

## Satisfaction with code implementation and Baby-friendly practices in the Eastern Mediterranean region: Health professional perspectives from 15 countries

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### ABSTRACT

**Background:** The revised ten steps of the baby-friendly hospital initiative (BFHI) in 2018 require breastfeeding protection through the implementation of the International Code of Marketing of breast-milk substitutes (The Code). **Aim:** The aim of the study was to assess the satisfaction of staff with the implementation of the global criteria of the revised “Ten steps” of BFHI in 15 Eastern Mediterranean region (EMR) countries. **Methodology:** Professionals representing Member States who registered to an EMR-WHO webinar meeting on monitoring BFHI were involved in giving feedback about the extent to which their workplace abides by the global criteria, Ten Steps including the Code. Feedback was also obtained about the status of adherence to the global criteria of steps 2, 3, 4, 5, 6, and 9 using a rating scale (1–10). Countries were grouped into two groups: High income (HIC) and middle and low income (MIC and LIC). The results were statistically analyzed by country groups and by workplaces. **Findings:** 109 participants representing 15 countries responded. The respondents from HIC gave significantly higher satisfaction scores than MIC and LIC in relation to global criteria for the Code and steps 2, 3, 4, 5, 6, and 9 of the BFHI  $p < 0.05$ . There were significant correlations between all of the BFHI global criteria of the Code with staff training and competency skills, and some of the clinical practices included within the revised Ten Steps  $p < 0.05$  from hospitals but not in the community. There were also significant differences between public and private hospitals in code, 1<sup>st</sup> h skin-to-skin contact (step 4), and counseling on risks of bottles and pacifiers (step 9). **Conclusions:** In the EMR implementation of the revised Ten Steps of BFHI particularly the Code, Step 4 and Step 9 need strengthening through monitoring, using the updated indicators, and competency training modules devised by the WHO and UNICEF in 2020.

**Key words:** Baby-friendly hospitals, Breastfeeding, Monitoring, Private hospitals, Ten-steps, The code

The baby-friendly hospital initiative (BFHI) permits protection, promotion, and support of breastfeeding through the adoption of the “Ten steps” to successful initiation and continuation of breastfeeding. It was adopted in 1991 by UNICEF and WHO [1]. Increasing breastfeeding could prevent 823,000 annual deaths in children under five and 20,000 annual deaths from breast cancer [1]. In addition to saving the lives of children and women [2], BFHI promotes optimal child growth and development, lowers health-care costs [3] and bestows economic benefits to economies that adopt it in their health care policies. Investment of Member states (MS) in the improvement of breastfeeding practices would result in the US \$35 of economic return per dollar invested. While low breastfeeding rates result

in economic losses of about US \$302 billion annually, which represents 0.49% of the world’s gross national income [3].

However, the efforts of MS to promote breastfeeding through the BFHI are challenged by the opposing forces of marketing of breast-milk substitutes (BMS) of infant milk formula and other kinds of milks, drinks, foods, and feeding devices whose promotion interferes with mothers’ decisions and ability to continue breastfeeding. Hence, the aim of the International Code of Marketing of BMS released by the World Health Organization (WHO) is to protect breastfeeding [4]. The implementation of the Code has been included in Step 1 of the revised Ten Steps of the BFHI in 2018 [1]. However, many of the violations continue related to free supplies, gifts, and equipment to health facilities (HF) as well as engagement of concerning health workers (HW) and health systems [4,5].

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#### Quick Response code



MS in the Eastern Mediterranean region (EMR) of the World Health Organization (EMR-WHO) face many challenges to make their HF baby-friendly [6] despite the evidence proven benefits of breastfeeding to children and mother [7], yet the ongoing marketing challenge the implementation of the code in the EMR [9]. Other challenges include the rising rates of cesarean section delivery (CSD) which can delay the first breastfeed and interfere with breastfeeding continuation, the high rates of illiteracy, domestic violence, and lack of mother friendly (MF) practices that are examples of women disempowerment [10]. The study aimed to assess the satisfaction of the staff with the status of implementation of the revised Ten Steps for protecting and supporting breastfeeding in the EMR countries.

## METHODOLOGY

This was a cross-sectional observational study based on a selective group of professionals responsible for implementing nutritional and infant feeding programs in MS of the EMR. The survey was conducted through a Webinar virtual online meeting.

The material included training and reading material that was disseminated during the training program. Participants were exposed to training on the global criteria of revised ten steps of the BFHI [4] and the code of marketing of BMS. Evaluation questionnaires were designed to assess the degree to which the updated BFHI global criteria are implemented in the HF where the respondents work. The participant compiled simplified questionnaires that were collected by the internet and compiled into excel sheets for further analysis. The feedback from the respondents was received over the following 2 weeks after the end of the meeting.

### Data Collection

Invitations to attend the Webinar meeting were sent by email to the focal regional experts in nutrition and breastfeeding programs in the MS in the 22 countries of the EMR. The invitations targeted nutrition program officers and health professionals from HF maternity hospitals and primary health-care clinics (PHCCs). After receiving the training on the global criteria for the revised ten steps of WHO/UNICEF [4] they were requested to give feedback about the extent to which their health facility was implementing and abiding by the global criteria of BFHI. This included the code within the context of the revised “Ten steps” of the BFHI. The feedback focused on the global criteria of the code and of steps 2, 3, 4, 5, 6, and 9 of the Ten steps.

The Likert scale with ratings from 1 to 10 was used as it is preferable to use higher points in a scale with more educated people [11]. The purpose of the Likert is to assess attitudes; in this study, it was used to assess the attitudes of those working in a health facility or serving a community to the practice in question. The scale points from 1 to 10 were assigned as numbers for easier statistical analysis. Answers were assessed on the basis of 10 points with a range score from 1 to 10 where the lowest score 1 represent (negligible % far below 10%), score 2 represents (very low % <20%), score 3 represents (low % <30%), score 4 is (below

the average from 40% to 50%), score 5 represents ( the average which is 50%), score 6 is (above average from 50% to 60%), score 7 represents (acceptable % from 60% to 70%), score 8 represents (high% 70 up to 80%), score 9 represents (very high % 80–90%), and finally score 10 indicate (extremely high % 90% to 100%) [11].

