

Knowledge, attitudes and practices of nursing staff regarding the Baby-Friendly Hospital Initiative in non-accredited obstetric units in Cape Town

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Abstract

Objectives: The objectives of this study were to assess nursing staff knowledge, attitudes and practices regarding the Baby-Friendly Hospital Initiative (BFHI); to assess the knowledge of maternity obstetric unit (MOU) managers regarding BFHI principles and their attitude towards BFHI implementation; and to describe the barriers and constraints to the implementation of BFHI principles.

Study design: Cross-sectional descriptive survey.

Setting: The study was done in eight non-BFHI-accredited primary care maternity obstetric units in Cape Town.

Subjects: The subjects were eight MOU managers and a random sample of 45 nursing staff.

Outcomes measures: Knowledge, attitude and practices regarding BFHI and barriers to BFHI implementation were assessed by an interviewer-administered questionnaire.

Results: The study demonstrated acceptable awareness and knowledge of the recommended BFHI principles. A total of 56.6% of the staff could define rooming-in, 47.2% could define the components of the BFHI, and 52.8% could name three baby-friendly care practices and routines. Eighty-nine per cent of the nursing staff were able to demonstrate correct positioning of the baby for breastfeeding, and 91.1% could demonstrate the correct attachment of the baby to the breast. Only 8.9% of the nursing staff were able to adequately demonstrate the correct hand milk-expressing technique, 35.6% knew about the correct management of painful nipples and 22.2% knew how to manage engorgement. Only 40% could adequately describe the safe preparation of infant formula. The enrolled nursing assistants (ENA) were significantly less knowledgeable than the other cadres of nurses. The majority of the nurses had a positive attitude toward BFHI principles and practices.

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Introduction

The Baby-Friendly Hospital Initiative (BFHI) is a global United Nations Children's Fund (UNICEF) and World Health Organization (WHO) effort to protect, promote and support breastfeeding.¹ The initiative has proven to have an impact, increasing the likelihood of babies being breastfed exclusively for the first six months of life.² It is based on ten policy or procedure statements, "the ten steps", and evidence of the effectiveness of each step has been documented.³ In 1992, UNICEF and WHO launched an international campaign to encourage all hospitals with maternity services to accept the ten steps as their basic maternity and newborn infant care policies and procedures.¹ Official designation as a baby-friendly institution requires careful assessment, starting with the facility undertaking its own internal assessment, after which a trained external team of assessors completes an external assessment to confirm that the institution is truly carrying out all ten steps and conforming to the International Code of Marketing of Breast-milk Substitutes. The BFHI is considered one of the most successful international efforts ever undertaken to protect, promote and support breastfeeding.¹

The BFHI is one of the operational targets of the Global Strategy for Infant and Young Child Feeding (IYCF), which was endorsed in 2002.⁴ In response to the human immunodeficiency virus (HIV) pandemic and other new evidence, WHO and UNICEF collaborated on an effort to update the BFHI materials and promote the initiative in the context of the IYCF strategy.⁵ The final version was completed in late 2007.⁶

The Metropole region of the Western Cape Province is divided into eight health districts and has 11 maternity obstetric units (MOUs).⁷ By 2008, 16 facilities in the Western Cape had achieved baby-friendly status. Eleven of these facilities were situated in the Metropole region, of which three were MOUs.⁸ To date (2009), the BFHI has been initiated in 20 facilities in the Western Cape, including 14 in the Metropole region, five of which are MOUs.⁹ The momentum for becoming baby friendly is very slow in MOUs in the Metropole region, and this has prompted the need for research to be able to address barriers and constraints to the implementation and accreditation of BFHI in these facilities. The possible factors that may influence the implementation of the BFHI may include lack of knowledge of BFHI principles, staff attitudes and perceptions regarding the BFHI (e.g. perceived as additional work), resistance to behaviour change, lack

of communication on BFHI issues, lack of support and motivation from unit managers, lack of BFHI advocacy, heavy workload and/or staff shortages affecting practices and the attendance of training.

