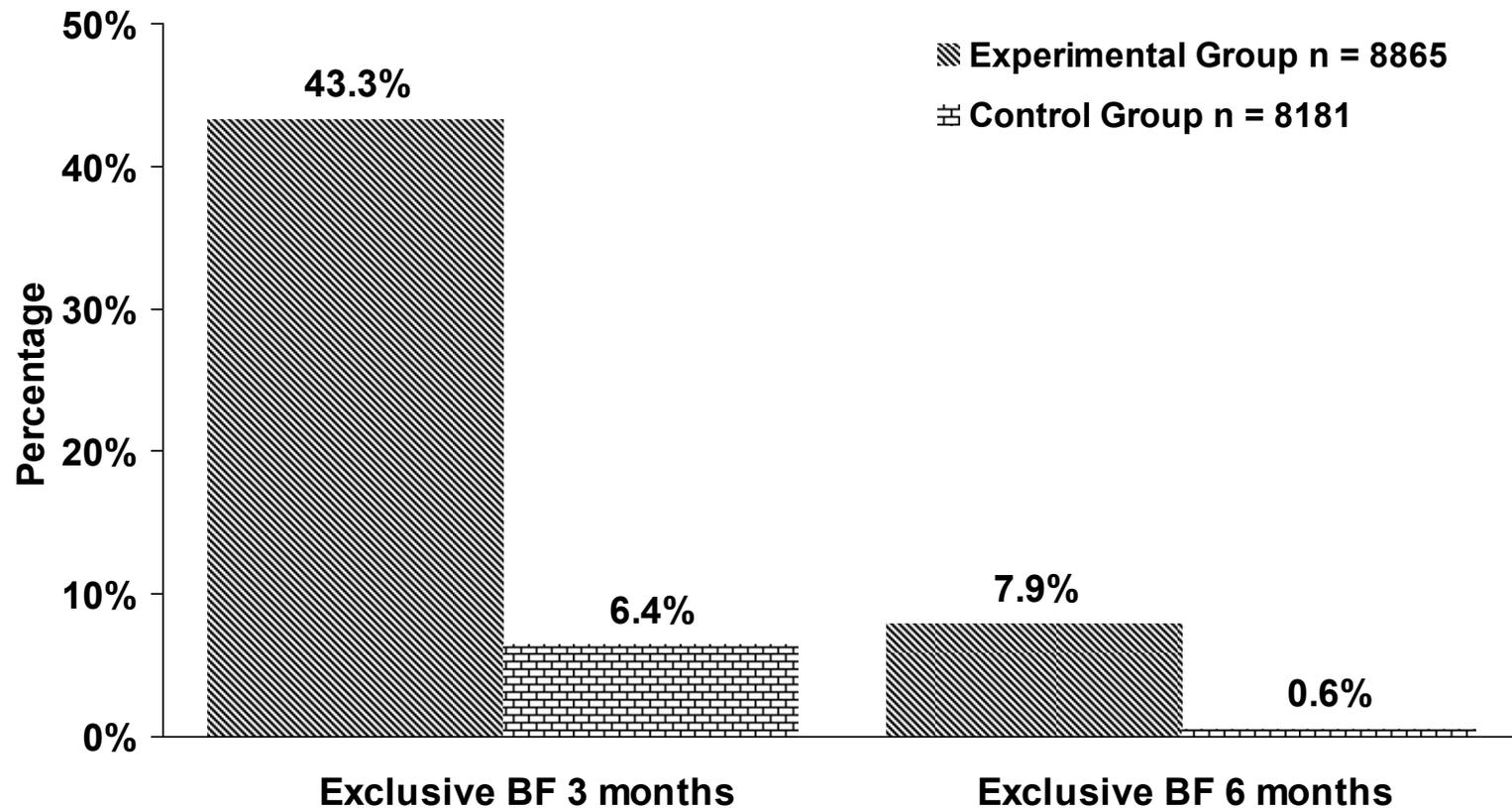
Adapted from: Kramer MS, Chalmers B, Hodnett E, et al. Promotion of breastfeeding intervention trial (PROBIT) A randomized trial in the Republic of Belarus. *JAMA*, 2001, 285:413-420.