### Study Sample

The study sample came from the EMR-WHO Webinar meeting on Monitoring of BFH. It was conducted by the Nutrition Unit in the EMR-WHO office from the October 4 to 8, 2020, using Zoom technology. The Webinar meeting aimed to strengthen their skills in monitoring of the revised global criteria of BFHI including the code of marketing BMS devised by WHO and UNICEF within the context of the COVID-19 pandemic [1]. They were representatives from the 15 MS who were working in the nutrition and infant feeding programs. They included a variety of medical directors, medical, nursing staff in maternity hospitals, nutritionists, primary healthcare workers, and community leaders in breastfeeding promotion and support.

### Respondents by Country

A total of 109 of the 118 who registered for the Webinar gave timely feedback through the Google forms. The respondents included 104 females and five males. They were categorized using the World Bank classification by income into high-income countries (HIC), middle-income countries (MIC), and low-income countries (LIC). The respondents from HIC (79) included: United Arab Emirates (37), Kuwait (16), Saudi Arabia (9), Qatar (8), Jordan (5), and Oman (4). Respondents from MIC (28) included: Egypt (17), Libya (3), Palestine (2), Syria (2), Bahrain (2), Morocco (1), and Lebanon (1). Respondents from LIC (2) included: Afghanistan (1) and Pakistan (1), and they were grouped with MIC.

### Respondents by Workplace

Around 92 out of the 109 accurately reported their workplace. The respondents included 40 from public hospitals distributed as follows: UAE (17), Egypt (8), Saudi Arabia (6), 4 (KW), Qatar (2), Afghanistan (1), Bahrain (1), and Qatar (1). Those working in private hospitals were (13) and came from Kuwait (11), Egypt (1), and UAE (1). Those representing PHCCs were (16) and came mostly from Oman (3), Egypt (6), UAE (5), Qatar (1), and Libya (1). Those representing the community, that is, community counselors in breastfeeding support were (23) and came from UAE (6), Egypt (4), Qatar (3), Saudi Arabia (3), Jordan (2), and one from each of Bahrain, Libya, Lebanon, Morocco, and Pakistan.

### The Global Criteria for the Code that was Assessed Included the Following

C.1. The health-care facility refuses free or low-cost supplies of BMS, purchasing them for the wholesale price or more. C.2. Promotion for BMS, bottles, teats, or pacifiers absent from the

facility, with no materials. C.3. Employees of manufacturers or distributors of BMS, bottles, teats, or pacifiers prohibited from any contact with pregnant women or mothers. C.4. The hospital refuses free gifts, non-scientific literature, materials or equipment, money or support for in-service education, or events from manufacturers or distributors of products within the scope of the Code. C.5. The hospital keeps infant formula cans, and pre-prepared bottles of formula out of view unless in use. C.6. The hospital refrains from giving pregnant women, mothers and their families any marketing materials, samples, or gift packs that include BMS, bottles/teats, pacifiers, or other equipment or coupons. C.7. The hospital makes staff members understand why it is important not to give any free samples or promotional materials from formula companies to breastfeeding mothers.

### The Global Criteria for the Selected Revised “Ten Steps”

Out of the Ten Steps the following steps were included: Step 2: Percent health professionals who report receiving competency assessments in breastfeeding in the previous 2 years. Step 3: Percent mothers of preterm and term infants who report receiving education about breastfeeding during their antenatal care visits at the facility. Step 4a: Percent term infants who report their babies were put to the breast within 1 h after birth. Step 4b: Percent mothers of term infants who report their babies were placed in skin-to-skin (STS) contact with them. Step 5: Percent breastfeeding mothers of term infants who can demonstrate how to position their baby. Step 6: Percent infants (preterm and term) who received only breast milk (either from their mother or from a human milk bank) throughout their stay at the facility. Step 9: Percent breastfeeding mothers of preterm and term infants who report having been taught about the risks of using feeding bottles, teats, and pacifiers.

### Legal Measures for Prohibiting Promotion of BMS in HF

Data from the WHO for provisions under the code related to HF were presented to show the commitment of MS to implementation of the provisions under the Code and compare them with the findings from respondents. The data for 17 countries (except Palestine) were obtained from the survey conducted by WHO, UNICEF, and IBFAN published in 2020 (12). Data for Palestine were obtained from the Ministry of Fatwa and Legal affairs publications [12].

### Ethical Considerations

The nutrition unit of the EMRO of WHO consented to use the data for the study.

### Statistical Analysis

Normally distributed variables were expressed as mean  $\pm$  standard deviation (SD) and analyzed by student “t-test” and one-way analysis of variance (ANOVA). The ANOVA (F test) was used to

compare more than two independent groups, The “F” is the ratio between variations due to the studied variable to variation due to error. The more the value of “F” the more significant is the result. A comparison was made between the countries by income status and between the professionals by type of workplace. Pearson’s correlation coefficient was used to correlate the data for the code with the data about the global criteria for the Ten Steps to show how much the Ten Steps are linked with the code. The results were analyzed and the comparison was made between countries of the region for the data collected using the statistical software package of statistics (SSPS). The cutoff value of significance used was  $p < 0.05$ .

## RESULTS

Table 1 presents the mean and SD scores from the 109 participants who serve mothers and children in breastfeeding during the perinatal period. Table 2 presents the feedback of the mean scores by country for some of the global criteria of some of the steps 2, 3, 4a and 4 b, 5, 6, and 9 of the revised Ten Steps of the BFHI 2018.

Table 3 presents the correlations between scores for the code implementation and the implementation of steps 2, 3, 4, 5, 6, and 9 of the BFHI from 109 health staff who serve mothers and babies in 15 countries of the EMR. Highly significant correlations were present between each of the steps assessed and the global criteria for the code each on its own.

Table 4 presents the mean and SD of the scores for the satisfaction of the respondents by the place where they conduct their work (hospital vs. health clinic vs. community), toward the degree of implementation of global criteria of the code in their vicinity. There were few differences by place of work but overall those working in health clinics and community were less satisfied than those working in hospitals.

Table 5 presents the mean and SD of the scores for the satisfaction of the respondents by the place where they conduct their work (hospital vs. health clinic vs. community), toward the degree of implementation of global criteria of the practices related to the Ten Steps for supporting mothers in breastfeeding initiation and continuation in their vicinity. Those working in health clinics and community were less satisfied than those working in hospitals but the differences were not significant ( $p > 0.05$ ).

Table 6 and Figs. 1 and 2 illustrate the responses from public versus private hospitals concerning the global criteria of the code (Fig. 1), and the global criteria of steps 2, 3, 4, 5, 6, and 9 (Fig. 2). Participants in private hospitals recorded significantly higher mean scores than those in public hospitals for C1 ( $p < 0.05$ ) and C6 ( $p < 0.001$ ).