Therefore, the main aim of the study was to assess if any BFHI principles are implemented in the non-accredited MOUs and to assess the factors influencing their implementation. The objectives were to assess the knowledge, attitudes and practices of the nursing staff regarding BFHI principles, as well as the MOU managers' knowledge thereof and attitude towards their implementation, and to describe barriers and constraints to such enactment.

Methodology

This cross-sectional survey was conducted in 2008. The study population consisted of a random sample of 45 nursing staff and eight unit managers of eight non-accredited MOUs. The knowledge, attitudes and practices of the nurses and MOU managers were determined by means of face-to-face interviews using a semi-structured questionnaire. In this way a high response rate could be ensured, and it also allowed the interviewer to clarify the questions throughout the interview. The respondents were asked to demonstrate practices, which were observed by the researcher. Confidentiality was maintained and informed consent was obtained. The study received ethics approval from the University of the Western Cape.

The questionnaire was developed using the UNICEF/WHO BFHI external assessment tool (not available for general distribution), related questions in the literature and the researcher's experience as a BFHI assessor.¹⁰ The questionnaire was piloted in one non-accredited hospital in the Metropole region to validate it before it was used in the study.

The questionnaire addressed the basic principles of the ten steps to successful breastfeeding, the knowledge, attitudes and practices of the nurses and MOU managers regarding BFHI principles, training in the BFHI, and lactation management. To assess the attitudes of the nursing staff, a five-point Likert scale was used, ranging from "strongly agree" to "strongly disagree". The knowledge of the nursing staff was assessed through one multiple-choice question and five open-ended questions (e.g. "What is rooming-in?"). Responses were recorded and were post-coded after the interview. The researcher consulted with an experienced external assessor to define the criteria. Equal value was given to all the knowledge variables and they were not ranked according to the importance of the BFHI principles. Open-ended questions were used to describe possible barriers and constraints to the implementation of the BFHI. The most frequently occurring categories were coded during the analysis. Similar types of responses were grouped into single categories. All coding was done by the researcher, an experienced BFHI assessor.

Data were entered and analysed in Epi Info. Response frequencies, in percentages, were calculated for items on the attitude scale and items under the knowledge and practices variables. P-values were calculated using the chi-square test to evaluate the statistical significance between the different categories of nurses, namely

enrolled nursing assistant (ENA), enrolled nurse (EN), professional nurse (PN) and unit manager (UM), for knowledge and practices.

Results

Demographic characteristics

Forty-five nursing staff and the eight UMs of the eight non-accredited MOUs participated in the study. The nursing staff interviewed included 12 ENAs, seven ENs and 26 PNs. Ninety-eight per cent of the participants were female. The mean age of the sample was 45.5 years (SD 10.5, range 23–67 years). The mean years in service were higher amongst the ENAs (14.9 years) and ENs (16.7 years). Mean years in service among the PNs and UMs were 10.1 years and 9.1 years respectively. Eighty-one per cent of the participants had breastfed their own infants, and 18.9% had never breastfed. The mean duration of breastfeeding was 20.8 months (median = 22 months). Forty-one per cent of the participants had received formal training in lactation management in the preceding five years. Only one of the eight UMs had received training in lactation management within the preceding five years.

Frequencies of "yes" responses to BFHI practices and related activities in the MOUs, according to the respondents, are presented in Table I. All the respondents indicated that rooming-in was practised and that positioning and attachment were demonstrated to mothers attending the facilities. According to 86.7% of the respondents, they demonstrated the hand milk-expressing technique to the mothers, and 97.8% of the respondents indicated that they taught the mothers attending their facilities how to prepare artificial feeds.

