Original Research

international lactation consultant association

Journal of Human Lactation
2020, Vol. 36(1) 175–186

DOI: 10.1177/0890334419848728
journals.sagepub.com/home/jhl
SAGE

Compliance of a Baby-Friendly Designated Hospital in Ghana With the WHO/UNICEF Baby and Mother-Friendly Care Practices

Faith Agbozo, RN, cPHN, MPhil[1,2], Doris Ocansey, RM, BPH[1], Prosper Atitto, BPH[1], and Albrecht Jahn, MD, PhD[2]

Abstract

Background: Although the Baby-Friendly Hospital Initiative has improved breastfeeding rates globally, weak monitoring still affects hospital-level implementation.

Research aim: To reassess compliance of a Baby-Friendly Hospital with the Ten Steps to Successful Breastfeeding, International Code of Marketing of Breast-milk Substitutes, HIV and Infant Feeding, and Mother-Friendly Care following the WHO/UNICEF global criteria.

Methods: In this cross-sectional, prospective, mixed-methods study ($N = 180$), clinical staff ($n = 60$), pregnant women ($n = 40$), postpartum mothers ($n = 60$), and mothers of babies in intensive care ($n = 20$) were randomly selected from one urban secondary-level public hospital in Ghana designated as Baby-Friendly in 2004 but never reassessed. Data were collected through interviews, document reviews, and observations using the revised WHO/UNICEF external reassessment tool and analyzed quantitatively using the Baby-Friendly Hospital Initiative computer tool. Scores higher than 80% signified a pass (high compliance). Scores rated as low ($< 50\%$) and moderate (50–80%) signified noncompliance.

Results: The facility passed the criteria for full compliance with the International Code (86%) but failed other components. Compliance with the Ten Steps was moderate (55%). Step 7 about rooming-in (84%) and Step 9 about human milk substitutes (100%) were passed, whereas Step 1 about written breastfeeding policies (0%), Step 2 about staff training (7%), and Step 4 about early breastfeeding initiation (31%) were met the least. Compliance with Mother-Friendly Care (34%) and HIV and Infant Feeding (47%) were low. Main implementation gaps were unavailability of policies and staff's inadequate knowledge about Baby-Friendly practices.

Conclusions: Improving staff training and maternal counseling, routinely reassessing designated facilities, and providing technical support in problematic areas might sustain implementation.

Background

Since the 1980s, the World Health Organization (WHO) and UNICEF have launched initiatives to promote child health and survival. Of note are the International Code of Marketing of Breast-milk Substitutes (WHO, 1981) and the Ten Steps to Successful Breastfeeding (WHO & UNICEF, 1989). Following the *Innocenti Declaration* (WHO & UNICEF, 1990), the Baby-Friendly Hospital Initiative (BFHI) was launched in 1991 to protect, promote, and support breastfeeding (WHO & UNICEF, 1992). The initiative seeks to provide every infant with the best start in life by improving maternity services that enhance care for pregnant women, mothers, and newborns; create environments that support breastfeeding as the norm; and strengthen implementation of the International Code (WHO & UNICEF, 1989, 2009).

In 1997, WHO and UNICEF operationalized a set of tools for all medical settings worldwide to use for measuring compliance as the global criteria needed to achieve each indicator (WHO, UNICEF, & Wellstart International, 1999). These tools were intended to be flexible and user-friendly prototypes adaptable to a country's needs. In 2006, they were updated and expanded for integrated Mother-Friendly Care and support for HIV-positive and nonbreastfeeding mothers (WHO & UNICEF, 2009). The original criteria recommended

[1]Department of Family and Community Health, School of Public Health, University of Health and Allied Sciences, Ho, Ghana
[2]Heidelberg Institute of Global Health, Medical Faculty and University Hospital, Heidelberg University, Germany

Date submitted: September 25, 2018; Date accepted: April 16, 2019.

Corresponding Author:
Faith Agbozo, RN, cPHN, MPhil, Department of Family and Community Health, School of Public Health, University of Health and Allied Sciences, PMB 31, Ho, Ghana.
Email: faagbozo@uhas.edu.gh

interviewing a maximum of 40 participants (WHO, UNICEF, & Wellstart International, 1999). In the revision, the recommendation was changed to 40 to 90 participants (10–30 staff, 10–20 pregnant women, 15–30 postpartum mothers, and 5–10 mothers with babies in special care) considering the hospital's size, services provided, interviewees available, time, cost, and capacity of assessors (WHO & UNICEF, 2009). The Ten Steps were revised in 2018 highlighting critical management procedures (Steps 1 and 2) and clinical practices (Steps 3–10) needed to sustain implementation (Supplementary Table 1). Step 2 about staff training now emphasizes competency building rather than following a specified curriculum, Step 8 emphasizes responsive rather than demand feeding, and Step 9 emphasizes counseling mothers on use and risks of teats and pacifiers rather than outright prohibition. The 2018 revision of the implementation guideline of the BFHI (WHO & UNICEF, 2018) upheld full compliance with the International Code and supported Mother-Friendly maternity care. With regard to HIV and Infant Feeding, the revision recommended that countries set their own context-specific guidelines (WHO & UNICEF, 2018).

Reassessments entail reevaluation of already designated Baby-Friendly Hospitals (BFHs) to determine continued adherence to the Baby-Friendly criteria (WHO, UNICEF, & Wellstart International, 1999). Reassessments foster involvement of hospital management and staff in planning to implement Baby-Friendly practices, identify problems, strategize to sustain or improve standards, and renew certifications (WHO & UNICEF, 2009). Although national authorities can decide on the frequency of assessment, WHO and UNICEF recommend triennial reassessments. When a facility does not pass, it could be asked to work on improvements needed and be tested again on those parts. Alternatively, a full reassessment may be scheduled depending on the extent of noncompliance. Of the 86% countries that have ever implemented the BFHI, 71% had an operational BFHI program as of 2017 (WHO, 2017). Twenty percent had more than half of their facilities ever designated as Baby-Friendly, but overall coverage of the BFHI (i.e., the percentage of births occurring in facilities that are designated or reassessed within the last 5 years) was only 10% (WHO, 2017). By 2005, 12% of maternity facilities nationwide were designated as BFH, which increased to 35% in 2015 (WHO & UNICEF, 2017). Increasing Baby-Friendly designation worldwide has contributed to better outcomes for early breastfeeding initiation and longer duration of exclusive breastfeeding globally (Pérez-Escamilla, Martinez, & Segura-Pérez, 2016; Victora et al., 2016; WHO & UNICEF, 2017).