Table 7 presents the status of code implementation in HF in 18 out of 22 countries of the EMR by income level as per World Bank classification. The data for 17 countries (except Palestine) were obtained from the survey conducted by the WHO, UNICEF, and IBFAN and published in 2020 [10] (WHO, 2020). Data for Palestine were obtained from the Ministry of Fatwa and Legal affairs and published in the Palestinian Waqea Official Newspaper on October 7, 2012 (volume 97) as a decision by the Council of Ministers (number 16) for the year 2011 on the marketing of BMS.

**Table 1: Mean Likert scores (1–10) of responses from 109 health staff that serve women and children in the perinatal period in 15 countries of the Eastern Mediterranean region regarding the global criteria for code implementation inside health facilities**

Global Criteria Mean±SD	Egypt (17)	Other MIC and LIC # (11)	Jordan (5)	KSA (9)	Kuwait (16)	Qatar (8)	UAE (37)	Other HIC# (6)
	MIC and LIC			HIC				
C.1. No free supplies	6.8±2.9	7.5±2.7	8.0±1.9	8.2±1.4**	8.8±1.4**	8.25±1.9	8.6±2.5	9.0±0.6*
C.2. No promotion	7.0±3.1	8.4±2.4	8.6±1.3	8.2±1.64**	7.7±3.13	8.4±2.1*	9.3±1.7**	9.0±0.9**
C.3. No Nurse craft	7.0±2.7	7.4±2.4	8.2±1.5	8.7±1.3**	8.25±2.4	8.4±1.9	8.75±2.6	9.7±0.8*
C.4. No gifts or free equipment	6.7±2.7	6.8±2.9	8.0±1.9	8.0±1.8	9.25±1.12*	8.7±1.49	9.4±1.1**	8.3±1.4*
C.5.No display of products	6.9±2.8	7.5±2.4	8.0±1.2	8.4±1.6	8.7±1.7	8.5±2.07	8.7±2.6	8.2±0.4*
C.6. No gift to mothers	6.6±2.7	7.7±2.6	8.0±1.4	8.3±1.5	8.9±2.1*	9.0±1.4*	9.1±2.1*	9.2±0.9*
C.7. HW oriented to Code	7.1±2.7	8.3±2.3	8.6±1.3	8.7±1.3*	9.4±0.9**	8.75±1.48	9.4±1.5**	8.3±0.8

Other countries include from high income countries: Bahrain (2), Oman (4), and from middle-income countries and low-income countries: Morocco (1), Pakistan (1), Palestine (2), Libya (3), Lebanon (1), and Syria (2). Afghanistan (1), KSA: Kingdom of Saudi Arabia, UAE: United Arab Emirates. \*p<0.05; \*\*p<0.001, P>0.05 (NS).C.1

**Table 2: Mean Likert scores (1–10) of responses from 109 health staff who serve women and children in the perinatal period in 15 countries of the Eastern Mediterranean region regarding the clinical criteria of the ten steps**

Ten Steps Mean±SD	Egypt (17)	Others # (11)	Jordan (5)	KSA (9)	Kuwait (16)	Qatar (8)	UAE (37)	Others (6)#
	MIC and LIC			HIC				
Step 2: Training in Ten Steps	5.6±2.9	6.8±2.7	8.8±1.1	7.4±1.7	8.1±1.4*	7.2±1.9	8.9±1.6**	5.7±2.7
Step 3: Education of pregnant in BF	5.1±2.7	7.4±2.3	8.6±0.9*	7.5±1.4*	7.9±1.6*	7.8±1.7	9.1±1.6**	6.7±1.0
Step 4a: Babies placed STSC at birth	5.1±3.3	8.0±1.9*	8.8±1.1*	7.4±1.8*	8.1±1.3**	8.3±1.8	9.5±0.9**	6.7±3.2
Step 4b: Babies kept 1 STSC	4.6±3.2	7.7±2.3	8.2±0.8**	7.5±1.9**	8.4±1.2**	8.25±1.9**	9.4±0.9**	6.7±3.6
Step 5: mothers demonstrate correct BF	5.5±2.9	7.5±2.5	8.2±0.4**	7.8±1.8	8.5±1.2**	7.3±1.9	9.1±1.1**	6.7±2.3
Step 6: All NB receive only BM	5.2±2.9	7.2±2.6	8.4±0.5*	7.9±1.6*	7.4±1.4**	7.0±2.2	9.1±1.1**	7.6±1.3
Step 9: Warning mothers about hazards of artificial nipples and pacifiers	5.2±2.5	7.2±2.6	8.6±0.9	7.8±1.9	8.0±1.8	6.3±3.3	8.9±1.9**	5.3±2.4

#Other countries include from high income countries: Bahrain (2), Oman (4), and from middle-income countries and low-income countries: Morocco (1), Pakistan (1), Palestine (2), Libya (3), Lebanon (1), and Syria (2). Afghanistan (1), KSA: Kingdom of Saudi Arabia, UAE: United Arab Emirates. \*p<0.05; \*\*p<0.001, P>0.05 (NS). BF: Breastfeeding, STSC: Skin to skin contact, NB: Newborns, BM: Breast milk

**Table 3: Correlations between scores for the code implementation and the implementation of steps 2, 3, 4, 5 6, and 9 of the baby-friendly hospital Initiative from 109 health staff who serve mothers and babies in 15 countries of the Eastern Mediterranean region**

Global criteria of code versus steps 2 to 6 and 9	Step 2 (109)	Step 3 (109)	Step 4a (109)	Step 4b (108)	Step 5 (107)	Step 6 (108)	Step 9 (108)
C.1: No free supplies	r0.4**	r0.5**	r0.3**	r0.3**	r0.3**	r0.4**	r0.4**
C.2: No promotion	r0.4**	r0.37**	r0.3**	r0.3**	r0.3**		r0.3**
C.3: No nurse craft	r0.3**	r0.47**	r0.3**	r0.3**	r0.3**		r0.4**
C.4: No gifts or free equipment	r0.6**	r0.6**	r0.4**	r0.52**	r0.5**	r0.6**	r0.5**
C.5: No display	r0.3**	r0.4**	r0.3**	r0.23*	r0.28**	r0.35**	r0.5**
C.6: No gift to Mo	r0.4**	r0.48**	r0.4**	r0.4**	r0.4**	r0.5**	r0.4**
C.7: Orient in Code	r0.6**	r0.6**	r0.5**	r0.6**	r0.6**	r0.6**	r0.7**

