

Infant feeding practices: Rates, Risks of Not Breastfeeding & Factors Influencing Breastfeeding

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Introduction

- **Breastfeeding:** an interactive process between maternal biology and infant instinct (Small, 1998).
 - The healthy newborn infant is born ready to attach to the mother's breast and begin to breastfeed.
 - The mother's body is also ready to move from pregnancy and childbirth into the next reproductive phase: lactation.
- **Lactogenesis:** begins in pregnancy, and following the delivery of the placenta and the rapid drop in progesterone, the hormone prolactin allows full milk production to begin.
- **Nipple stimulation:** leads to the release of oxytocin – the "love hormone" – from the mother's posterior pituitary gland

(Newton, 1971).

Introduction

- **Feeding newborn mammals with breast milk** was never a choice but rather a **natural way of feeding**.
- Without the influence of culture and other beliefs, babies would naturally continue to be breastfed until the age of 2.5 to 7 years (Dettwyler, 1995).
- **WHO recommends** that all **infants be exclusively breastfed for 6 months**, followed by complementary food and breastfeeding for as long as mother and child want (WHO, 2001).
- **Most infants** around the world **fail to achieve the WHO recommendations**.
- Infant feeding practices vary immensely in complex ways in response to individual, community and societal factors.

Introduction

- It is no longer appropriate to talk about the “benefits of breastfeeding” (Berry & Gribble, 2008).
- By presenting the risks of not breastfeeding, we highlight that infants may be exposed to health risks if they are not given breast milk.
- Women respond more positively towards breastfeeding when the data are presented as risks of not breastfeeding rather than benefits of breastfeeding (Stuebe, 2009).
- This presentation will cover:
 - rates of breastfeeding around the world
 - risks of not breastfeeding
 - factors influencing infant feeding practices.

Breastfeeding rates

- **Terminology:**

- *Ever breastfed*: infants who have been put to breast at least once
- *Exclusive breastfeeding*: infants who have received only breast milk during a specified period of time

- **Sources of data:**

- Organization For Economic Cooperation And Development (OECD) Family database
- United Nation's International Children's Emergency Fund (UNICEF) database

Rates in developed countries

Country	Year of data collected	% of children who were *ever breastfed	Year of data collected	Proportion of children who were exclusively breastfed at		
				Three months	Four months	Six months
Norway	2006	99.0	2006	63.0	46.0	9.0
Denmark	2007	98.0	1999/2001	48.0	51.0	
Sweden	2006/07	97.6	2006	-	59.8	14.9
Slovenia	1999/2001	97.0	-	-	-	-
Iceland	2007	97.0	2000	69.0	46.0	
Japan	2007	96.6	2005	38.0	36.8	34.7
Czech Republic	2007	95.6	2007	61.2	-	38.4
Finland	2007	93.0	2005	51.0	34.0	-
Romania	2006	92.2	2005	-	-	34.4
Australia	2006	92.0	2004	56.0	46.0	14.0
Portugal	2006	91.0	2003	54.7	-	34.1
Korea	-	-	2006	49.6	43.4	26.8
New Zealand	2005	87.8	2006/07	56.0	39.0	8.0
Slovak Republic	2005	87.0	2007	63.0	55.0	41.0
Greece	2005	86.0	-	-	-	-
Canada	2005	84.5	2003	-	38.4	18.7
Italy	2005	81.1	2005	20.0	19.0	32.0
Netherlands	2005	79.0	2005	35.0	34.0	25.0
Spain	2003	77.2	2006	41.2	-	19.3
U.K.	2003	77.0	2005	13.0	7.0	-
U.S.	2003	74.2	2005	31.5	-	11.9
Malta	2000	69.0	-	-	-	-
Belgium	2007	65.9	-	35.4	-	-
France	2003	63.0	-	-	-	-
Ireland	-	43.8	-	-	-	-