Table I: BFHI practices at the MOUs, according to the nursing staff

Practice	Yes n (%)
Practise rooming-in	45 (100.0)
Demonstrate positioning and attachment	45 (100.0)
Demonstrate expressing by hand	39 (86.7)
Teach how to prepare artificial feeds	44 (97.8)

Knowledge of BFHI principles

Table II shows the awareness and knowledge of BFHI principles among the various categories of nursing staff. The study demonstrated an acceptable level of awareness and knowledge of some of the recommended BFHI principles. Most of the respondents (90.6%; 48/53) had heard of the BFHI. The majority (43.8%) had heard of the BFHI at baby-friendly hospitals and MOUs, 14.6% had heard of it from staff at the MOU, 12.5% had heard about it at training and 8.3% at meetings. Eighty-three per cent of the staff (83%; 40/45) could correctly define exclusive breastfeeding, demand feeding and the feeding options for an HIV-positive mother. However, only 56.6% of the staff could define rooming-in, and less than half (47.2%) of the staff could define the components of the BFHI. More than half of the respondents (52.8%) could name three baby-friendly care practices and routines. For several of the variables, the proportion of health workers with knowledge of breastfeeding principles was the lowest amongst the ENAs compared to the ENs, PNs and UMs respectively. However, only the exclusive breastfeeding variable was statistically significant (p -value = 0.006) across all four groups.

Table II: Knowledge of nursing staff and managers regarding BFHI principles

Knowledge	ENA ^a (n = 12) n (%)	EN ^b (n = 7) n (%)	PN ^c (n = 26) n (%)	UM ^d (n = 8) n (%)	Total (n = 53) n (%)	P-value*
Heard of the BFHI	12 (100.0)	7 (100.0)	21 (80.8)	8 (100.0)	48 (90.6)	0.12
Define components of the BFHI	4 (33.3)	1 (14.3)	14 (53.8)	6 (75.0)	25 (47.2)	0.07
Name three baby-friendly care practices and routines	7 (58.3)	3 (42.9)	15 (57.5)	7 (87.5)	32 (60.4)	0.33
Define exclusive breastfeeding	6 (50.0)	7 (100.0)	24 (92.3)	7 (87.5)	44 (83.0)	0.006
Define rooming-in	4 (33.3)	3 (42.9)	18 (69.2)	5 (62.5)	30 (56.6)	0.17
Define demand feeding	6 (50.00)	6 (85.7)	21 (80.8)	7 (87.5)	40.00 (83.0)	0.13
Define infant feeding options for an HIV-positive mother	10 (83.3)	5 (71.4)	21 (80.8)	8 (100.0)	44 (83.0)	0.49

^aENA = Enrolled nursing assistant, ^bEN = enrolled nurse, ^cPN = professional nurse, ^dUM = unit manager)

* Chi-square test

Table III: A comparison of the knowledge of BFHI-trained vs. non-BFHI-trained nursing staff

Knowledge of BFHI principle	BFHI trained n = 22 n (%)	Non-BFHI trained n = 31 n (%)	Total n = 53 n (%)	P-value*
Define components of BFHI	12 (54.5)	13 (41.9)	25 (47.2)	0.26
Name three baby-friendly practices and routines	14 (63.6)	18 (58.1)	32 (60.4)	0.45
Define exclusive breastfeeding	20 (90.9)	24 (77.4)	44 (83.0)	0.18
Define rooming-in	14 (63.6)	16 (51.6)	30 (56.6)	0.28
Define demand feeding	19 (86.4)	21 (67.7)	40 (83.0)	0.11
Define infant feeding options for an HIV-positive mother	22 (100.0)	22 (71.0)	44 (83.0)	0.004

* Chi-square test

When comparing the ENAs with the rest of the groups (total of ENs, PNs and UMs) in a bivariate analysis, three variables reached statistical significance, namely defining exclusive breastfeeding (p -value = 0.001), rooming-in (p -value = 0.03) and demand feeding (p -value = 0.01).

When comparing the knowledge of BFHI-trained and non-BFHI-trained participants regarding BFHI principles, the BFHI-trained staff scored higher on all variables, but only one variable reached statistical significance, i.e. defining the infant feeding options for an HIV-positive mother (p = 0.004). (See Table III.)