# Differences following the intervention

Control hospitals:	Experimental hospitals:
<ul style="list-style-type: none"> <li>■ Routine separation of mothers &amp; babies at birth</li> </ul>	<ul style="list-style-type: none"> <li>■ Mothers &amp; babies together from birth</li> </ul>
<ul style="list-style-type: none"> <li>■ Routine tight swaddling</li> </ul>	<ul style="list-style-type: none"> <li>■ No swaddling—skin-to-skin contact encouraged</li> </ul>
<ul style="list-style-type: none"> <li>■ Routine nursery-based care</li> </ul>	<ul style="list-style-type: none"> <li>■ Rooming-in on a 24-hr basis</li> </ul>
<ul style="list-style-type: none"> <li>■ Incorrect latching &amp; positioning techniques</li> </ul>	<ul style="list-style-type: none"> <li>■ Correct latching &amp; positioning techniques</li> </ul>
<ul style="list-style-type: none"> <li>■ Routine supplementation with water &amp; milk by bottle</li> </ul>	<ul style="list-style-type: none"> <li>■ No supplementation</li> </ul>
<ul style="list-style-type: none"> <li>■ Scheduled feedings every 3 hrs</li> </ul>	<ul style="list-style-type: none"> <li>■ Breastfeeding on demand</li> </ul>
<ul style="list-style-type: none"> <li>■ Routine use of pacifiers</li> </ul>	<ul style="list-style-type: none"> <li>■ No use of pacifiers</li> </ul>
<ul style="list-style-type: none"> <li>■ No BF support after discharge</li> </ul>	<ul style="list-style-type: none"> <li>■ BF support in polyclinics</li> </ul>

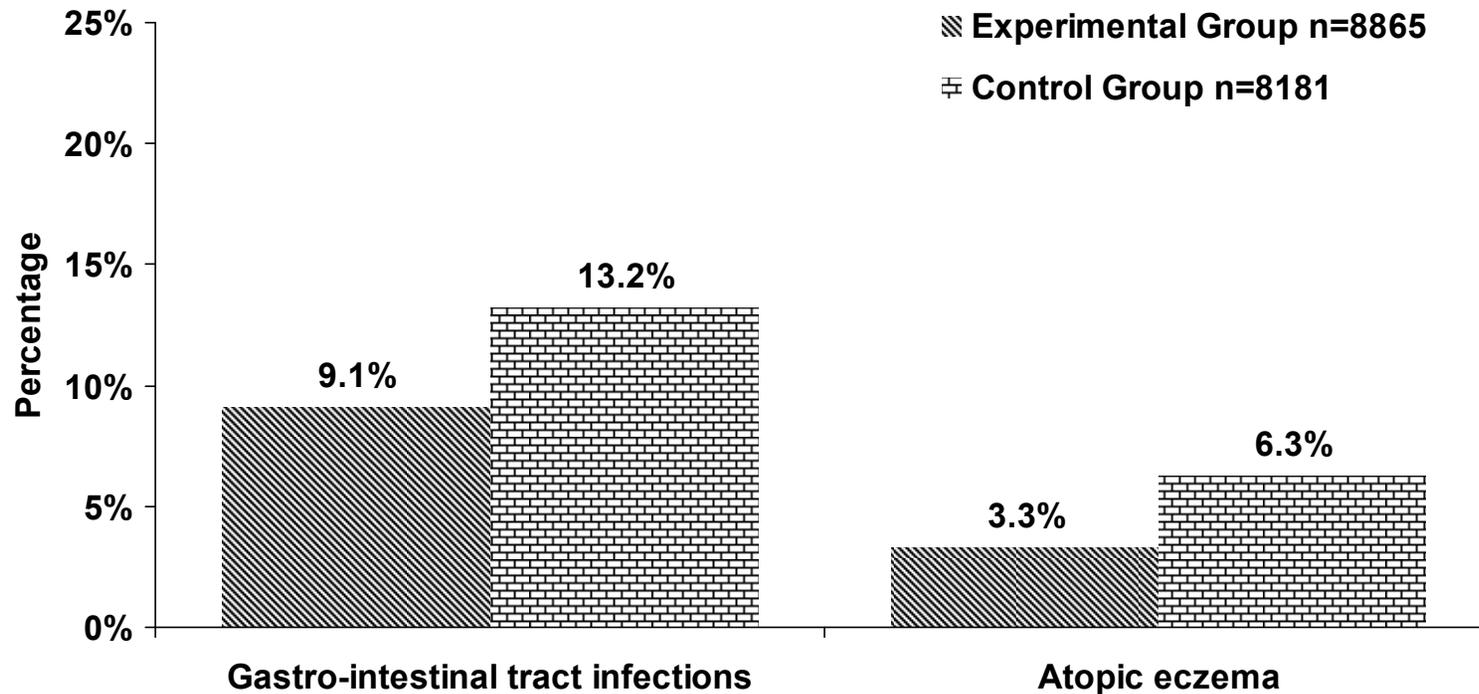
Communication from Chalmers and Kramer (2003)