Rates in developing countries

Developing countries	Year of data collected	Early initiation of breastfeeding within one hour of birth	Exclusively Continue breastfed		
			0-5 months	12 months	24 months
Bangladesh	2007	43	43	95	91
Brazil	2006	43	40	50	25
Egypt	2008	56	53	78	35
Indonesia	2007	39	32	80	50
Kazakhstan	2006	62	17	57	16
Nepal	2006	35	53	98	95
Nigeria	2003	32	13	85	32
Pakistan	2006/07	29	37	79	55
Rwanda	2005	41	88	96	77
Serbia	2005	17	15	22	8
Uzbekistan	2006	67	26	78	38
Zimbabwe	2005/06	69	22	87	40

Breastfeeding risks (terminology)

- **Convincing:** a significant relationship has been found in a meta-analysis
- **Probable:** evidence from many studies but confirmation is needed in better-designed studies
- **Possible:** only a few methodological sound studies have been conducted.

Short term risks of not breastfeeding among term infants

Convincing	Probable	Possible
Gastrointestinal infection or diarrhea (Allen & Hector, 2005; Ip, et al., 2007; Leon-Cava, et al., 2002; van Rossum, et al., 2006)	Asthma and allergy (Allen & Hector, 2005; Ip, et al., 2007; van Rossum, et al., 2006)	SIDS (van Rossum, et al., 2006)
Otitis media (Allen & Hector, 2005; Ip, et al., 2007; Leon-Cava, et al., 2002; van Rossum, et al., 2006)	Wheezing (van Rossum, et al., 2006)	
Respiratory tract infection (Allen & Hector, 2005; Ip, et al., 2007; Leon-Cava, et al., 2002; van Rossum, et al., 2006)	Eczema (Ip, et al., 2007; van Rossum, et al., 2006)	
Sudden Infant Death Syndrome (SIDS) (Ip, et al., 2007)	SIDS (Allen & Hector, 2005)	

Long term risks of not breastfed among term infants

Convincing	Probable	Possible
Childhood and adolescent obesity (van Rossum, et al., 2006)	Adult type-2 diabetes (Ip, et al., 2007; Leon-Cava, et al., 2002)	Childhood and adolescent type-1 diabetes (Allen & Hector, 2005; van Rossum, et al., 2006)
Higher adult mean blood pressure (van Rossum, et al., 2006)	Childhood leukemia (Allen & Hector, 2005; Leon-Cava, et al., 2002)	Adult type-2 diabetes (Allen & Hector, 2005; Horta, et al., 2007; Leon-Cava, et al., 2002; van Rossum, et al., 2006)
	Childhood and adolescent obesity (Allen & Hector, 2005; Horta, et al., 2007)	Childhood leukemia (van Rossum, et al., 2006; Leon-Cava, 2002)
	Cognitive ability or intelligence level (Allen & Hector, 2005; Horta, et al., 2007; Ip, et al., 2007; Leon-Cava, et al., 2002; van Rossum, et al., 2006)	Higher mean adult blood pressure (Horta, et al., 2007; Leon-Cava, et al., 2002)
	Inflammatory bowel disease (Allen & Hector, 2005; Leon-Cava, et al., 2002; van Rossum, et al., 2006)	Higher mean adult blood cholesterol level (Horta, et al., 2007; Ip, et al., 2007)