Practical demonstration of the interpretation of BFHI principles

Table IV shows the practice of BFHI principles among the various categories of nursing staff. The practices relating to BFHI principles were assessed among the nursing staff (n = 45) and not UMs, as they are the main primary educators of mothers regarding the management of infant feeding practices. Eighty-nine per cent of the nursing staff interviewed were able to demonstrate the correct positioning of the baby for breastfeeding. Similarly, a high proportion of the nursing staff (91.1%; 41/45) could correctly attach the baby to the breast. However, only 35.6% (16/45) of the nursing staff could adequately describe the management of painful nipples and 22.2% (10/45) could describe the management of engorgement. For hand-

milk expressing, four steps were identified to evaluate the technique: holding the areola at 6 and 12 o'clock, pressing backwards towards the chest, compressing the areola, and releasing with no sliding of the fingers. Only 8.9% (4/45) could correctly demonstrate the technique using the above criteria. Showing how to express is part of step five of the ten steps to successful breastfeeding. Three of the four staff members who were able to demonstrate this were BFHI trained. Forty-seven per cent of the staff could demonstrate three steps of the criteria. Only 40% (18/45) of the staff could adequately describe the safe preparation of infant formula.

When comparing the practical skills of the ENAs with the rest of the groups (total of EN, PN and UM), the difference only reached statistical significance for one variable: showing the correct attachment to the breast (p = 0.03). The ENAs were once again the lowest scoring cadre of nurses.

Table V show that only one practice variable, namely the management of painful nipples (p = 0.005), showed a better skill level among the BFHI-trained participants.

Attitudes towards BFHI principles

Response frequencies were calculated for each of the 13 items of the attitude Likert scale (see Table VI). Ninety-six per cent of the staff agreed that the benefits of breastfeeding outweighed any difficulties

Table IV: Successful practice of BFHI principles by nursing staff

Practice	ENA ^a (n = 12) n (%)	EN ^b (n = 7) n (%)	PN ^c (n = 26) n (%)	Total (n = 45) n (%)	P-value*
Show correct positioning of baby	10 (83.3)	6 (85.7)	24 (92.3)	40 (88.9)	0.68
Show correct attachment to the breast	9 (75.0)	7 (100.0)	25 (96.2)	41 (91.1)	0.07
Adequately describe the management of painful nipples	6 (50.0)	2 (28.6)	8 (30.8)	16 (35.6)	0.47
Adequately describe the management of engorgement	2 (16.7)	2 (28.6)	6 (23.1)	10 (22.2)	0.82
Show correct hand expressing technique (all four steps identified)	0 (0.0)	2 (28.6)	2 (7.7)	4 (8.9)	0.10
Show correct hand expressing technique (three steps identified)	7 (58.3)	4 (57.1)	14 (53.8)	25 (55.6)	0.96
Adequately describe preparation of formula	3 (25.0)	5 (71.4)	10 (38.5)	18 (40.0)	0.13

^aENA = enrolled nursing assistants, ^bEN = enrolled nurse, ^cPN = professional nurse

* Chi-square test

Table V: A comparison of the practices of BFHI-trained vs. non-BFHI-trained nursing staff

Practical demonstration of BFHI principle	BFHI trained n = 21 n (%)	Non-BFHI trained n = 24 n (%)	Total N = 45 n (%)	P-value*
Show correct positioning of baby	19 (90.5)	21 (87.5)	40 (88.9)	0.56
Show correct attachment to breast	21 (100.0)	20 (83.3)	41 (91.1)	0.07
Show correct expressing technique	3 (14.3)	1 (4.2)	4 (8.8)	0.25
Adequately describe preparation of formula	10 (47.6)	8 (33.3)	18 (40.0)	0.25
Adequately describe the management of painful nipples	12 (57.1)	4 (16.7)	16 (35.6)	0.005
Adequately describe the management of engorgement	6 (28.6)	4 (16.7)	10 (22.2)	0.27

