



---

---

**THE EFFECT OF HEALTH CARE PRACTICES ON INFANT FEEDING**

**Harutyunyan S.A.<sup>1</sup>, Poghosyan K.P.<sup>1</sup>, Saribekyan K.S.<sup>2</sup>, Ghazaryan A.E.<sup>2</sup>**

1 Chair of Pediatrics and Pediatric Surgery # 2, Yerevan State Medical University after M. Heratsi,  
Yerevan, Armenia,

“Muratsan” University Hospital, Yerevan, Armenia

2 Ministry of Health of the Republic of Armenia, Yerevan, Armenia

---

**Abstract**

In 1999 aiming to improve the infant feeding practices, Ministry of Health of the Republic of Armenia (MOH) and UNICEF Armenian country office initiated the implementation of Baby Friendly Hospital Initiative (BFHI). In 2003 the implementation of a new, Baby Friendly Polyclinic Initiative (BFPI), started as the adopted version of WHO/UNICEF BFHI designed for implementation in polyclinics.

In 2008, MOH and UNICEF initiated a study to assess the effectiveness in implementation of mentioned initiatives by comparing health care practices, breastfeeding rates and knowledge of mothers and health staff in the sphere of infant nutrition in baby-friendly polyclinics (BFPIs) and not certified polyclinics (NCPs). The comparison showed that breastfeeding rates are significantly higher at BFPIs than in NCPs. Mothers, who have participated in antenatal classes, gave about twice more correct answers to questions on breastfeeding and were more often to exclusively breastfeed. Early skin-to-skin contact initiation percentage was the same in baby-friendly and non-certified hospitals.

Prelacteal feeding and usage of bottles and teats was practiced rarer in baby-friendly hospitals. Health personnel working in baby-friendly facilities compared to healthcare providers in not certified facilities gave more correct answers to questions on infant feeding; this latter is explained by the fact that almost all health workers in certified facilities have participated in awareness-raising seminars on infant feeding.

The study revealed that breastfed infants (exclusively or predominantly) compared to artificially fed infants had fewer episodes of acute respiratory illnesses (ARI).

Thus, the result of the survey confirmed the effectiveness of baby-friendly initiatives implementation in primary health care facilities.

Keywords: breastfeeding, infant and young child nutrition, early skin-to-skin contact, complementary feeding, maternal health services standards, Baby Friendly Hospital Initiative, Baby Friendly Polyclinic Initiative.

---

**INTRODUCTION**

The first two years of life provide a critical window of opportunity for ensuring children's appropriate growth and development through optimal feeding.

Inappropriate nutrition may lead to malnutrition: a serious public-health problem that has been linked to a substantial increase in the risk of mortality and morbidity. Poor breastfeeding and complementary feeding practices are widespread. To improve the situation, mothers and

families need support to initiate and sustain appropriate infant and young child feeding practices [WHO, 2002; 2009; WHO/UNICEF, 2007]. Health care practices can play a critical role in providing that support.

In 1991, WHO and UNICEF launched the Baby-friendly Hospital Initiative (BFHI), which is a global effort to implement health care practices that protect, promote, and support breastfeeding [UNICEF/WHO, 2009]. BFHI seeks to provide mothers and babies with a good start for breastfeeding, increasing the likelihood that babies will be exclusively breastfed for the first six months and then given appropriate complementary foods while breastfeeding continues for two years or beyond [WHO, 2002; 2007; Merten S. et al., 2005].

---

---

**Address for Correspondence:**

Chair of Pediatrics and Pediatric Surgery # 2,  
Yerevan State Medical University after M. Heratsi  
2 Koryun Street, 0025, Yerevan, Armenia  
Tel.: (37491) 450318, E-mail: harsusanna@gmail.com

BFHI involves Ten Steps to Successful Breast-feeding as well as protection from marketing of breast-milk substitutes to help provide a supportive health facility [WHO, 1981].