In Ghana, the National Breastfeeding Authority established in 1991 heralded the launch of the BFHI in 1993 and the first BFH designation in 1995. Subsequently, a Legislative Instrument on Breastfeeding Promotion Regulation (LI 1667) was enacted in 2000 followed by a National Breastfeeding Policy in 2003. Reduction of early breastfeeding initiation rates from 52% (2008) to 46% (2011) and reductions in exclusive breastfeeding rates from 68% to 46% led to decentralization of the assessment process in 2014 (WHO & UNICEF, 2017). Except for one older study in which the researchers reassessed six urban BFHs, reporting 42% compliance with the Ten Steps and 54% compliance with the International Code (Aryeetey & Antwi, 2013), outcomes of reassessments have not been publicized.

Weak monitoring diminishes the quality of BFHI services, country-level implementation, and scale-up (Pérez-Escamilla et al., 2016). Reassessment offers opportunities to support staff to maintain BFHI practices, measure gains achieved, share best practices, and identify implementation gaps that need improvement (WHO, UNICEF, & Wellstart International, 1999; WHO & UNICEF, 2009). Becoming Baby-Friendly is a continuous process rather than a single event. The aim of this study was to reassess compliance of a BFH with the Ten Steps to Successful Breastfeeding, the International Code of Marketing of Breast-milk Substitutes, HIV and Infant Feeding, and Mother-Friendly Care following the WHO/UNICEF BFHI Global Criteria.

Key Messages

- Despite evidence that the Baby-Friendly Hospital Initiative improves breastfeeding rates and clear guidelines on reassessment of designated facilities, sustaining Baby-Friendly practices is challenging where monitoring systems are weak.
- In this reassessment conducted in one urban hospital in Ghana, the facility passed the International Code of Marketing of Breast-milk Substitutes but did not meet the criteria for full compliance with the Ten Steps to Successful Breastfeeding, HIV and Infant Feeding, and Mother-Friendly Labor and Birthing Care. Achievements were seen in rooming-in of mother–baby pairs; restriction of human milk substitutes, bottles, teats, and pacifiers; and advice on mother-to-child transmission of HIV.
- Key factors contributing to the low compliance were unavailability of written policies and training manuals, deficient knowledge of staff regarding Mother- and Baby-Friendly practices, and inadequate counseling of mothers.
- The 2018 revised Baby-Friendly Hospital Initiative is timely and supports regular monitoring and reassessment of designated facilities, building competencies of staff, and strengthening stakeholders' involvement.

Methods

Design

A prospective, cross-sectional, mixed design with multiple data sources (e.g., document reviews, observations, and interviews) was used. This cross-sectional approach using quantitative and qualitative methodology to obtain information from different categories of participants has been recommended to be used to monitor and reassess BFHs to determine whether they continue to adhere to the Ten Steps and other Baby-Friendly criteria (WHO & UNICEF, 2009). The protocol was approved by the Ghana Health Service (GHS) Ethics Review Committee (GHS-ERC: 01/04/15).

Setting

The study was conducted in a 294-bed capacity, state-owned general hospital located in an urban metropolitan hub in Ghana. The study facility serves a mix of urban, peri-urban slum, and rural dwellers who either are referred for specialist services or walk in for general services. The hospital has about 450 clinical staff in the medical, surgical, pediatric, obstetrics and gynecological, reproductive, and child health units. It provides 24-hr general and specialist services and records on average 500 deliveries per month. It provides comprehensive emergency obstetric and newborn care and receives referrals from adjoining facilities that serve rural, urban, and urban-slum dwellers. This hospital was selected because it was designated as a BFH by the GHS in 2004; it has not been reassessed against standard criteria that evaluate continued adherence to the BFHI. Participants were selected from the antenatal clinic; gynecological theater; labor, lying-in, and postdelivery wards; neonatal intensive care unit (NICU); and reproductive/child health clinic.

As the area is largely cosmopolitan, it has diverse sociocultural, economic, and ethnic characteristics typical of large urban cities in Ghana. Fishing and trading are the indigenous occupations, but the majority of inhabitants are industrial and corporate workers. Infant feeding practices in the area are slightly better than the national situation. Self-reported early breastfeeding initiation is 63% and exclusive breastfeeding is 66% (Asare, Preko, Baafi, & Dwumfour-Asare, 2018). At the national level, early breastfeeding initiation is 56% and exclusive breastfeeding is 52% (WHO & UNICEF, 2017). Maternal age, educational level, parity, and nutrition knowledge are key factors that affect breastfeeding (Agbozo, Colecraft, & Ellahi, 2016; Asare et al., 2018).

Sample

The target population was all staff who provided maternal and child health services in the study facility and the clients who received their services. A list of all staff was prepared with their duty times and duration of employment in their current duty stations. A random sample was drawn from the list of eligible staff by simple balloting. In the case of the pregnant women, a random sample was drawn from the list of pregnant women who registered for antenatal care (ANC) on study days. The postpartum mothers including those whose newborns were admitted to NICU were selected from the ward report.

Eligibility for the staff entailed caring for pregnant women, mothers, and babies for at least 6 months. Eligibility for the pregnant women was at least two ANC visits and the pregnancy in the third trimester. Eligibility for postpartum mothers was receiving ANC in the study facility, recording at least three ANC visits during the pregnancy, and delivering after 32 gestational weeks. Also, they should have been booked for discharge and received discharge counseling. Eligibility for NICU mothers was admission over 6 hr and infant in stable condition. Inclusion was irrespective of birth weight. However, postpartum mothers whose babies were unhealthy or preterm were excluded. We followed the WHO/UNICEF predefined criterion of a sample size of 90 for external reassessment of BFH (WHO & UNICEF, 2009). In light of the size of the hospital, the sample size was doubled. The participants ($N = 180$) included clinical staff ($n = 60$) comprised of midwives ($n = 30$), nurses ($n = 24$), health assistants ($n = 3$), orderlies ($n = 2$) and a physician ($n = 1$); postpartum mothers ($n = 60$); mothers with newborns in NICU ($n = 20$); and pregnant women ($n = 40$).

Measurement

Reassessment Tool. The UNICEF/WHO BFHI External Reassessment Tool developed in 2006 based on global Baby-Friendly key indicators was used without any modification (WHO & UNICEF, 2009). The assessment tool is subdivided into three main parts. The first and second parts are used for data collection, and the third part is used to transfer results, tally, and score. The structured questionnaires contain quantitative questions with categorical responses, and some open-ended qualitative probes, but no qualitative analysis is needed. The Ten Steps and HIV and Infant Feeding have ten indicators, the code has four indicators, and Mother-Friendly Care has six indicators. Synopsis of the tool is found in Supplementary Table 2, whereas Tables 1 through 4 provide the data sources from which each scoring criterion is calculated. Although the reassessment tool is used to assess knowledge, skills, practices, and support systems, it is structured based on the category of participant it is intended for, rather than the construct being measured.