Short term risks of not breastfeeding among mothers

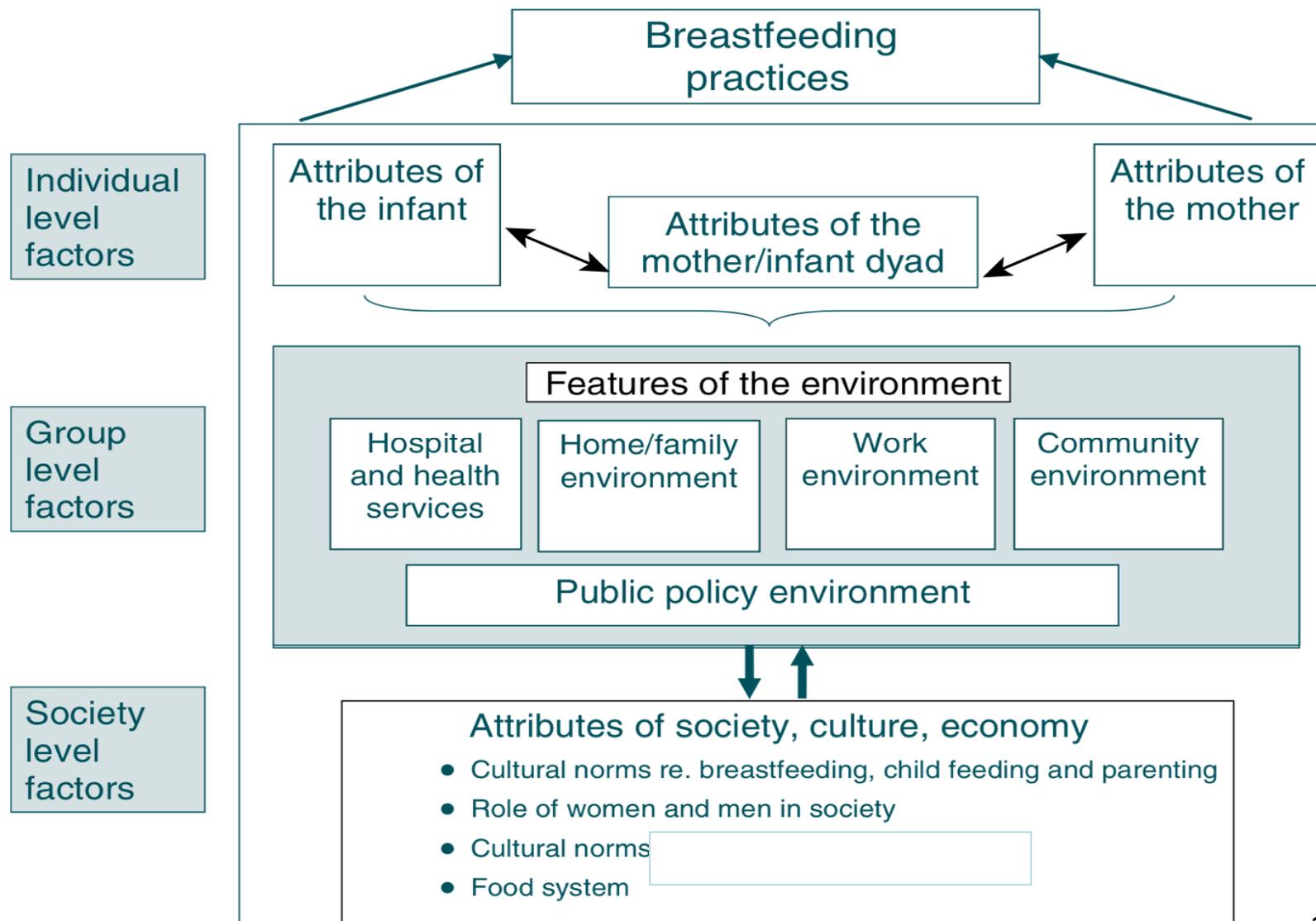
Convincing	Probable	Possible
		Slow return to pre-pregnancy weight (Allen & Hector, 2005; Ip, et al., 2007)
		Postpartum depression (Allen & Hector, 2005; Ip, et al., 2007)

Long term risks of not breastfeeding among mothers

Convincing	Probable	Possible
<p>Premenopausal breast cancer (Allen & Hector, 2005; Ip, et al., 2007; Leon-Cava, et al., 2002; van Rossum, et al., 2006)</p>	<p>Postmenopausal breast cancer (Allen & Hector, 2005)</p>	<p>Endometrial cancer (Allen & Hector, 2005) Osteoporosis (Allen & Hector, 2005; Ip, et al., 2007)</p>
	<p>Ovarian cancer (Allen & Hector, 2005; Ip, et al., 2007; Leon-Cava, et al., 2002; van Rossum, et al., 2006)</p>	
	<p>Rheumatoid arthritis (Allen & Hector, 2005; van Rossum, et al., 2006)</p>	

Factors influencing breastfeeding

A CONCEPTUAL FRAMEWORK OF FACTORS AFFECTING BREASTFEEDING PRACTICES



Source: 'A conceptual framework of factors affecting breastfeeding practices' in Hector et al. {Hector, 2005 #183}, p 53}.