* Chi-square test

Table VI: Attitude towards BFHI principles of nursing staff and unit managers

BFHI principle	Strongly agree n (%)	Agree n (%)	No opinion/ uncertain n (%)	Disagree n (%)	Strongly disagree n (%)
The benefits of breastfeeding outweigh any difficulties/inconvenience mothers may encounter	33 (62.3)	18 (34)	1 (1.9)	1 (1.9)	0 (0.0)
A mother should stop breastfeeding if she develops a breast infection (mastitis)	5 (9.4)	23 (43.4)	6 (11.3)	11 (20.8)	8 (15.1)
Exclusive breastfeeding for six months is the optimal feeding for healthy babies	32 (60.4)	15 (28.3)	0 (0.0)	6 (11.3)	0 (0.0)
Working mothers can breastfeed exclusively	32 (60.4)	15 (28.3)	1 (1.9)	3 (5.7)	2 (3.8)
It is very difficult to breastfeed exclusively up to six months of age	3 (5.7)	10 (18.9)	7 (13.2)	14 (26.4)	19 (35.8)
Babies younger than six months should not be given water	39 (73.6)	11 (20.8)	1 (1.9)	1 (1.9)	1 (1.9)
Healthy full-term babies need additional fluids, other than breast milk	0 (0.0)	3 (5.7)	0 (0.0)	13 (24.5)	37 (69.8)
Early supplements can result in insufficient breast milk supply	27 (50.9)	15 (28.3)	1 (1.9)	8 (15.1)	2 (3.8)
Implementation of the BFHI results in effective breastfeeding	29 (54.7)	20 (37.7)	2 (3.8)	2 (3.8)	0 (0.0)
Implementation of the BFHI is a burden to nursing staff	2 (3.8)	3 (5.7)	1 (1.9)	33 (62.3)	14 (26.4)
Initiation of breastfeeding should occur skin to skin within one hour after birth	41 (77.4)	11 (20.7)	0 (0.0)	0 (0.0)	1 (1.9)
Babies need to suck on a dummy/pacifier	0 (0.0)	1 (1.9)	0 (0.0)	2 (3.8)	50 (94.3)
Complementary feeding should start at six months	27 (50.9)	23 (43.4)	0 (0.0)	1 (1.9)	2 (3.8)

a mother may encounter. Fifty-three per cent of the respondents had the incorrect idea that a mother should stop breastfeeding if she developed mastitis. Responses regarding fluids and supplements were as follows: 94.4% of the staff correctly agreed that babies younger than six months should not be given water, and 94.3% correctly disagreed with the statement that healthy, full-term babies need additional fluids other than breast milk. Although most nurses

(79.2%) agreed that early supplementation or complementary feeding could result in insufficient breast milk supply, 18.9% thought otherwise. Regarding BFHI implementation, most of the nurses (88.7%) disagreed that BFHI implementation was an extra burden on the nursing staff, although 9.5% thought otherwise. The majority of the nurses had positive attitudes toward BFHI principles and practices.

Barriers and constraints to BFHI implementation

The primary purpose of the open-ended questions was to explore, in greater depth, the issues and concerns that staff may have relating to BFHI implementation. Questions were asked regarding their opinion of the BFHI, their perceptions of their main role and function, barriers and constraints to the implementation of BFHI, and suggestions for the improvement of BFHI implementation. The unit managers were asked an additional two questions regarding their feelings and experiences of facilitating the BFHI process within their facilities: "How do you feel about facilitating the BFHI process in your facility?" and "What are your experiences about facilitating the BFHI process?" Responses to the open-ended questions were optional and not mandatory.

Perceptions of the BFHI

The majority of the staff had positive perceptions of the BFHI and could see the importance and benefits it holds for the mother, baby and staff. Two respondents had the perception that the BFHI poses extra work for nurses.

Main role in implementation of the BFHI

Most of the participants viewed their main role as being to teach, educate, inform and provide advice on breastfeeding (37.7%), support, assist and help with breastfeeding and the initiation of breastfeeding (16.9%), and encourage and promote awareness of breastfeeding (16.9%). Fifty per cent of the unit managers perceived their main role to be ensuring that their staff were trained.