The reassessment tools are standardized global criteria developed after wide consultations and multicountry field testing and are proven to be applicable in all maternity settings regardless of the simplicity or sophistication (WHO & UNICEF, 2009). Addition ways of ensuring reliability included parallel administration of the questionnaire by trained assessors using mixed data sources and checking consistency of the results obtained. Validity was ensured by

Table 1. Compliance With the 2006 WHO/UNICEF Updated Guidelines on International Code of Marketing of Breast-milk Substitutes.

Code	Data Source	Criteria	*n* (%)
Code 1	Review of written materials	Records/receipts indicate that any human milk substitutes, including formulas and other feeding supplies, are purchased by the healthcare facility for the wholesale price.	(100)
Code 2	Observations	The hospital complies with the International Code, with no materials that promote human milk substitutes, bottles, teats, or pacifiers displayed or distributed to pregnant women, mothers, and/or staff.	(100)
Code 3	Observations	Infant formula cans and prepared bottles are kept out of view.	(100)
Code 4	Interviews ($n = 60$) clinical staff	Clinical staff are able to give two reasons why it is important not to receive free formula samples from the infant formula companies to mothers.	26 (43.3)
Cumulative mean score		85.8% (high compliance)	

Note. Outcomes of document reviews and observations were scored as either 100 or 0% responding to "yes" and "no"; hence, Criteria 1–3 had no sample size (*n*). A score above 80% signified a pass and full compliance to the International Code.

collecting multiple data points for similar constructs, especially for practices prone to the Hawthorne effect, increasing the sample size, and drawing a random sample.

Data Collection

Data were collected during April and May 2015. After participants read the information sheet and their questions were clarified, they signed the consent form. For those unable to read, the study was fully disclosed in the presence of a witness and the participant thumb-printed the consent form.

Qualitative Data Collection. The first phase of the reassessment process involved discussion with the head of maternity, taking the maternal/newborn profile of the hospital, reviewing documents, and observing procedures in key areas. The document reviews and observations were scored based on adequacy, accuracy, and completeness. Possible scores ranged from zero to 100%.

Quantitative Data Collection. The second phase of the process involved face-to-face interviews to assess (a) knowledge (e.g., what is the most common cause of insufficient milk?); (b) skills (e.g., can you show me how you position your baby for breastfeeding?); (c) practices (e.g., how soon after birth was your baby given to you?); and (d) support systems (e.g., to whom do you refer mothers for help with milk expression?). On average, ten of these Phase 2 assessments were conducted per day interspaced with document reviews and observations.

Data Analysis

Results were entered into the WHO/UNICEF BFHI computer tool (WHO & UNICEF, 2009), summarized, and scored. The data analyses software has the same format as the paper-based questionnaires, enabling transfer of results to the computer tool. The software automatically sorts and presents descriptive and graphic results and scores compliance based on the WHO/UNICEF global criteria. It has comment boxes to note achievements and improvements needed and to make recommendations. All data were analyzed quantitatively and presented as descriptive statistics. Percentage scores were awarded for the document reviews ("yes" and "no"), observation of areas ("yes", "no," and "area does not exist"), observation of procedures (number of correct observations out of the total observations), and interviews (number of correct responses out of the total interviews). In the case of document reviews and observation of areas, a "yes" (equivalent to 100%) was awarded when a policy was available and "no" (equivalent to 0%) when it was unavailable. Percentage scores for each criterion were summed, and the average was taken to estimate the total compliance. The global standards require a minimum of 80% compliance for almost all indicators; therefore, a cumulative average score above 80% signified a pass. To determine the extent of the BFHI implementation, compliance was classified as low ($< 50\%$), moderate (50–80%), and high ($> 80\%$) (Spaeth, Zemp, Merten, & Dratva, 2018; WHO & UNICEF, 2009).

Results

Characteristics of the Hospital

The number of full-term infants discharged during the year preceding the study (2014) was 7,029, of whom 97.1% ($n = 6{,}825$) were exclusively breastfed from birth to discharge. The remaining infants had medical indications for receiving nonhuman milk feeding, predominantly commercial infant formula. From our observation results, no breastfeeding policies were displayed, and the hospital did not have adequate equipment to demonstrate how to prepare replacement feeds for HIV-exposed infants who do receive human milk substitutes.

Compliance to the BFHI

Overall, the facility did not pass the reassessment. The average score was 55.2%, signifying moderate compliance (Figure 1).

Table 2. Compliance With Individual Components of the 2006 WHO/UNICEF Updated Guidelines on the Ten Steps to Successful Breastfeeding.

Step	Data Source	Criteria	*n* (%)[a,b]	Score/Step, %[c]
Step 1	Review of policies[a]	1.1 The hospital has a written policy on breastfeeding and infant feeding.	0	0
		1.2 The policy adequately covers all of the Ten Steps to Successful Breastfeeding.	0	
		1.3 The policy upholds the International Code of Marketing of Breast-milk Substitutes.	0	
		1.4 The policy requires counseling of HIV-positive mothers.	0	
		1.5 Summary of the policy is displayed at vantage points within the facility.	0	
		1.6 The policy is provided in languages and wording understood by both mothers and staff.	0	
Step 2	Review of training curriculum[a]	2.1 Written curriculum for training in breastfeeding promotion is available.	0	7.3
		2.2 All Ten Steps and the International Code are covered in the curriculum.	0	
		2.3 80% of appropriate staff receive training ≥20 hr.	0	
		2.4 80% receive at least 3 hr of supervised clinical experience.	0	
		2.5 Curriculum incudes training on supporting nonbreastfeeding mothers.	0	
		2.6 Curriculum covers topics on supporting nonbreastfeeding mothers.	0	
		2.7 Staff training on supporting nonbreastfeeding mothers is adequate.	0	
	Clinical staff[b] ($n = 60$)	2.8 Trained on Baby-Friendly practices at least for 20 hr.	8 (13.3)	
		2.9 Could answer questions on breastfeeding support and promotion correctly.	32 (53.3)	
		2.10 Could describe at least two issues to discuss if replacement feeding is intended.	4 (6.7)	
Step 3	Pregnant women[b] ($n = 40$)	3.1 Informed on breastfeeding as part of their antenatal care.	38 (95.0)	67.5
		3.2 Could recall at least two of the three topics discussed.	16 (40.0)	
Step 4		4.2 Given their babies within 5 minutes or when responsive after birth.	36 (60.0)	30.9
		4.3 Provided skin-to-skin contact for ≥60 minutes after birth.	2 (3.3)	
		4.4 Encouraged to look for signs that their babies were ready to breastfeed.	6 (10.3)	
	NICU mothers[b] ($n = 20$)	4.5 Held their babies skin-to-skin or, if not, staff gave justifiable reasons.	10 (50.0)	
Step 5	Observation[a]	5.1 Staff were observed demonstrating how to prepare and feed substitutes.	0	37.5
	Clinical staff[b] ($n = 60$)	5.2 Reported teaching mothers on positioning and breast attachment.	52 (86.7)	
		5.3 Taught mothers hand expression of milk and gave descriptions on it.	28 (46.7)	
		5.4 If mothers were not breastfeeding, staff taught such mothers how to prepare their feeds.	50 (83.3)	
	Postpartum mothers[b] ($n = 60$)	5.5 If the mother was breastfeeding, staff helped mother when baby was fed or within 6 hr of delivery.	16 (26.9)	
		5.6 Breastfeeding mothers able to demonstrate correct positioning and attachment.	5 (8.0)	
		5.7 If the mother was breastfeeding, staff demonstrated milk expression by hand.	32 (53.8)	
		5.8 If mothers were not breastfeeding, staff showed them how to prepare and give their babies' feeds.	—[d]	
		5.9 If not breastfeeding, mother was asked to prepare a feed with staff member watching.	—[d]	
	Mothers of babies in NICU[b] ($n = 20$)	5.10 Helped with milk flow and keeping up supply within 6 hr of delivery.	2 (10.0)	
		5.11 Shown how to express milk by hand.	8 (40.0)	
		5.12 Able to demonstrate how they expressed their milk by hand.	2 (10.0)	
		5.13 Informed to breastfeed or express milk more than 6 times in 24 hr.	2 (10.0)	