By the end of 2007, more than 20,000 health facilities worldwide had been officially designated as baby-friendly.

Armenia joined BFHI in 1999. Currently 19 hospitals countrywide are certified as baby-friendly.

Aiming to improve the infant feeding practices in communities, in 2003 MOH of Armenia adopted the Baby Friendly Polyclinic Initiative (BFPI), which is the adopted version of WHO/UNICEF BFHI designed for implementation in pediatric polyclinics [WHO, 2003]. Similar to 10 steps of Successful Breastfeeding the BFPI aims to implement 10 steps that promote optimal infant and young child feeding and is the main criteria for awarding baby-friendly polyclinics (BFP) status.

In 2008 UNICEF Armenian country office and the MOH of Armenia initiated a study, the purpose of which was

- to assess the effectiveness of implementation of baby friendly practices in primary health care facilities comparing the practices, breastfeeding (BF) rates and knowledge of mothers and health staff in the sphere of infant nutrition in BFPs and not certified polyclinics (NCPs) and
- to make recommendations for improvement.

## MATERIAL AND METHODS

The study was carried out in Yerevan and regions of Armenia. During the study, interviews were taken from:

- 400 mothers of 0-6 months old infants regardless of infants feeding method: 200 in BFPs and 200 in NCPs;
- 137 health care providers (pediatricians, neonatologists, family doctors, obstetricians and pediatric nurses); among them 35 in BFPs, 34 in NCPs, 36 in baby-friendly hospitals (BFHs) and 32 in not certified hospitals (NCHs).

Questionnaires for mothers included questions on:

- feeding practices such as:
  - feeding methods,
  - use of liquids other than breast milk,
  - use of breast milk substitutes,
- practices implemented in maternity hospitals and polyclinics, such as
  - provision of BF counseling,
  - antenatal classes,
  - skin-to-skin contact after delivery,
  - use of prelacteal feeding, dummies and pacifiers in maternity,
- marketing practices of infant food manufacturing company and
- the influence on mother's choice of feeding methods, knowledge of mothers on infant feeding issues, morbidity of their infants with acute respiratory illnesses and diarrhea, etc.

Special Questionnaires were designed for health care providers in pediatric polyclinics (pediatricians, family doctors, and nurses) and in maternity hospitals (neonatologists, obstetricians, and nurses). The questionnaires included questions about the practices related to infant feeding, participation in seminars on infant feeding, knowledge on infant feeding policy and general knowledge in the sphere of infant feeding.

## RESULTS

The results of the study proved the effectiveness of baby-friendly initiative in general and especially BFPI.

1. The comparison of breastfeeding rates showed that in BFPs the exclusive, predominant, and full breastfeeding rates are significantly higher than in not baby-friendly polyclinics (Table 1).
2. Antenatal education, breastfeeding counseling, and practical support provided by health workers significantly improve the knowledge of mothers and support positive practices. Although only about half of the interviewed mothers participated in antenatal classes, they gave about twice more correct answers to questions on BF and

Table 1.

Breastfeeding (BF) rates in various health care facilities

BF rates	BFPs	NSPs	BFHs	NSHs
Exclusive BF	73.5 %	53.5 %	60.4 %	68.1 %
Predominant BF	19.0 %	22.5 %	24.2%	15.6%
Full BF	92.5 %	76.0%	84.6%	83.7 %
Partial BF	7.0 %	15.5 %	11.2%	11.2%
Artificial feeding	0.5 %	8.5 %	4.2%	5.0%

more often exclusively breastfed; this was in contrast to those mothers who did not get antenatal education. Especially high exclusive BF rates were reported by mothers, who got BF counseling and practical support from health workers. Mothers, who had no antenatal education, artificially fed their infants about twice more often compared to those, who participated in antenatal classes (Table 2).