Barriers and constraints to and difficulties in the implementation of the BFHI

The main structural barrier to implementation identified by the staff was a shortage of staff (37.7%; 20/53), followed by a heavy, busy workload (13.2%; 7/53). Fifty per cent (4/8) of the unit managers perceived staff shortages as a barrier to BFHI implementation. A high percentage of respondents (34%; 18/53) had no comments when asked to identify barriers to BFHI implementation in their own facilities, and 15.1% (8/53) identified general barriers (see Table VI).

Almost 90% of the unit managers strongly agreed/believed that understaffing, staff attitudes, lack of knowledge and training, and resistance and reluctance to change behaviour were barriers to the implementation of the BFHI. All unit managers agreed that regular communication on BFHI issues was important for the implementation of the BFHI, and 87.5% believed that support from management had a positive effect on the implementation of the BFHI.

Assistance/support needed to improve BFHI implementation

The main form of assistance or support identified to improve the implementation of BFHI principles included training and workshops for staff (20.7%), followed by community outreach programmes, e.g. support groups and workshops for grandmothers (15.1%), followed by employing more staff (11.3%). A few of the staff (7.5%) felt that assistance and support from the district nutrition team was needed and that it was necessary to obtain promotional and visual aids, e.g. dolls, breasts, DVDs and pamphlets, to assist them.

Table VI: Barriers and constraints to and difficulties in the implementation of the BFHI as identified by nursing staff and unit managers

Organisational/structural issues	Nursing staff ^a (n = 45)	UM ^b (n = 8)	Total	Total % (N = 53)
Shortage of staff	16	4	20	37.7
Too busy, heavy workload	7	0	7	13.2
No space	0	1	1	1.9
Staff leaving service	0	1	1	1.9
Staff resistance to change, set in old ways	2	0	2	3.8
Stay after delivery too short	1	0	1	1.9
Lack of knowledge, training of staff	2	2	4	7.5
Not good team work	1	0	1	1.9
Staff perceptions, e.g. extra work, partners in the way	2	0	2	3.8
Staff attitude	0	3	3	5.7
Fear of the unknown, writing exams	0	1	1	1.9
Availability of training courses	0	1	1	1.9
No comments	18	0	18	34
General issues, e.g. teenage mothers	8	0	8	15.1

^aNursing staff = enrolled nursing assistants, enrolled nurses and professional nurses

^bUM = unit managers

Perceptions about facilitating the BFHI process

Most of the UMs (62.5%) felt that they did not have much experience in facilitating the BFHI process in their facility. One UM felt that it was challenging and that there was limited time to drive the process. Another responded that there were many obstacles; that they needed guidance from the district nutrition team and that the turnover in nutrition staff impacted negatively on the process. Feelings expressed regarding the facilitation of the BFHI process included: "Have to put in extra effort to facilitate", "Challenging, sometimes don't have the energy to drive it", "Needs continuous planning", "No problem, have started process".

Discussion

Knowledge

Lack of knowledge in health care professionals can impact negatively on optimal breastfeeding when women receive inconsistent, inaccurate and/or inadequate breastfeeding information.¹¹ The ENAs and ENs ranked the lowest, with four of the six knowledge questions and three of the six knowledge questions, respectively, being answered correctly. The reason for this could be that the ENAs and ENs had the longest years of service and were older in mean age compared to the PNs and UMs. Another possible explanation might be that the ENAs and the ENs did not keep track of the latest developments and recommendations, and that they might not be included when feedback is given to nurses regarding the facility's progress. This shifts the focus to improving the knowledge of the lower level spectrum of nursing staff. This category of staff should be prioritised for training.