(continued)

Table 2. (continued)

Step	Data Source	Criteria	*n* (%)[a,b]	Score/Step, %[c]
Step 6	Medical records[a]	6.1 ≥75% full-term babies born the past year exclusively breastfed from birth to discharge.	100	72.5
	Observations[a]	6.2 Hospital has adequate facility to demonstrate how to prepare formula feeds.	0	
		6.3 All babies were fed only human milk unless justified to receive something else.	60 (100)	
	Mothers[b] ($n = 60$)	6.4 If a mother decided not to breastfeed, staff discussed other feeding options.[d]	—	
		6.5 Breastfeeding mothers reported that their babies received only human milk.	54 (90)	
	NICU mothers[b] ($n = 20$)	6.6 If planning not to breastfeed, mothers were told the risks and benefits of feeding options.[d]	—	
Step 7	Observation[a]	7.1 Mothers had their babies with them or, if not, separation was justified.	60 (90.0)	84.2
	Mothers[b] ($n = 60$)	7.2 Proportion of postpartum mothers who stayed with their babies since delivery.	47 (78.3)	
Step 8	Mothers[b] ($n = 60$)	8.1 Could describe at least two things informed on how to recognize a hungry baby.	26 (43.3)	65.2
		8.2 Advised to feed their babies as often and as long as baby wanted.	52 (87.0)	
Step 9	Observation[a]	9.1 Observations showed that breastfed babies were being fed without using bottles and teats.	60 (100)	100
	Mothers[b] ($n = 60$)	9.2 Mothers reported that their breastfed babies were not fed any fluids in bottles with teats.	60 (100)	
		9.3 Proportion of mothers who reported that their babies had not sucked on pacifiers.	60 (100)	
Step 10	Mothers[b] ($n = 60$)	10.1 Proportion of postpartum mothers informed on how and where to get help with feeding their babies after return home and could mention at least one type of help available.	45 (75.0)	75.0
Cumulative mean score		54.5 (moderate compliance)		

Note. HIV = human immunodeficiency virus; NICU = neonatal intensive care unit.
[a]Outcome of document reviews were scored and reported as either 100 or 0% responding to "yes" when a document was available or "no" when no document could be provided, and hence most of Steps 1 and 2 did not have a sample size (*n*).
[b]Outcome of the interviews were reported as frequency and percentage, n (%).
[c]A score above 80% signified a pass and complete compliance to the criteria.
[d]At the time of data collection, all the mothers were breastfeeding, and none had the intention of not breastfeeding.

Table 3. Compliance With the 2006 WHO/UNICEF Policy on HIV and Infant Feeding.

	Data Source	Criteria	*n* (%)	Score per Criteria. %[c]
HIV 1	Review of written training materials	A written curriculum for training on HIV and infant feeding is available.	0	0
HIV 2		2.1 Training covers prevention of HIV transmission during pregnancy, labor, and breastfeeding.	0	0
		2.2 Covers importance of testing and counseling for HIV.	0	0
		2.3 Covers local availability of feeding options.	0	0
		2.4 Covers counseling HIV-positive women on the pros and cons of different feeding options.	0	
		2.5 Covers assisting HIV-positive mothers who have decided to formula feed to prepare and give such feeds.	0	
		2.6 Covers assisting HIV-positive mothers who have decided to breastfeed.	0	
		2.7 Covers the dangers of mixed feeding.	0	
		2.8 Covers minimizing the likelihood that a mother whose status is unknown or HIV negative will be influenced to replacement feed.	0	
HIV 3		The training is sufficient, given percentage of HIV-positive women served and the staff needed to provide support related to HIV and infant feeding.	0	0
HIV 4	Interviews with clinical staff ($n = 60$)	Clinical staff who could describe at least one measure that can be taken to maintain confidentiality and privacy of pregnant women and mothers who are HIV positive.	60 (100)	100
HIV 5		Clinical staff who could mention at least two measures that help prevent transmission of HIV from an HIV-positive mother to her infant during feeding within the first 6 months.	20 (33.3)	33.3
HIV 6		Clinical staff who could describe at least two issues that should be discussed when counseling an HIV-positive mother who is deciding how to feed her baby.	10 (16.7)	16.7
HIV 7	Interviews with pregnant women ($n = 40$)	Pregnant women whom staff reportedly talked with about HIV/AIDS and pregnancy.	34 (85.0)	85.0
HIV 8		Pregnant women informed about how an HIV-positive woman can pass the infection to her baby.	29 (73.0)	73.0
HIV 9		Pregnant women who could describe at least one thing the staff told them about why testing and counseling for HIV are important for pregnant women.	18 (45.0)	45.0
HIV 10		Pregnant women who could describe at least one thing an HIV-positive mother needs to consider when deciding how to feed her baby.	8 (20.0)	20.0
Cumulative mean score			46.6 (low compliance)	

Note. HIV/AIDS = human immunodeficiency virus and acquired immune deficiency syndrome. Outcomes of document reviews were scored and reported as either 100 or 0% responding to "yes" when a document was available or "no" when no document could be provided, and hence Criteria 1-3 had no sample size (*n*). Outcomes of the interviews were reported as frequency and percentage, *n* (%). A score above 80% signified a pass and complete compliance to the criteria. HIV Criteria 2 and 3 were excluded from the cumulative score as they are follow-up criteria to criterion 1. Data sources for Criteria 1–3 are from review of training materials on HIV and infant feeding; Criteria 4–6 are from interviews with 60 clinical staff; and Criteria 7–10 are from interviews with 40 pregnant women.