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



Adapted from: Kramer et al. (2001)

# 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.

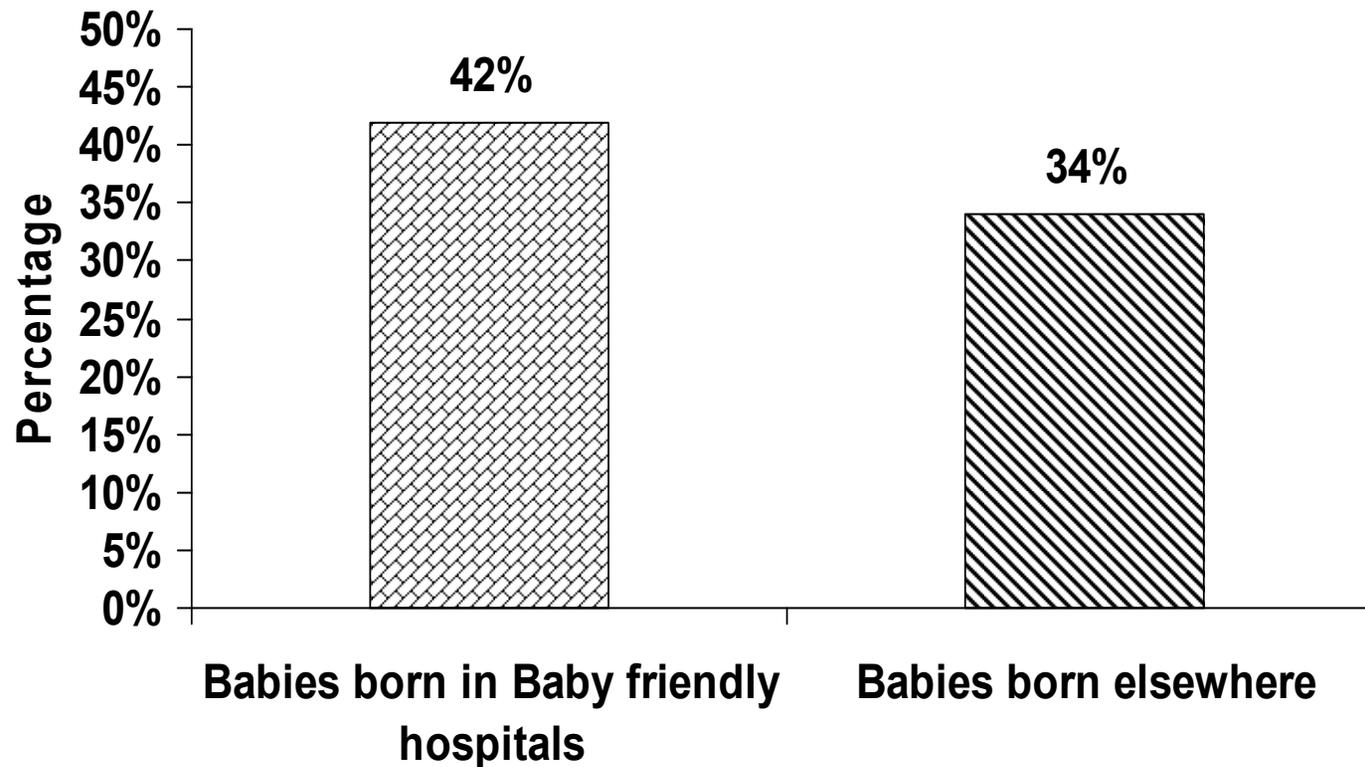
Adapted from: Kramer et al. (2001)