\*\*Pearson correlation coefficient: (r); Sig. (two-tailed): \*p<0.05; \*\*p<0.001. Step 2: Training; Step 3: Education of pregnant; Step 4a: Early initiation of breastfeeding through skin-to-skin, 4b: Baby remain STS for 1 h; Step 5: Mothers shown how to breastfeed; step 6: No milks given to baby except breast-milk; step 9: Mothers warned about use of pacifiers and bottles with teats

**DISCUSSION**

The objective of this study was to evaluate the status of adherence to some of the global criteria of the revised Ten Steps and the code in 15 EMR countries based on feedback from representatives from these countries. The results showed significant differences

between countries grouped as middle- and low-income as Egypt, Morocco, Syria, Libya, Lebanon, Palestine, and Pakistan versus the HICs as Jordan, Qatar, Kuwait, Saudi Arabia, UAE, Oman, and Bahrain.

Adherence to the global criteria under the code in this study showed significant differences between countries by



**Table 4: Comparison of feedback for global criteria for the code between respondents working in hospitals, health clinics, and community**

Global Criteria (Mean±SD)	Hospital (54)	Health clinic (23)	Community (16)
C.1. No free supplies	8.4±2.2	7.6±2.3	8.3±1.9
C.2. No promotion	8.5±2.4	7.8±2.2	7.75±3
C.3. No Nurse craft	8.4±2.5	7.7±2.2	7.8±2.9
C.4. No gifts or free equipment	8.9±1.6	7.2±2.4**	7.7±2.15
C.5.No display of products	8.3±2.4	7.7±2.2	7.5±2.8
C.6. No gift to mothers	8.6±2.1	7.9±2.3	7.8±2.8
C7. HW oriented to Code	9.04±1.6	8.1±2.1*	8.3±1.9

F-ratio test of significance for independent variables. Cutoff is  $P<0.05^*$  significant,  $P<0.001^{**}$  highly significant

**Table 5: Comparison of feedback for global criteria for the clinical practices related to the Ten Steps of baby-friendly hospitals between professionals working in hospitals, versus community clinics versus community**

Global criteria (Mean±SD)	Hospital (54)	PHCC (23)	Community (16)
Step 2: Training	7.8±2.2	7.09±2.6	7.12±2.9*
Step 3 Prenatal education	7.8±2.2	7.1±2.3	7.5±2.7
Step 4a BF in 1 <sup>st</sup> h after delivery by STS	8.1±2.4	7.1±2.7	8.06±2.4
Step 4b STS for 1 h	8.2±2.3	6.5±2.8	8.0±2.4
Step 5 Teaching mother BF	8.3±1.9	6.6±2.3	7.3±2.6
Step 6 EBF	7.7±2.2	7.0±2.2	7.25±2.5
Step 9 Counseling on hazards of bottle feeding	7.75±2.5	6.4±2.75	6.9±2.6

F-ratio test of significance for independent variables cutoff  $P<0.05^*$  significant,  $P<0.001^{**}$  highly significant

income group. Respondents from MIC were less satisfied with the prohibition of free supplies than in those from HIC such as Kuwait. Again respondents from MIC as Egypt were less satisfied with their health facility abundance to no promotion for BMS compared to countries of the HIC as Saudi Arabia, UAE, and Qatar. The code also does not allow employees of BMS companies to come in contact with mothers, respondents from MIC as Egypt were less satisfied with this requirement under the code compared to those from HIC as Saudi Arabia. Giving out gifts and equipment by the manufacturers and distributors of BMS makes the health staff and HF indebted to them and makes health staff feel obligated to return this by prescribing their products to mothers. The code imposes on health staff and HF not to accept gifts or free equipment. Again this scored lowest in MIC as Egypt compared to countries of the HIC as UAE. Besides, the code prohibits the display of products under the scope of the code in HF or giving out gifts to mothers. The respondents from MIC were less satisfied with these practices compared to HIC.

The health facility committed to protecting breastfeeding should continuously orient their staff about the code. However, MIC and LIC were less satisfied with this practice. These findings suggest that the HIC in the EMR is taking considerable steps to abide by the code and make their facilities that serve mothers and children baby-friendly. Many of these countries have recently issued National laws that cover the code [10]. The recent report by WHO on the status of national implementation of the code study showed that 18 EMR countries had legal provisions for enforcement of the code [10]. In this study, we reanalyzed them with income group and found that provisions for prohibiting the promotion of products under the scope of the code in HF were lacking in MICs as shown in Table 7 [10,11]. This could explain the findings in our study and the dissatisfaction of respondents from MIC with global criteria of the code, since many of the provisions of the code were absent in the National laws covering the code compared to HIC.

However, the high purchasing power of mothers in HIC allows them to be more readily tempted to use products under the scope of the code (infant milk formula, baby foods, and bottles or teats). Such products are displayed outwardly, on priority shelves, with promotions and tokens, to tempt the consumers who visit the retail outlets such as supermarkets and pharmacies to buy them. This was shown by other studies to be linked to the lower early EBF and continuity rates of breastfeeding in these countries [6].

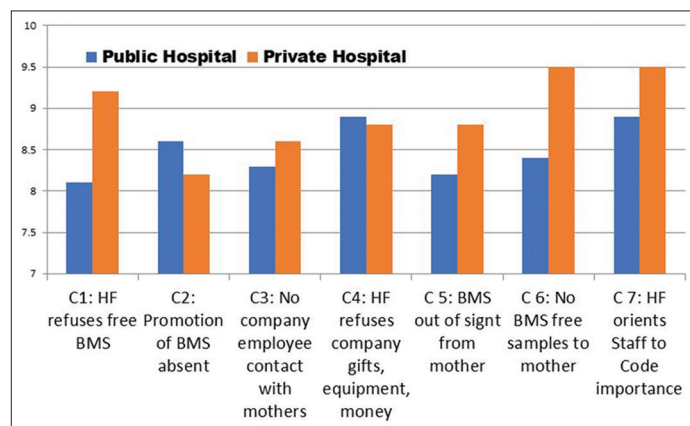
Moreover, we found that respondents from the community and PHCC were less satisfied with the global criteria under the code compared to those from hospitals, especially with regards prohibiting gifts to mothers in HF, gifts to HW, donation of equipment, and sponsorship of meetings. The WHO report on code implementation in other countries showed that out of 136 countries with legal measures in place, 79 had measures that call for an overall prohibition of promotion of BMS in HF. Only 30 countries had measures that call for the full prohibition of all gifts or incentives for HW. Fifty-one countries prohibit the donation of free or low-cost supplies in any part of the health system, and 59 prohibit the donation of product samples. Only five countries completely prohibit the donation of equipment or services by manufacturers or distributors of products within the scope of the code. Despite the significant documented conflicts of interest created through the sponsorship of scientific and health professional association meetings, to date, only 19 countries have prohibited such sponsorship by manufacturers of BMS [10]. This calls for strengthening communication strategies for promoting breastfeeding not only in hospitals and PHCCs but also at the community level [13].