Table 4. Compliance With the 2006 WHO/UNICEF Policy on Mother-Friendly Labor and Birthing Care.

	Data Source	Criteria	*n* (%)	Score per Criteria, %
MF 1	Review of written labor and childbirth policies	Written hospital policies require Mother- and Baby-Friendly practices that encourage having constant companions of choice to provide physical and/or emotional support during labor and birth.	0	0
		Allowing women to drink and eat light foods during labor, if desired.	0	
		Encouraging women to consider the use of nondrug methods of pain relief.	0	
		Encouraging women to move about during labor and assume positions of their choice while giving birth, unless a restriction is required.	0	
		Care that does not involve invasive procedures, unless specifically required for a complication and the reason is explained to the mother.	0	
MF 2	Interviews with clinical staff ($n = 60$)	Clinical staff able to describe at least two recommended practices that can help a mother be more comfortable and in control during labor and birth.	20 (33.3)	33.3
MF 3		Clinical staff able to list at least three labor and birthing procedures that should not be used routinely but only if required due to complications.	16 (26.7)	26.7
MF 4		Clinical staff able to describe at least two labor and birthing practices that make it more likely that breastfeeding will get off to a good start.	8 (13.3)	13.3
MF 5	Interviews with pregnant women ($n = 40$)	Pregnant women who were told they could have companions of their choice with them throughout labor and birth and were given at least one reason why it might be helpful.	24 (60.0)	60.0
MF 6		Pregnant women able to describe at least one piece of information that staff gave about ways to deal with pain and be more comfortable during labor and what is better for mothers, babies, and breastfeeding.	28 (70.0)	70.0
Cumulative mean score			33.9 (low compliance)	

Note. MF = Mother-Friendly Labor and Birthing Care Practices. Outcomes of document reviews and observations were scored and reported as either 100% or 0% responding to "yes" when a document was available or "no" when no document could be provided. and hence Criteria 1 had no sample size (*n*). Outcome of the interviews were reported as frequency and percentage, *n* (%). A score above 80% signified a pass and full compliance to the criteria.

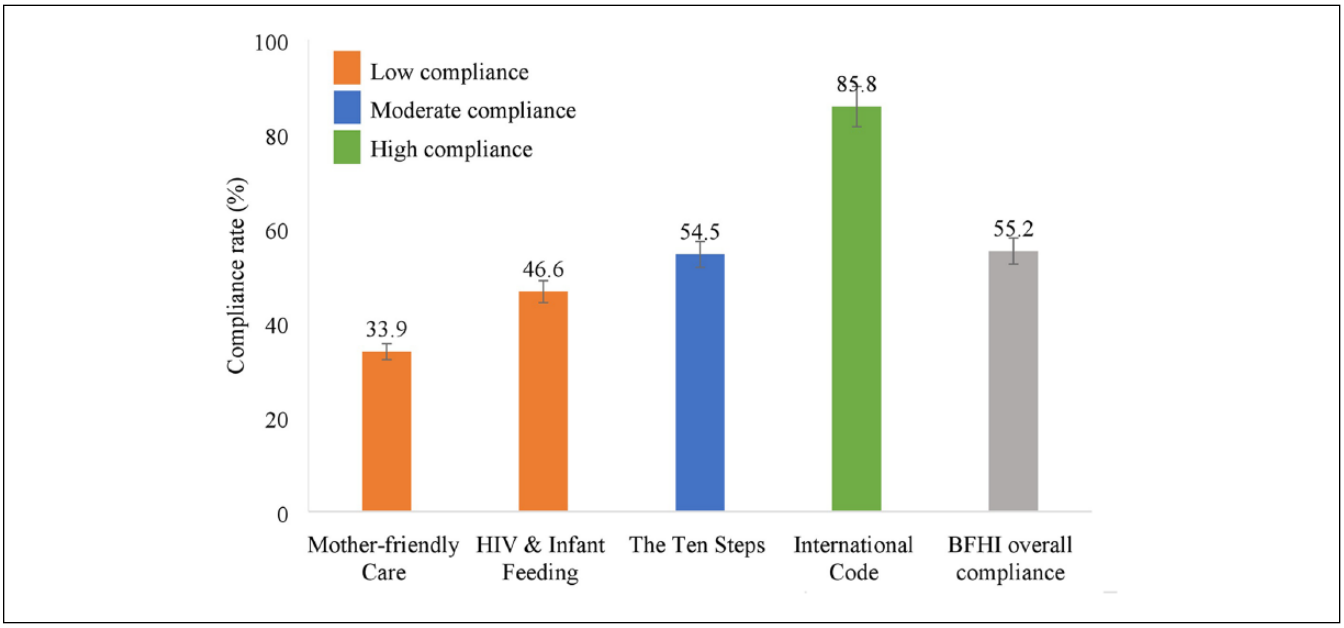

Figure 1. Overall Compliance to the Baby-Friendly Hospital Initiative and the Four Policy Components.