3. Early skin-to-skin contact was initiated after vaginal delivery in about 86.8% cases both in baby-friendly and non baby-friendly hospitals. However, the recommended duration (at least 30 minutes) was implemented only in 5.8% cases in BFHs and 1.2% cases in NCHs.
4. Rooming-in was practiced in 96.2% cases in BFHs and 97.5% cases in NCHs.
5. The study confirmed that the sooner first breastfeeding was initiated the higher exclusive breastfeeding rates were recorded. In case of breastfeeding initiation within the first hour after delivery the exclusive BF rate was 72.0%, during 1-6 hours: 62.3%; 6-24 hours: 59.1%, after 24 hours: 49.3%. In BFHs the first breastfeeding was

initiated within one hour in 42.2% cases, in NCHs in 31.9% cases.

6. Prolactal feeding was practiced rarer in BFHs and it influenced further exclusive breastfeeding rates. Exclusive breastfeeding was practiced in 68.8% cases, when prolactal feeding was not practiced, and only in 47.7% cases, when prolactal feeding took place.
7. Bottles and teats were used in 2.9% cases at BFHs and in 6.2% cases at NCHs.
8. The knowledge of health professionals and mothers is essential for successful establishment of breastfeeding. Health professionals should have basic knowledge and skills to give appropriate advice, counsel and help to solve feeding difficulties, and know when and where to refer a mother, who experiences more complex feeding problems. In baby-friendly facilities almost all health care providers participated in seminars on infant feeding and compared to health workers in not certified facilities they gave more correct answers to the questions on infant feeding. In not certified facilities the average number of trained personnel is 62.5%.

Table 2.

BF rates and mothers' antenatal education and support received

BF rates	Mothers participated in antenatal classes	Mothers didn't participate in antenatal classes	Mothers got BF counseling and practical support	Mothers didn't get BF counseling and practical support
Exclusive BF	67.6%	56.9%	65.3%	48.8%
Predominant BF	17.4%	26.1%	20.7%	20.9%
Partial BF	11.3 %	11.1 %	10.4%	18.6%
Artificial feeding	3.6%	5.9%	3.6 %	11.6%

9. The study revealed that breastfed infants (exclusively or predominantly) compared to artificially and mix-fed infants had less episodes of acute respiratory illnesses.
10. A number of interviewed mothers reported that they got free infant formula from “HIPP” and “Semilac” companies, presents and discount coupons from “HIPP”, “Happy”, “Chicco”, etc. These marketing practices of manufacturers violate the International Code of Breastmilk Substitutes and harm infant and young child health.

### **Conclusion**

Thus, the result of the survey confirmed that implementation of baby-friendly initiatives in primary health care facilities, BFHI and BFPI, significantly improve the health care practices and promote optimal infant feeding, which is an essential intervention for achieving better nutritional status, health and development of infants.

### **REFERENCES**

1. Merten S., Dratva J., Ackerman-Liebrich U. Do baby-friendly hospitals influence breastfeeding duration on a national level? *Pediatrics*, 2005, 116: 702–708.
2. *UNICEF/WHO*. Baby-friendly Hospital Initiative, revised, updated and expanded for integrated care, Section 2. Strengthening and sustaining the baby-friendly hospital initiative: a course for decision-makers; Section 3. Breastfeeding promotion and support in a baby-friendly hospital: a 20-hour course for maternity staff. Geneva, World Health Organization, 2009.
3. *WHO*. Community-based strategies for breastfeeding promotion and support in developing countries. Geneva, World Health Organization, 2003.
4. *WHO*. Evidence on the long-term effects of breastfeeding: systematic reviews and meta-analyses. Geneva, World Health Organization, 2007.
5. *WHO*. Infant and young child feeding: Model chapter for textbooks for medical students and allied health professionals. World Health Organization, 2009.
6. *WHO*. The Global strategy for infant and young child feeding. Geneva, World Health Organization, 2002.
7. *WHO*. The international code of marketing of breast-milk substitutes. Geneva, World Health Organization, 1981
8. *WHO, UNICEF*. Infant and young child feeding counselling: an integrated course. Geneva, World Health Organization, 2007.