Regarding the Ten Steps of the BFHI, "Step 2" the HW competency, was lowest in Egypt as a representative of a MIC and highest in HIC as UAE, Kuwait, and UAE. The private sector expressed lower satisfaction with the training of their staff in BFHI and in the code (step 2 of the ten steps). UNICEF data from 87 countries indicate that nearly half (47%) of countries have community programs that include IYCF counseling in three-quarters of districts. Information on the number of women reached through these programs and on the quality of services provided needs to be strengthened. The collective target for this

**Table 6: Comparison of Code and Steps 2, 3, 4, 5 6, and 9 of the “Ten Steps” in private versus public facilities**

Global criteria of code and ten steps	Public hospitals (n=40) Mean±SD	Private hospitals (n=13) Mean±SD
C.1. HF refuses free or low-cost supplies of breast-milk substitutes, purchasing them for the wholesale price or more	8.1±2.4	9.2±1.09*
C.2. Promotion for BMS absent from the facility	8.6±2.2	8.2±2.9
C.3. Employees of manufacturers or distributors of BMS prohibited from any contact with pregnant women or families	8.3±2.5	8.6±2.5
C.4. HF refuses free gifts, non-scientific literature, materials or equipment, money	8.9±1.7	8.8±1.3
C.5. HF keeps infant formula out of view	8.2±2.6	8.8±1.5
C.6. HF refrains from giving pregnant women, mothers and their families any marketing materials, samples or gift packs of BMS	8.4±2.3	9.5±0.97**
C.7. HF makes staff members understand why it is important not to give any free samples or promotional material on BMS to mothers.	8.9±1.8	9.5±0.97
Step 2: HF trains health staff in Ten Steps and code	7.9±2.1	7.7±2.4
Step 3: Pregnant women informed of benefits of BF	7.8±2.4	7.9±1.6*
Step 4a: Baby put to breast within 1 h of birth	8.02±2.6	8.2±1.2**
Step 4b: Baby left STSC for 1 h at birth	8.1±2.6	8.4±1.1*
Step 5: Staff demonstrates to mothers how to BF	8.2±2.1	8.5±1.3*
Step 6: Preterm and term infants receive only breast milk	7.8±2.3	7.6±1.6
Step 9: Mothers taught about the risks of using feeding bottles, teats, and pacifiers	7.5±2.6	8.5±1.7**

\*p<0.05 (significant); \*\*p<0.001 (highly significant). BMS: Breast milk substitutes, BF: Breastfeeding, STSC: Skin-to-skin contact



**Figure 1: Satisfaction of staff with code adherence in private versus public hospitals**

indicator is 80% by 2030 [2]. There are many challenges for training inside BFH. First of all, training requires a considerable budget and thereby cannot be sustained for low- and middle-income countries [6]. BFHI needs to be integrated in the ongoing in-service and pre-service training of the institution whether public or governmental and re-licensing of the health professionals who are in practice and force them to present hours of training or credit hours from attendance of ongoing education in their specialty as part of the quality management programs inside hospitals [13]. Recently, the WHO has updated the training material for the BFHI to include competency skills [14]. This is an opportunity for strengthening training in hospitals providing perinatal services to mothers and babies.

The global criteria of “Step 3” of the revised Ten Steps of the BFHI assesses whether the benefits and management of breastfeeding are being discussed with all pregnant women. It was lowest in Egypt (5.1±2.7) and highest in UAE (9.1±1.6) with a significant difference between Egypt and Jordan (p<0.05), Saudi Arabia (p<0.05), Kuwait (p<0.05), and UAE (p<0.001). Based on UNICEF program data for 82 countries, 56% of countries have incorporated IYCF counseling into at least three-quarters of their primary health-care facilities. It is important to note that this indicator does not represent program coverage. This indicator falls below the 80% global target to be met by 2030 [2]. Providing counseling on IYCF by skilled health-care practitioners to mothers increases women’s practical knowledge and confidence to breastfeed. Counseling allows women and their families to make informed decisions regarding their infant feeding practices and builds skills to address barriers they may encounter with breastfeeding [15].

The global criteria of “Step 4a” of the revised Ten Steps of the BFHI assesses whether all or a high percentage of staff in the labor room place newborns to the breast within 1 h after birth. It was lowest in Egypt as a MIC and highest in HIC as UAE, Jordan (p<0.05), Saudi Arabia (p<0.05), Kuwait (p<0.001), and UAE (p<0.001). “Step 4b” assesses whether the labor room health staff leave term babies in STS contact with their mothers for at least 1 h. This was lowest in Egypt (4.6±3.2) and highest in UAE (9.4±09) with a significant difference between Egypt and Jordan (p<0.001), Saudi Arabia (p<0.001), Kuwait (p<0.001), Qatar (p<0.001), and UAE (p<0.001). Respondents from the private hospitals gave significantly higher scores for