Individual level - Maternal factors

- **Maternal intention:** longer breastfeeding duration (Meedya et al., 2010).
- **Prenatal intention:** strongest predictor than any socio-demographic factors in breastfeeding initiation and duration (Donath & Amir, 2003).
- **Mothers who intend to breastfeed, but ceased earlier:**
 - younger age, fewer years of completed education (Avery et al., 1998; Gudnadottir et al., 2006)
 - negative breastfeeding attitude, intending to breastfeed for shorter time, perceived insufficient milk scores, and planning to work outside the home (Avery et al., 1998)
- In actual fact, whether women actually breastfeed or not depends on many factors which are beyond their control

(Morse & Bottorff, 1989).

Individual level - Maternal factors

- **Women from higher social status:** likely to initiate breastfeeding and breastfeed for a longer duration (Gudnadottir et al., 2006).
- **Maternal smoking habits:** negative influence on breastfeeding initiation and duration (Amir & Donath, 2002; Scott & Binns, 1999).
- **A meta analysis (13 studies):** smoking shortens breastfeeding duration to three months (Horta et al., 2001).
- **Overweight and obese women:** less likely to breastfeed and if they do, breastfeed for a shorter duration than normal weight women (Amir & Donath, 2007).

Individual level - Infant factors

- **Prematurity and gestational age:** the risk to be formula-fed increases as the gestational age decreases.
- **Infants born at 35 to 36 weeks:** greater risk of being formula-fed than infants born at 37 to 40 gestational weeks

(Donath & Amir, 2008).

- **Premature babies:** breastfeeding initiation and duration are influenced by family's/mothers' socio-economic status and not by the degree of infants' prematurity or gestational age

(Flacking et. al 2007).

Group level – Hospital and health services

- **Baby-Friendly Hospital Initiative by WHO & UNICEF:** a global effort to implement practices that protect, promote and support breastfeeding (WHO/UNICEF, 2009).
- **Breastfeeding rates:** increased in hospitals that comply with the BFHI Ten Step to Successful Breastfeeding.
- **Professional support:** beneficial effect on breastfeeding duration; but the strength on the rate of exclusive breastfeeding is uncertain (Sikorski et al., 2003).
- **Professionals:** beneficial if they have a positive attitude towards breastfeeding & knowledge/skills to help breastfeeding mother (Clifford & McIntyre, 2008).

Group level - Home, family & community

- **Fathers, other family members and friends:** can support breastfeeding if they are positive about breastfeeding and have the skills (Clifford & McIntyre, 2008).
- **Fathers:** most important role in decision making regarding infant feeding choice and breastfeeding duration (Scott & Binns, 1999; Scott, 2010).
- **Women regularly visited by relatives and friends:** have a positive attitude and confidence towards breastfeeding, hence are more successful in maintaining breastfeeding while working (Galtry, 2003).

Society level – Traditional beliefs & culture

- **Traditional beliefs:** influence breastfeeding practices.
- **Colostrum:** unsuitable for newborn and should be discarded (Ertem, 2010; Hizel et al., 2006)
 - Hmong people do not believe it is real milk as true milk will only be produced after day three of an infant's life (Liamputtong Rice, 2000).
 - But Hmong women continue to breastfeed until they become pregnant with the next child – up to 2 or 3 years or longer (Liamputtong Rice, 2000).
- **In Thailand:** cultural practices to support the women during postpartum period have positively enhanced breastfeeding **SUCCESS** (Liamputtong, 2007, 2011).
 - During *yu duan* period (30 days after birth), women are prohibited from household chores, allowed to recuperate and bond with their newborns, & provided with traditional foods to produce breast milk.

Society level - Public policy

- **The International Code of Marketing of Breast milk Substitutes (1981) by (WHO):** restrictions on the marketing of breast milk substitutes (infant formula) to ensure mothers are not discouraged from breastfeeding and that substitutes are used safely if needed (WHO, 1981).
- **Code violations by manufacturers:** reported in
 - industrialized (Costello & Sachdev, 1998; Pisacane, 2000)
 - developing countries (Aguayo et al., 2003; Sokol et al., 2001)
- **A multicentre study:** in Thailand, Bangladesh, South Africa, and Poland: leading manufacturers were violating the code (Taylor, 1998).