The UMs knowledge ranked high. This is quite surprising, as only one of the UMs was trained in the BFHI. It may be that the UMs spend more time on reading the relevant documents and policies, thereby gaining information and getting more exposure to information, presentations and lectures when attending meetings. However, knowledge and information need to be communicated to all the relevant staff. It should become common practice in the MOUs that information must be communicated to all staff after any of them have attended information or training sessions. A meta-analysis of 72 independent studies demonstrated the importance of information sharing for team performance, cohesion and knowledge integration.¹²

The score on the BFHI knowledge and practice variables of the cohort of trained staff was not always significantly higher than that of the untrained staff. The study found that BFHI-trained staff were significantly more knowledgeable than the non-BFHI-trained staff on one knowledge variable and one practice variable [defining infant feeding options for an HIV-positive mother ($p = 0.004$) and management of painful nipples ($p = 0.005$)]. The findings of this study are somewhat in line with earlier studies in which the knowledge of trained versus untrained health care workers was compared.^{13,14}

Practices

It is critical that nursing staff in these institutions should be able to show mothers the right way to practise breastfeeding and to manage any problems that they may encounter, as they are the first line of contact with the mother who has just given birth. The correct positioning and attachment of the baby to the breast is essential for the efficient transfer of milk and may be the single most important measure to prevent and treat lactation problems.¹⁵ Eighty-nine per cent of the nursing staff interviewed were able to demonstrate the correct positioning of the baby for breastfeeding. Similarly, a high proportion (91.1%; 41/45) of nursing staff (21 trained and 20 staff without prior training) could correctly attach the baby to the breast. The ENs and PNs ranked the highest, followed by the ENAs. A study in Nigeria found that only 5.22% of staff could demonstrate the correct positioning and attachment. However, the staff interviewed had no BFHI training.¹⁰

Nursing staff have the primary responsibility for supporting and helping mothers who have just given birth to overcome breastfeeding-related problems. However, this study showed that only 35.6% had knowledge of the correct management of painful nipples, while 22.2% had knowledge of the management of engorgement and only 8.9% of the nursing staff interviewed were able to adequately demonstrate the correct hand milk-expressing technique. The most common reason for a painful nipple is poor attachment, but only some of the staff recommended correcting the attachment.^{16,17,18} The ENs and the PNs ranked the highest. The ENAs ranked the lowest in five of the six practice variables. As they have the most contact with mothers after delivery, this result is cause for concern.

What is important is that these findings indicate that the nursing staff did not acquire the necessary skills to provide adequate breastfeeding support and assistance to mothers with regard to the milk-expressing technique, and the management of engorgement

and painful nipples. Facility-based training and refresher courses should be offered at all non-accredited facilities, especially with regard to the practical skills needed by nursing staff. The production of a DVD, posters and pamphlets that address these skills could be considered.

Artificial feeding

It is critical that parents and caregivers are provided with enough and correct information on the preparation, use and safe handling of powdered infant formula in order to minimise health hazards.¹⁹ Only an alarmingly small number of staff (40%) could adequately describe the safe preparation of infant formula. Of the staff that could adequately describe this, only 47.6% were trained in BFHI. This may imply that they were not trained with the new BFHI training package, which now includes this aspect. Refresher courses should be offered to all trained staff, and also address HIV and infant feeding. It is widely recognised that powdered infant formula is not always a commercially sterile product and therefore carries the risk of infection. World Health Resolution 58.2 of 2005 recognises that intrinsic contamination of powdered infant formula with *Enterobacter sakazakii* and *Salmonella* spp. has been a cause of infection and illness.^{19,20}

Attitudes towards breastfeeding

The majority of the nurses had positive attitudes toward BFHI principles and practices. Fifty-three per cent of the respondents had the incorrect idea that a mother should stop breastfeeding if she developed mastitis. For the correct management of mastitis, it is important that mothers should not rest the breast, but rather remove the milk by continuing with on-demand breastfeeding.¹⁷

Perceptions of the BFHI

Most of the staff could see the importance of the BFHI and breastfeeding and the benefits they have for the mother and baby. BFHI implementation does not necessarily represent additional work for the nursing staff, but rather is a better way of performing tasks. By implementing step seven of the ten steps (rooming-in), the mother becomes the main provider of the baby's basic needs and the first-line monitor of the baby's health. This progressively relieves the nursing staff of many routine activities, e.g. feeding the baby, cleaning the baby and monitoring the baby. Some of the staff felt that it was more work for them and that they needed an additional person to help with the BFHI, and therefore the opinion that the BFHI involves additional work should be addressed in these MOUs.