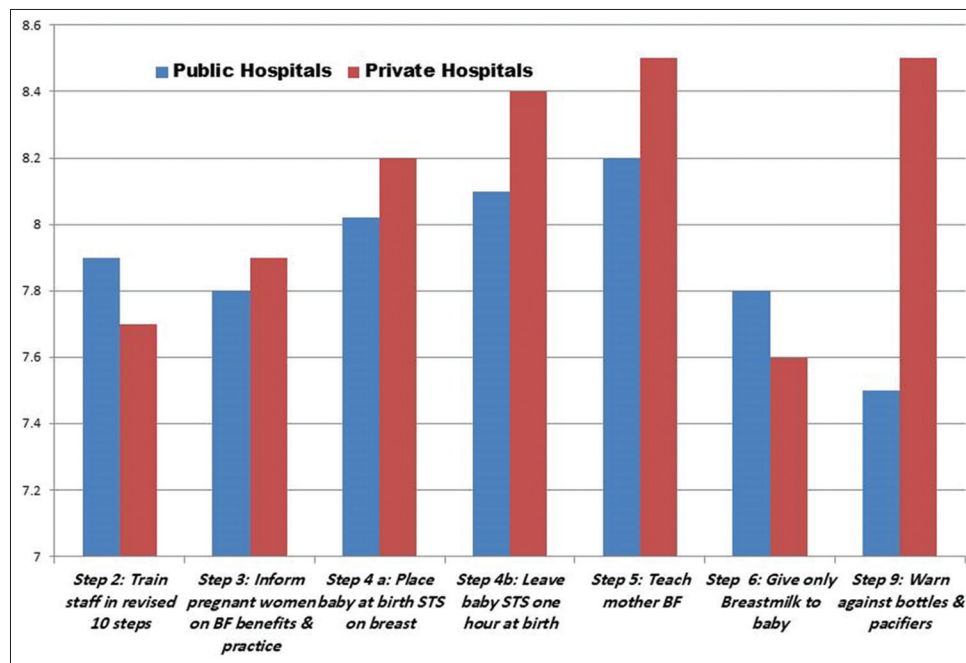


Figure 2: Satisfaction of staff with practices that support the Ten Steps of the baby-friendly hospitals in private versus public hospitals

most of the criteria included under the “Ten Steps” except for Step 4. Hence, implementation of “Step 4” is one of the prime challenges observed in this study. This finding necessitates a deeper reflection and may indicate that women who prefer the private sector, do this because they expect their demands to be met, especially that most of these private hospitals came from the HICs. Globally, in the period from 2013 to 2018; only 43% of newborns initiated breastfeeding within 1 h of birth [2]. It has been proposed by other workers that medical interventions, and poor inclusion of this procedure as a mandate in clinical teaching and medical and nursing textbooks, may be underlying causes for the poorly implemented practice in hospitals [6]. Another contributing factor to the delay in the first breastfeeds and STSC is the high rates of CSD. Unnecessary CSD is rising to calamity levels in many countries in the world, and instead of saving lives; it is increasing childbirth complications for the mother and her child in the short- and long-term [16]. In the EMR, the high rates of CSD were shown to influence child survival as cutoffs below 15 were shown to save lives, whereas higher levels and especially when unnecessary increase mortality and impose an economic burden to the region [17]. The rise in CSD could explain the low scores of evaluation for birthing practices from the Egyptian respondents, especially related to early initiation through STS and EBF. In Egypt, the rising rates of CSD have been claimed to be among the highest in the world [18]. However, studies in Egypt have shown that early STSC can be conducted early even in CSD if mothers are given appropriate support with breastfeeding [19].

Teaching mothers how to breastfeed is an important function of BFH. “Step 5” urges health staff to show breastfeeding mothers how to position their baby. It was lowest in Egypt ( $5.5 \pm 2.9$ ) and highest in UAE ( $9.1 \pm 1.1$ ) with a significant difference between Egypt and Jordan ( $p < 0.001$ ), Kuwait ( $p < 0.001$ ), and UAE ( $p < 0.001$ ). Other workers have reported that in the EMR countries one of the barriers to BFHI was attributed to health

staff who are underpaid and overworked [6]. These are common barriers to quality health services particularly in MIC and LIC [7]. Supporting mothers in the technique of breastfeeding are a necessity. This necessitates demonstrating positioning the baby at the breast, illustrating how to express her breast milk when the baby is separated from her. It is one of the important strategies under the promotion of breastfeeding in the region but requires much training and education [8]. Recently, the WHO has updated the training manuals by competency skills that can help reinforce these practices to improve the quality of care [13,14]?

“Step 6” of the Ten Steps ensures that preterm and term babies receive only breast milk. It was lowest in Egypt ( $5.2 \pm 2.9$ ) and highest in UAE ( $9.1 \pm 1.1$ ) with a significant difference between Egypt, and Jordan ( $p < 0.05$ ), Saudi Arabia ( $p < 0.05$ ), Kuwait ( $p < 0.001$ ), and Emirates ( $p < 0.001$ ). While “Step 9” (breastfeeding mothers of preterm and term infants who report having been taught about the risks of using feeding bottles, teats, and pacifiers) was lowest in Egypt ( $5.2 \pm 2.5$ ), Qatar ( $6.25 \pm 3.3$ ), and other countries ( $5.3 \pm 2.4$ ), and it was highest in UAE ( $8.9 \pm 1.9$ ) with a significant difference between Egypt and UAE ( $p < 0.001$ ). Low EBF rates are a global challenge. In the EMR 41% of infants, <6 months of age are on EBF [7]. Globally, 70% of women continue to breastfeed their infant for at least 1 year, by 2 years of age, and breastfeeding rates declines to 45%. These rates are even lower in the EMR [7]. The collective targets for these global rates in 2030 are 70% for initiation in the 1<sup>st</sup> h, 70% for EBF, 80% at 1 year, and 60% at 2 years [2].

The findings of higher evaluation scores with baby-friendly practices in the HIC of the GCC; in particular in the private sector, could be attributed to the demand from the community that uses the private sector in these countries. This could be explained by the higher responsiveness of HF to mothers’ demand for birth plans which place pressure on the hospital system and HW to implement them [20]. This is in contradistinction to

**Table 7: Legal measures for implementation of the code in relation to provisions for promotion inside health facilities in the 18 countries of the Eastern Mediterranean region**