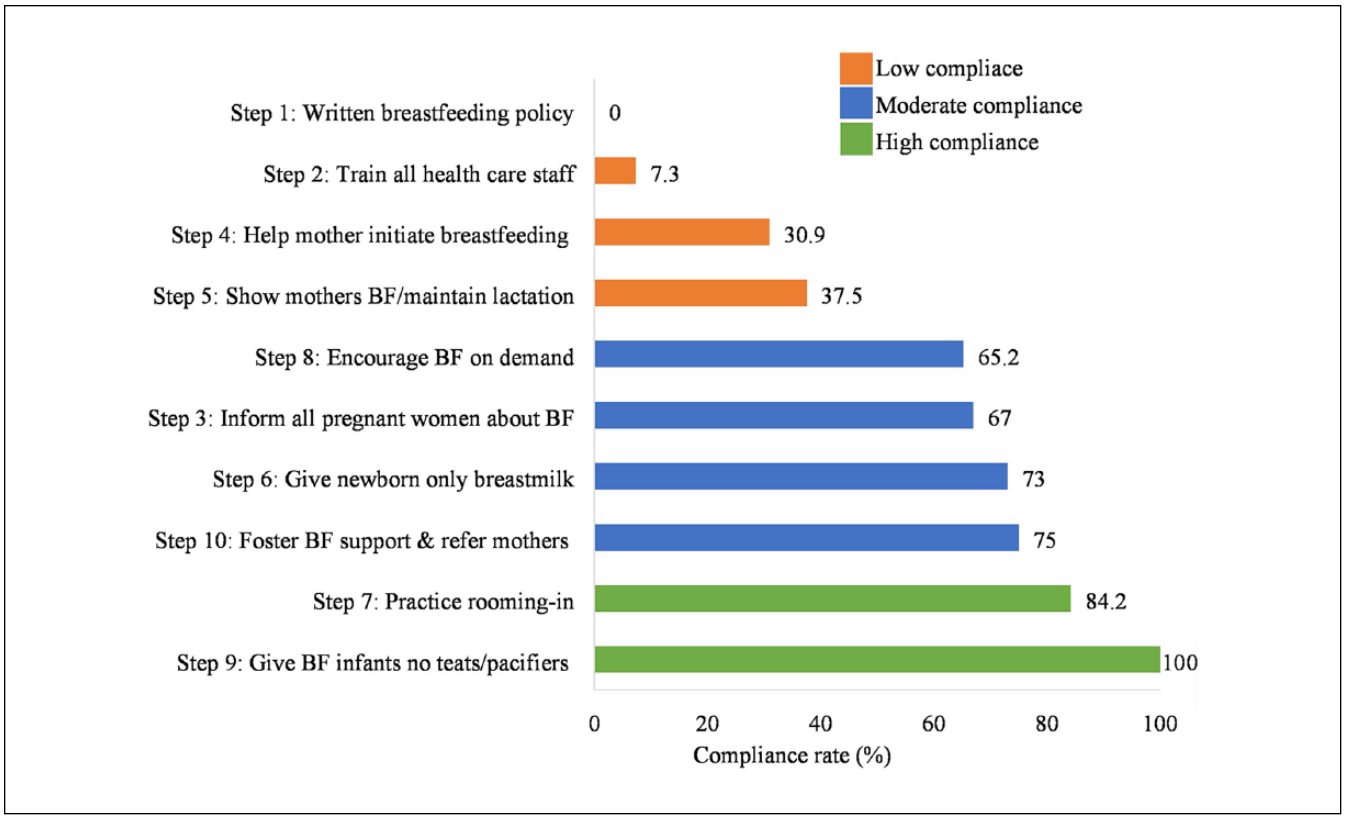

Figure 2. Compliance With the Ten Steps to Successful Breastfeeding (BF).

The International Code

The facility passed the criteria for full compliance with the International Code (Table 1). Although infant formula was used, mothers were responsible for purchasing it. Code Items 2 and 3 relating to keeping human milk substitutes out of view and avoiding their distribution to mothers and staff was fully adhered. However, Code Item 4, relating to knowledge of clinical staff about why it is important not to receive free formula samples, was unmet.

The Ten Steps to Successful Breastfeeding

Step 7 (rooming-in) and Step 9 (human milk substitutes) were fully met. Step 1 (written policies), Step 2 (staff training), Step 4 (early breastfeeding initiation), and Step 5 (breastfeeding support) were the least met. The rest of the steps were moderately met (Figure 2). Compliance with the Ten Steps was 54.5%, signifying a fail. The scoring criterion for each step is presented in Table 2.

HIV and Infant Feeding

In the previous year, 77.5% of pregnant women received testing and counseling for HIV, and 3.2% were known to be HIV-positive at the time of the babies' births. At the time of the study, all the postpartum mothers were exclusively breastfeeding their infants irrespective of their HIV status. The facility did not pass the HIV and Infant Feeding criteria mainly due to unavailability of policies and staff's poor knowledge about procedures that minimize mother-to-child transmission of HIV (Table 3).

Mother-Friendly Labor and Birthing Care

In the preceding year, total births in the hospital were 7,341, and 25.9% ($n = 1{,}901$) were by cesarean section. The facility did not pass the Mother-Friendly criteria primarily because there were no written policies and very few staff knew the practices that increased likelihood of breastfeeding getting off to a good start (Table 4).

Discussion

In this reassessment of a BFH, we noted a high compliance with the International Code, unlike the 54% reported in Ghana (Aryeetey & Antwi, 2013). Widespread violations ranging from persuasion by health workers to use formula, display of promotional materials, receipt of gifts, incentives and free supplies from formula companies, and direct marketing and advertising of formula have been reported in both low- and middle-income countries (Barennes, Slesak, Goyet,

Aaron, & Srour, 2016; Hawkins, Stern, Baum, & Gillman, 2015; Hidayana, Februhartanty, & Parady, 2017). Receiving gifts from formula companies is not uncommon in the United States (28%) but often occurs (67%) in nondesignated facilities (Hawkins et al., 2015). Strong political commitment exemplified by the Legislative Instrument on Breastfeeding Promotion, a National Breastfeeding Policy, and stricter regulation through the National Breastfeeding Authority might have contributed to the higher code compliance we found. However, inability of staff to explain why gifts from formula companies should be avoided could derail efforts. While enforcement of the code is vital, healthcare professionals need to understand the rationale for the code so that they are pivotal in the implementation and better equipped to support mothers and families who might be at risk of falling prey to the enticements of formula companies.

The hospital scored better on the Ten Steps compared with a 42% score in an earlier reassessment in Ghana (Aryeetey & Antwi, 2013). Incidentally, Step 1 (written breastfeeding policy) and Step 2 (staff training), which are the critical management procedures (WHO & UNICEF, 2018), had the least adherence in both studies but they have been excluded from studies elsewhere (Hawkins et al., 2015; Spaeth et al., 2018). Because BFHI guidelines are developed at the national level in Ghana, nonautonomy of BFHs inhibits its proactive implementation and is compounded by poor succession plans and record keeping. This adds to the loss of information when management changes. Adopting national Baby-Friendly policies as hospital-level standards could enhance dissemination of the policy. Another major implementation gap is training. Inadequate counseling affects mothers' ability to sustain breastfeeding post discharge (Miller, Louis-Jacques, Deubel, & Hernandez, 2018; Zakarija-Grković, Boban, Janković, Ćuže, & Burmaz, 2018). It is hard to achieve the recommended 20 hr training in Ghana due to high staff turnover, role transfers, and funding constraints (WHO & UNICEF, 2017). Unlike the few clinical staff who received the 20 hr of training in our study, none received the requisite training in the six hospitals reassessed by Aryeetey and Antwi (2013). The 2018 revision of the BFHI criteria focuses on practical competencies (WHO & UNICEF, 2018) necessitating flexible and less time-consuming training. Continuing education through electronic and modular platforms, train-the-trainer, on-the-job and in-house refresher, and integration with preservice curricula could be more efficient.