## **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.

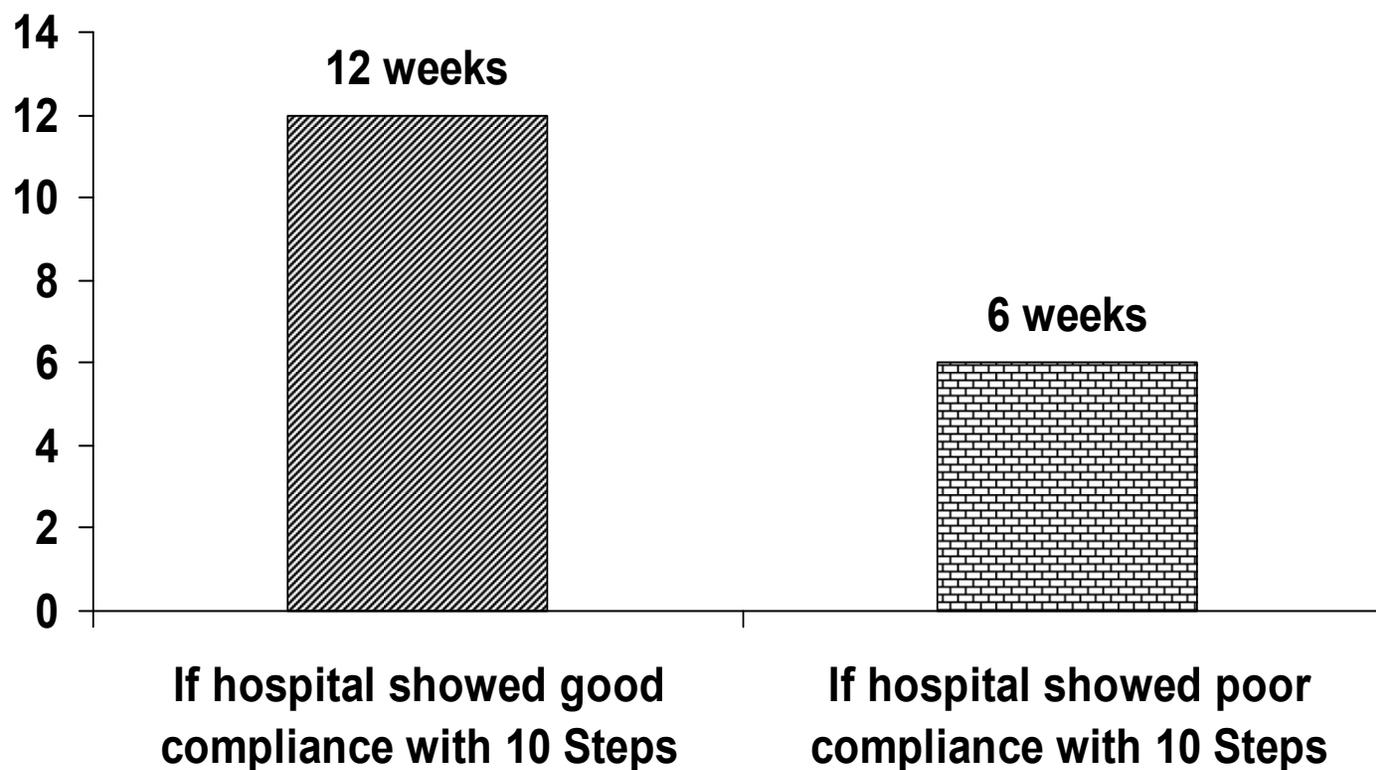
Adapted from: Merten S et al. Do Baby-Friendly Hospitals Influence Breastfeeding Duration on a National Level? *Pediatrics*, 2005, 116: e702 – e708.

## 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.

## 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.