Work & breastfeeding practices

- **Working status:** a barrier to breastfeeding- as the timing of breastfeeding cessation coincides with the mothers' return to work (Visness & Kennedy, 1997).
- **Women with children less than 3 years:** contribute to nearly 50% of the labor force in America (Bureau of Labor Statistics, 2006) & many other countries.
- **The International Labor Organization (ILO) convention:** on maternity protection is implemented in 120 countries and each country sets its own national legislation.
 - Bu, it tends to be narrow and excludes the informal work sector where nearly 80% of the workers are women (WABA, 2003).
- **Key elements to maternity protection:** include providing breastfeeding breaks and breastfeeding facilities at the workplace (WABA, 2003).

Maternity leave

- According to ILO: working mothers are entitled to a minimum paid maternity leave of 14 weeks (WABA, 2003).
- Duration of leave: the length of leave varies from country to country (Staehelin et al., 2007).
- Women who are only entitled to a maternity leave of six weeks or less have been found to have more depressive symptoms than mothers who are entitled to 8 to 12 weeks leave (Chatterji & Frick, 2004).

Work place and working hours

- Work full-time outside the home: less likely to breastfeed than women working from home (Fein & Roe, 1998).
- Access their infant during working hours/ provide expressed breast milk: more successful in maintaining breastfeeding for longer than those who cannot (Ortiz et al., 2004).
- Full-time shift workers with inflexible working hours: more difficulty maintaining breastfeeding;
 - if women are denied breastfeeding breaks they are unable to express breast milk leading to reduced milk production and premature breastfeeding cessation (Avery et al., 1998).

Type of work

- **Jobs that require workers to attend at all times:** less successful than clerical workers who can more easily make time for breastfeeding breaks (Chuang et al., 2010).
- **Lowest ranked workers:** less autonomy in their work and many are not aware they have the right to breastfeeding breaks by legislation (Chen et al., 2006).
- **Workers in higher ranks:** more aware of their rights and have greater accessibility to the facilities in the workplace and are empowered to exercise their rights (Chen et al., 2006).

Working condition and environment

- **Supportive employers:** help mothers of young children by providing flexibility in working hours, breastfeeding breaks and providing rooms and equipment for milk expression; allow mothers to have time off with their infants for direct feeding (WABA, 2003).
- **Co-workers who are also practicing breastfeeding:** a positive environment and gives encouragement to other mothers (Rojjanasirat, 2004).
- **Co-workers with negative attitudes towards breastfeeding:** mothers find it difficult to express milk at the workplace when there (Brown et al., 2001).

Conclusion

- **High-level evidence:** babies who do not receive breast milk are at a higher risk of developing infectious diseases and chronic diseases later in life.
- **Mothers who do not breastfeed their infants:** higher risk of illnesses such as breast and ovarian cancer.
- **Breastfeeding:** is a common practice but exclusive breastfeeding infants according to the recommendations of the WHO is not so common.
- **Global initiatives (BFHI):** targeted hospital services with great success (WHO/UNICEF, 2009).
- **Working conditions and long inflexible working hours:** barriers to mothers maintaining breastfeeding.

What we need...

- **Need to create:** working environments that are supportive and protective of breastfeeding.
- **Crucial basic needs:** breastfeeding breaks and rooms for mothers at the workplace so they can continue to provide the best nutrition for their infant while working.
- **Need to empower women:** about their rights regarding infant feeding.
- **The ILO convention recommendations:** should be rectified in countries where it has not been implemented.
- **Campaigns for maternity protection law:** should be encouraged for formal and informal sectors.
- **Legislation:** accompanied by effective information, training, and monitoring systems to ensure that healthcare providers and manufacturers comply with evidence-based practice and the Code (Holla-Bhar, 2006).

Final words

As individuals, women are powerless to counter the complexity of societal forces that interfere with...breastfeeding their infants (for at least six months). What is required are 'structural changes . . . to society that will enable all mothers to breastfeed with assurance and safety', including full implementation of the ILO Maternity Protection Convention.

(Beasley & Amir 2007: 5)

Thank You