Step 4 on early breastfeeding initiation is problematic in both low-income (Oakley, Benova, Macleod, Lynch, & Campbell, 2018) and high-income settings. This step recorded the least compliance in Switzerland (Spaeth et al., 2018) and the United States (Hawkins et al., 2015). Lower rates were observed in Aryeetey and Antwi's study (2013) and our study compared with the approximately 50% of mothers who initiate breastfeeding within an hour of birth in Ghana (Agbozo et al., 2016; WHO & UNICEF, 2018). Aside from the surge in cesarean births, overcrowding and insufficient equipment in most delivery suites in Ghana compel staff to quickly tidy newly delivered mothers to make room for the next, thereby delaying early breastfeeding. But Step 4 is a composite score (Table 1). It is possible that researchers used self-reported information and did not measure all the criteria. We noted achievements in Step 6 (give only human milk), Step 7 (room-in), Step 9 (restrict pacifiers), and Step 10 (provide support systems), which high-income countries have struggled with (Hawkins et al., 2015; Spaeth et al., 2018). These achievements are not surprising because these steps are related to implementation of the code, which we found to be high.

BFHI has a positive influence on breastfeeding outcomes (Pérez-Escamilla et al., 2016; Spaeth et al., 2018), but in some studies, designated and nondesignated facilities had no significant differences in their Baby-Friendly practices (Hawkins et al., 2015; Yotebieng et al., 2015). External reassessment facilitates technical assistance, corrects inappropriate practices, and ensures quality (WHO & UNICEF, 2009). BFHs are required to develop their own monitoring mechanisms (WHO & UNICEF, 2009), but this has brought about diversities in assessment procedures, thereby hindering comparison of standards across BFHs. Ghana has integrated the BFHI into its national nutrition policy but faces challenges with human and financial resources, poor coordination, insufficient institutional frameworks, and centralized assessment processes (WHO & UNICEF, 2017). Improving implementation requires providing technical support for problematic areas; engaging civil societies and families; reinforcing Baby-Friendly messages at all maternal and child health service-delivery points; and incorporating monitoring and external reassessment into quality improvement strategies. It also requires tailoring Baby-Friendly recommendations to suit sociocultural contexts, recognizing compliant facilities, and sanctioning persistently noncompliant facilities. Where management is vertical, national guidelines could be adopted by all BFHs.

Concerning HIV and Infant Feeding, the recommendation in Ghana is for HIV-infected mothers to receive antiretroviral therapy, exclusively breastfeed their infants for the first 6 months of life, introduce appropriate complementary foods thereafter, and continue breastfeeding for up to 12 months. Breastfeeding is stopped only when nutritionally adequate diet can be provided (Ghana Ministry of Health, 2014). Counseling on alternative infant feeding options and the implications of mixed feeding is also crucial. In Ghana, adult HIV incidence is 0.07%, prevalence among pregnant women is 2.1%, and mother-to-child transmission of HIV is 5% (Ghana AIDS Commission, 2017). The majority of the pregnant women and postpartum mothers who participated in our study received information about mother-to-child transmission of HIV, but only 17% of staff knew the key issues to discuss with HIV-positive mothers regarding infant feeding options. This raises

concerns about the content of the counseling on HIV and Infant Feeding given to mothers and partly explains why HIV-positive mothers exclusively breastfeed their infants for shorter duration than HIV-negative mothers (139 vs. 163 days, $p = .04$) (Marquis et al., 2016). Economic and sociocultural barriers make exclusive replacement feeding health-threatening. HIV-positive mothers face fear and indecision when deciding how to feed their infants. They are often chastised when seen breastfeeding on the premise of "deliberately" transmitting the infection to the infants (Acheampong, Naab, & Kwashie, 2018). Yet healthcare workers lack the knowledge and skills to choose appropriate approaches for counseling mothers on HIV and Infant Feeding (Shayo, Våga, Moland, Kamuzora, & Blystad, 2014). Support from trained HIV counselors makes the decision-making and infant feeding process less stressful (Acheampong et al., 2018), reiterating the importance of competency building and strengthening support systems for HIV-positive mothers, especially in communities that share common ties (Shayo et al., 2014).

Unlike the other BFHI components, Mother-Friendly Care has not received much attention despite its proven impact on quality of care, physical and psychological health of mothers, and breastfeeding initiation (WHO & UNICEF, 2018). With the slow progress in reducing maternal/neonatal mortality in Ghana and few staff in our study aware of the birthing practices that increase likelihood of breastfeeding getting off to a good start, building capacity to provide standardized evidence-base maternal healthcare is crucial. Improving quality implementation of the Mother-Friendly Initiative requires interprofessional teamwork, effective collaboration, staff training on labor and birthing practices, integration of Baby-Friendly practices into all maternity care, and stepwise implementation of challenging areas (International Confederation of Midwives, White Ribbon Alliance, International Pediatric Association, & WHO, 2015).

Limitations

The original tools used for the first assessment of the hospital did not include HIV and Infant Feeding and Mother-Friendly Care components. Because results of the first assessment of the hospital were unavailable, a nondesignated facility could have served as control. Staff could have altered their behaviors and given responses that might not necessarily reflect their routine practices, but this possibility was minimized by verifying responses from diverse data sources. The study was conducted in an urban secondary hospital. Therefore, findings and conclusions are not applicable to tertiary and primary facilities, do not represent the rural–urban differences in Ghana, and are not generalizable to BFHs in Ghana. Practices of nonbreastfeeding mothers could not be assessed because during the time of the study, all the postpartum mothers were breastfeeding.

Further research is needed to test different training modalities for clinical staff on the BFHI that would be trainee friendly, cost-effective, and sustainable and would improve Baby-Friendly outcomes. Knowing the factors that influence hospitals and maternity homes to seek assessment or reassessment would guide the provision of tailored technical support.

Conclusion

The hospital passed the criteria for full compliance with the International Code of Marketing of Breast-milk Substitutes but did not meet the criteria for the Ten Steps to Successful Breastfeeding, HIV and Infant Feeding, and Mother-Friendly Care initiatives. Sustaining BFHI implementation requires monitoring and systematic reassessment of designated hospitals. Innovative staff training that focuses on strengthening competencies, integrating reassessment into quality improvement systems, and reinforcing Baby-Friendly messages could improve hospital practices.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Supplemental Material

Supplemental Material may be found in the "Supplemental material" tab in the online version of this article.

ORCID iD

Faith Agbozo https://orcid.org/0000-0001-7707-5658

References

Acheampong, A. K., Naab, F., & Kwashie, A. (2018). The voices that influence HIV-positive mothers' breastfeeding practices in an urban, Ghanaian society. *Journal of Human Lactation*, *34*(1), 176–183.

Agbozo, F., Colecraft, E., & Ellahi, B. (2016). Impact of type of child growth intervention program on caregivers' child feeding knowledge and practices: A comparative study in Ga West Municipality, Ghana. *Food Science & Nutrition*, *4*(4), 562–572.