Country/provisions in health facility	Overall prohibition promotion inside HF	No contact with mothers	No gifts to mother	No gifts to health workers	No low costs supplies in HF	No donation of equipment	No sponsorship of meetings
High income countries							
Bahrain	Y	Y	Y	N	Y	N	N
Jordan	Y	Y	Y	N	N	N	N
Kuwait	Y	Y	Y	Y	Y	N	Y
Oman	Y	N	Y	N	Y	N	N
Saudi Arabia	Y	Y	Y	N	N	Y	N
UAE	Y	N	Y	Y	Y	N	Y
Yes (Y)	6 (100%)	4 (66.7%)	6 (100%)	2 (33.3%)	4 (66.7%)	1 (16%)	2 (33.3%)
No (N)	0	2 (33.3%)	0	4 (66.7%)	2 (33.3%)	5 (83.3%)	4 (66.7%)
Middle-income countries (7)							
Egypt	N	Y	N	N	N	N	N
Iran	N	N	N	N	N	N	N
Iraq	Y	N	N	N	Y	N	N
Lebanon	Y	Y	Y	Y	Y	N	Y
*Palestine	Y	Y	Y	Y	Y	N	Y
Syria	Y	Y	Y	N	Y	N	N
Tunisia	Y	Y	Y	N	Y	N	N
Yes (Y)	5 (71.4%)	5 (71.4%)	4 (57.1%)	2 (28.6%)	5 (71.4%)	0	2 (28.6%)
No (N)	2 (28.6%)	2 (28.6%)	3 (42.9%)	5 (71.4%)	2 (28.6%)	7 (100%)	5 (71.4%)
Low-income countries (5)							
Afghanistan	Y	N	Y	Y	Y	N	Y
Djibouti	Y	Y	Y	N	N	N	N
Pakistan	Y	Y	Y	Y	Y	N	N
Sudan	Y	N	N	N	N	N	N
Yemen	Y	N	Y	N	N	N	N
Yes (Y)	5 (100%)	2 (40%)	4 (80%)	2 (40%)	2 (40%)	5 (100%)	1 (20%)
No (N)	0	3 (60%)	1 (20%)	3 (60%)	3 (60%)	0	4 (80%)

HF: Health facility, Y: Yes provisions available in national law, N: No provisions included in the national law. (Only countries with legal measures included, four countries had no legal measures)

public hospitals that manage high flow rates of deliveries and have HW who are underpaid, overworked, and not regularly trained in updated skills [6,13]. With the high availability of social media and online awareness campaign [8], women need to be encouraged during prenatal visits to develop their birthing plans based on informed choices related to the Ten Steps and be informed of the hazards of surgical interventions during labor, bottle feeding, early separation and of the benefits of optimal breastfeeding practices [4,21].

We found a strong correlation between the global criteria for the steps studied under BFHI and global criteria of the code as shown in Table 6, suggesting a strong association between both and that protection implies more effective promotion and vice versa. The findings are validated by the findings that countries with higher scores for provisions that cover the code in national laws (as shown in Table 7) had higher scores for implementation of steps under BFHI and code from respondents (as shown in Tables 1 and 2). Findings from global studies on BFHI have shown the strong influence of marketing on the effective implementation

of the Ten Steps in hospitals providing maternity services [1]. Based on the evidence arising from global studies [2], the WHO has revised the ten steps to make the code an essential part of Step 1 of the BFHI critical management procedures which requires the facility to comply fully with the code [5].

The inclusion of interventions such as MF practices in the policies and plans of maternity hospitals has been shown to support global criteria of the BFHI as early initiation of breastfeeding and STSC [21]. However, these are optional criteria under the BFHI and thereby none of the countries in the region include them in their BFHI programs [6]. MF birthing practices include allowing women to have a companion of their choice at birth, to be supported to have a normal vaginal delivery, to be encouraged to walk and drink and choose the birthing position of her choice [21]. Furthermore, women exposed to violence or maltreatment from their partner during pregnancy [22] can result in poor outcome of labor [22,23]. Hence, both MF and abating domestic violence against women could have a possible role on the outcomes of Step 4 for successful initiation of breastfeeding.



Women living in emergencies and poverty need to be supported in baby-friendly practices. This is a challenge for EMR countries exposed to chronic conflicts, wars, and famines [24]. Moreover, another challenge facing these countries is the engagement of HWs by companies in the promotion of their products during conferences [25]. Such practices were shown to interfere with exclusive breastfeeding, which is estimated to be 41% in the EMR [26, 27]. This is linked with infant mortality [28].

Limitations of the study include sample size and that all countries in the EMR could not be included. Furthermore, detailed descriptive socio-demographic data about the participants were lacking. The study did not include all of the Ten Steps as our focus was mainly on clinical management criteria that could be linked to the code. The feedback that is given by HW working in their HF tends to be more subjective and thereby creates some degree of bias. This is why the scores from the respondents appeared to higher than expected. Hence, it could be advisable in another study to include feedback from the community served by the HF.

## CONCLUSIONS

Although the evaluation scales for adherence to the global criteria appear high in HIC, they are low in MIC and LIC whose birth rates represent the majority for the region. The study showed that BFHI practices and the global criteria for the code were lower in the community and PHCCs compared to hospitals. However, “Step 4” for hospitals that urge early initiation of breastfeeding through STSC remains a major challenge both in the public and private sector especially in MIC. The global criteria for the code were found to be less than that required to protect the health of women and children. Other major challenges to reach the BFHI global targets are related to the code. They include the continued engagement of health staff in promotion through sponsoring their scientific meetings, giving out gifts to the health staff and the mother, and also the distribution of free or low-cost formula milk to the mother by the health facility. This makes staff and HF obligated to the companies that manufacture or/and distribute BMS.

## Recommendations

Community programs play a crucial role in improving breastfeeding practices. They are particularly needed in the EMR countries to support women in the region to maintain breastfeeding and overcome challenges during EBF in the first 6 months of life and continued breastfeeding for 2 years or more. The serious violations to the provisions under the code need to be tracked down and abated and replaced by educational systems that are not dependent on funding from these companies.

As regard BFHI, we recommend the need for bringing down the alarming figures of CSD. Furthermore, the need to protect women’s rights in having birth plans of their own informed choices and to integrate MF in BFH. These interventions can improve the early initiation of breastfeeding through STSC. We call for the reinforcing the recommendations that emerged

from the country experiences documented in the report of WHO/ UNICEF in 2017 [27], the Global breastfeeding scorecard [28], and the EMR regional workshop for nutrition country focal points in the EMR office on September 16–17, 2019 [29]. These called for the need for MS in the EMR to integrate the BFHI into national policies, programs, and protocols. Furthermore, MS should invest generously and in continuous capacity building to ensure competency of HW, by the inclusion of lactation management and the BFHI in pre-service and in-service training. Finally, that MS should integrate monitoring of the quality of care of women and children in all health-care facilities and secure sustainable funding for breastfeeding protection and promotion programs.