Barriers to the implementation of the BFHI

The study identified the barriers to the implementation of the BFHI principles in non-accredited MOUs in Cape Town. A high percentage of the respondents (34%) had no comments when asked to identify barriers to BFHI implementation in their own facilities. The respondents expressed a sense of frustration with increased workloads and low staffing levels, which made it difficult for them to find the time to implement the BFHI effectively. Half of the participants (50.9%) identified low staffing and heavy workloads as a barrier to implementation. Almost 90% of the respondents strongly agreed with the statement that understaffing affects BFHI implementation, although only 11.3% of the staff stated that more staff were required to improve BFHI implementation.

These findings are consistent with those of a study by Reddin et al, in which the participants felt that time pressures on staff and heavy workloads were among the barriers experienced, not only by the midwifery graduates, but also by the experienced staff who were trying to comply with the ten steps of the BFHI.²¹ Davies et al similarly reported lack of time and workload as barriers to implementing breastfeeding guidelines.²² These findings provide useful information to further assist these facilities in the implementation of the BFHI. It is necessary to start a process to identify facility-based barriers and constraints, as well as to set up task teams and design action plans to overcome these barriers.

All UMs agreed that regular communication on BFHI issues was important for the implementation of the BFHI, and that support from management has a positive effect on its implementation. An Australian case study similarly found that a change in attitude among staff continued to prove to be the greatest challenge to those wishing to seek BFHI accreditation.²¹ Lack of knowledge was also identified by respondents (7.5%) in this study, as a barrier to BFHI implementation, and 20.7% of the staff suggested training and workshops to improve it.

Most of the UMs strongly agreed that understaffing, staff attitude, lack of knowledge and training, and resistance and reluctance to change behaviour were barriers to the implementation of BFHI principles in their maternity units. Davies et al similarly found staff resistance, workloads, lack of management support, and lack of communication as the most important barriers to the implementation of breastfeeding guidelines in Australia.²² Overcoming some of the barriers identified in this study, e.g. staff resistance and staff attitude, will not happen overnight and will take time and effort to address.

Support needed to improve implementation of the BFHI

The support that was identified as being necessary to improve the implementation of the BFHI included training, workshops, more staff to be employed, using visual aids like dolls and artificial breasts, support and assistance from district nutrition staff and establishment of community outreach programmes, e.g. home visits, workshops for grandmothers and support groups at the clinic. Lack of knowledge and training was identified as a barrier to implementation and training would be required to address this.

Perceptions of and experiences in relation to the facilitation of the BFHI process

Most of the UMs (62.5%) felt that they did not have the necessary experience to facilitate the BFHI process in their facility. This poses the question as to who ultimately is responsible for this function. Of the eight MOUs, only two had established BFHI committees. Clarity must be given regarding the roles and responsibilities of the UMs with reference to the BFHI process. One UM felt that it was challenging and that there was limited time to drive the process. It seems that there is a real need for external motivation to address these feelings.

The two respondents who identified their main role as being driving the process within the MOU were UMs. This raises the issue of strong leadership, which Merewood and Phillips identified as key to becoming baby-friendly.²³

The scope of the study was restricted to non-accredited facilities. The assumption was made that these facilities experience more barriers to the implementation of the BFHI than accredited facilities. The barriers in BFHI-accredited facilities were not looked at and this could be an area of research to be explored in future studies.

Conclusion

The findings of this study have highlighted that there is a need for BFHI training in non-accredited MOUs, as well as refresher courses for trained staff addressing HIV and infant feeding. It is evident that if real change is to be achieved in relation to the BFHI, ongoing support to address the policies, staffing and training issues will be needed in the MOUs and districts.

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