Aryeetey, R., & Antwi, C. L. (2013). Re-assessment of selected Baby-Friendly maternity facilities in Accra, Ghana. *International Breastfeeding Journal*, *8*(1), 15.

Asare, B. Y.-A., Preko, J. V., Baafi, D., & Dwumfour-Asare, B. (2018). Breastfeeding practices and determinants of exclusive breastfeeding in a cross-sectional study at a child welfare clinic in Tema Manhean, Ghana. *International Breastfeeding Journal*, *13*(1), 12. doi:10.1186/s13006-018-0156-y

Barennes, H., Slesak, G., Goyet, S., Aaron, P., & Srour, L. M. (2016). Enforcing the International Code of Marketing of Breast-milk

Substitutes for better promotion of exclusive breastfeeding: Can lessons be learned? *Journal of Human Lactation*, *32*(1), 20–27. doi:10.1177/0890334415607816

Ghana AIDS Commission. (2017). *National and sub-national HIV and AIDS estimates and projections 2017 report*. Retrieved from http://www.ghanaids.gov.gh/gac1/pubs/2017-2022_national_and_sub%20national_Estimates_Report.pdf

Ghana Ministry of Health. (2014). *National guidelines for prevention of mother to child transmission of HIV*. Retrieved from https://aidsfree.usaid.gov/sites/default/files/tx_ghana_pmtct_2014.pdf

Hawkins, S. S., Stern, A. D., Baum, C. F., & Gillman, M. W. (2015). Evaluating the impact of the Baby-Friendly Hospital Initiative on breast-feeding rates: A multi-state analysis. *Public Health Nutrition*, *18*(2), 189–197.

Hidayana, I., Februhartanty, J., & Parady, V. A. (2017). Violations of the International Code of Marketing of Breast-milk Substitutes: Indonesia context. *Public Health Nutrition*, *20*(1), 165–173. doi:10.1017/S1368980016001567

International Confederation of Midwives, White Ribbon Alliance, International Pediatric Association, & WHO. (2015). Mother−baby friendly birthing facilities. *International Journal of Gynecology & Obstetrics*, *128*(2), 95–99.

Marquis, G. S., Lartey, A., Perez-Escamilla, R., Mazur, R. E., Brakohiapa, L., & Birks, K. A. (2016). Factors are not the same for risk of stopping exclusive breast-feeding and introducing different types of liquids and solids in HIV-affected communities in Ghana. *British Journal of Nutrition*, *116*(1), 115–125. doi:10.1017/S0007114516001707

Miller, E. M., Louis-Jacques, A. F., Deubel, T. F., & Hernandez, I. (2018). One step for a hospital, ten steps for women: African American women's experiences in a newly accredited baby-friendly hospital. *Journal of Human Lactation*, *34*(1), 184–191.

Oakley, L., Benova, L., Macleod, D., Lynch, C. A., & Campbell, O. M. (2018). Early breastfeeding practices: Descriptive analysis of recent demographic and health surveys. *Maternal & Child Nutrition*, *14*(2), e12535. doi:10.1111/mcn.12535

Pérez-Escamilla, R., Martinez, J. L., & Segura-Pérez, S. (2016). Impact of the Baby-friendly Hospital Initiative on breastfeeding and child health outcomes: A systematic review. *Maternal & Child Nutrition*, *12*(3), 402–417.

Shayo, E. H., Våga, B. B., Moland, K. M., Kamuzora, P., & Blystad, A. (2014). Challenges of disseminating clinical practice guidelines in a weak health system: The case of HIV and infant feeding recommendations in Tanzania. *International Breastfeeding Journal*, *9*(1), 188. doi:10.1186/s13006-014-0024-3

Spaeth, A., Zemp, E., Merten, S., & Dratva, J. (2018). Baby-Friendly Hospital designation has a sustained impact on continued breastfeeding. *Maternal & Child Nutrition*, *14*(1), e12497.

Victora, C. G., Bahl, R., Barros, A. J., França, G. V., Horton, S., Krasevec, J., . . . Rollins, N. C. (2016). Breastfeeding in the 21st century: Epidemiology, mechanisms, and lifelong effect. *The Lancet*, *387*(10017), 475–490.

WHO. (1981). *International Code of Marketing of BreastMilk Substitutes*. Retrieved from https://www.who.int/nutrition/publications/code_english.pdf

WHO & UNICEF. (1989). *Protecting, promoting and supporting breastfeeding: The special role of maternity services. A joint WHO/UNICEF statement*. Retrieved from https://apps.who.int/iris/bitstream/handle/10665/39679/9241561300.pdf?sequence=1

WHO & UNICEF. (1990). *Innocenti declaration on the protection, promotion and support of breastfeeding*. Retrieved from http://worldbreastfeedingweek.org/2018/wp-content/uploads/2018/07/1990-Innocenti-Declaration.pdf

WHO & UNICEF. (1992). *Baby Friendly Hospital Initiative part II. Hospital level implementation*. Geneva: World Health Organization.

WHO & UNICEF. (2009). *Baby-Friendly Hospital Initiative. Revised, updated and expanded for integrated care. Section 5, external assessment and reassessment*. Geneva: World Health Organization.

WHO. (2017). *National implementation of the Baby-friendly Hospital Initiative*. Retrieved from https://apps.who.int/iris/bitstream/handle/10665/255197/9789241512381-eng.pdf?sequence=1

WHO & UNICEF. (2017). *Country experiences with the Baby-Friendly Hospital Initiative: Compendium of case studies of the Baby-Friendly Hospital Initiative*. Retrieved from https://www.unicef.org/nutrition/files/BFHI_Case_Studies_FINAL.pdf

WHO & UNICEF. (2018). *Protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services: The revised Baby-Friendly Hospital Initiative*. Retrieved from https://www.who.int/nutrition/publications/infantfeeding/bfhi-implementation-2018.pdf

WHO, UNICEF, & Wellstart International. (1999). *The Baby-Friendly Hospital Initiative. Monitoring and reassessment: Tools to sustain progress*. Retrieved from http://apps.who.int/iris/bitstream/handle/10665/65380/WHO_NHD_99.2_(sectionI-II).pdf?sequence=1

Yotebieng, M., Labbok, M., Soeters, H. M., Chalachala, J. L., Lapika, B., Vitta, B. S., & Behets, F. (2015). Ten Steps to Successful Breastfeeding programme to promote early initiation and exclusive breastfeeding in DR Congo: A cluster-randomised controlled trial. *The Lancet Global Health*, *3*(9), e546–e555.

Zakarija-Grković, I., Boban, M., Janković, S., Ćuže, A., & Burmaz, T. (2018). Compliance with WHO/UNICEF BFHI standards in Croatia after implementation of the BFHI. *Journal of Human Lactation*, *34*(1), 106–115. doi:10.1177/0890334417703367