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## REFERENCES

1. World Health Organization. Implementation Guidance: Protecting, Promoting and Supporting Breastfeeding in Facilities Providing Maternity and Newborn Services-the Revised Baby-Friendly Hospital Initiative, Licence: CC BY-NC-SA 3.0 IGO. Geneva: World Health Organization; 2018.
2. Smith ER, Hurt L, Chowdhury R, Sinha B, Fawzi W, Edmond KM, *et al.* Delayed breastfeeding initiation and infant survival: A systematic review and meta-analysis. *PLoS One* 2017;12:e0180722.
3. Rollins NC, Bhandari N, Hajeebhoy N, Horton S, Lutter CK, Martines JC, *et al.* Why invest, and what it will take to improve breastfeeding practices? *Lancet* 2016;387:491-504.
4. World Health Organization. International Code of Marketing of Breast-Milk Substitutes. Geneva: World Health Organization; 1981.
5. World Health Organization. The International Code of Marketing of Breast-Milk Substitutes-2017 Update: Frequently Asked Questions. Geneva: World Health Organization; 2017.
6. Al-Jawaldeh A, Abul-Fadl A. Assessment of the baby friendly hospital initiative implementation in the Eastern Mediterranean region. *Children (Basel)* 2018;5:41.
7. Al-Jawaldeh A, Sayed G, Alsumaie M, AbuNyayan A, Ahmed KM, Ali AM, *et al.* Status of breastfeeding promotion in the Eastern Mediterranean region. *Int Nutr Policies* 2019;15:133-50.
8. World Health Organization. Evidence on the Long-Term Effects of Breastfeeding: Systematic Reviews and Meta-Analyses. Geneva: World Health Organization; 2007.
9. World Health Organization. Marketing of Breast-Milk Substitutes: National Implementation of the International Code, Status Report 2020, Licence: CC BY-NC-SA 3.0 IGO. Geneva: World Health Organization; 2020.
10. Khawaja M, Jurdi R, Kabakian-Khasholian T. Rising trends in cesarean section rates in Egypt. *Birth* 2004;31:12-6.
11. Bucci HP. The Value of Likert Scales in Measuring Attitudes of Online Learners; 2003. Available from: <http://www.hkadesigns.co.uk/websites/msc/reme/likert>.
12. Ministry of Fatwa and Legal Affairs as a Decision by the Council of Ministers (Number 16) for the Year 2011 on the Marketing of Breast-Milk Substitutes, Palestinian Waqea Official Newspaper; 2012. p. 97.
13. Whitcomb ME. CME reform: An imperative for improving the quality of medical care. *Acad Med* 2002;77:943-4.
14. World Health Organization. Competency Verification Toolkit; Ensuring Competency of Direct Care Providers to Implement the Baby-Friendly Hospital Initiative, License: CC BY-NC-SA 3.0 IGO. Geneva: World Health

- Organization and the United Nations Children's Fund (UNICEF); 2020.
15. Sinha B, Chowdhury R, Sankar MJ, Martines J, Taneja S, Mazumder S, *et al.* Interventions to improve breastfeeding outcomes: A systematic review and meta-analysis. *Acta Paediatr* 2015;104:114-34.
  16. Fitzpatrick KE, Kurinczuk JJ, Bhattacharya S, Quigley MA. Planned mode of delivery after previous cesarean section and short-term maternal and perinatal outcomes: A population-based record linkage cohort study in Scotland. *PLoS Med* 2019;16:e1002913.
  17. Al-Jawaldeh A, Abul-Fadl A. The effect of cesarean delivery on child survival and early breastfeeding practices: Global data from 103 provinces in the Eastern Mediterranean region. *Int J Sci Res Manag* 2020;8:293-304.
  18. ElRefaey D, Khairy M. Does first hour skin-to-skin and follow-up support improve breastfeeding outcomes in cesarean delivery despite anesthesia? *MCFC Egypt J Breastfeed* 2014;10:29-38.
  19. Aldeib AE, Abul-Fadl AM, Khalifa E, Rizk AY, ElSherif M, Medhat E. Challenges to first hour skin-to-skin contact in two hospitals in Alexandria. *MCFC Egypt J Breastfeed* 2011;3:55-71.
  20. World Health Organization. Baby-Friendly Hospital Initiative: Revised, Updated and Expanded for Integrated Care. Geneva: World Health Organization and United Nations Children's Fund; 2009.
  21. AbouelYazeed S, Abul-Fadl AM, Noseir M, ElMahdy MM. Promoting mother-friendly practices as a strategy towards baby-friendly hospitals. *MCFC Egypt J Breastfeed* 2012;4:99-111.
  22. World Health Organization: WHO Multi-Country Study on Women's Health and Domestic Violence against Women; 2013. Available from: [http://www.apps.who.int/iris/bitstream/10665/43310/1/9241593512\\_eng.pdf](http://www.apps.who.int/iris/bitstream/10665/43310/1/9241593512_eng.pdf). [Last accessed on 2020 Nov 20].
  23. Shamu S, Zarowsky C, Roelens K, Temmerman M, Abrahams N. High-frequency intimate partner violence during pregnancy, postnatal depression and suicidal tendencies in Harare, Zimbabwe. *Gen Hosp Psychiatry* 2016;38:109-14.
  24. Infant and Young Child Feeding in Emergencies. Operational Guidance for Emergency Relief Staff and Programme Managers, Version 3.0. Oxford: IFE Core Group; 2017. Available from: <http://www.enonline.net/operationalguidance-v3-2017>. [Last accessed on 2018 Mar 07].
  25. Grummer-Strawn LM, Holliday F, Jungo KT, Rollins N. Sponsorship of national and regional professional paediatrics associations by companies that make breast-milk substitutes: Evidence from a review of official websites. *BMJ Open* 2019;9:e029035.
  26. Al-Jawaldeh A, Doggui R, Borghi E, Aguenou H, Ammari LE, Abul-Fadl A, *et al.* Tackling childhood stunting in the Eastern Mediterranean region in the context of COVID-19. *Children (Basel)* 2020;7:239.
  27. Country Experiences with Implementation of the Baby-Friendly Hospital Initiative. United Nations Children's Fund (UNICEF) and the World Health Organization; 2017.
  28. Global Breastfeeding Collective. Global Breastfeeding Scorecard, 2019. Increasing Commitment to Breastfeeding through Funding and Improved Policies and Programs. New York, Geneva: UNICEF, World Health Organization; 2019.
  29. Optimal Infant and Young Child Feeding for Prevention of Double-Burden of Malnutrition in EMRO: A Regional Workshop on 16<sup>th</sup> to 17<sup>th</sup> September, 2019 in the Eastern Mediterranean Regional Office of the World Health Organization, Cairo, Egypt; 2019.

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