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Assessing the training, knowledge, and attitudes of healthcare workers on the Baby Friendly Hospital Initiative

Received: 31st July 2023

Accepted: 26th October 2023

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Abstract: *Background:* The baby-friendly hospital initiative (BFHI) is a quality improvement strategy designed to support the initiation, maintenance, and exclusive breastfeeding and equips healthcare workers to promote successful breastfeeding.

Objectives: To assess the training of healthcare workers, knowledge, and attitudes regarding the BFHI at the Cecilia Makiwane Hospital neonatal unit, which is one of the BFHI accredited facilities in South Africa.

Methods: A survey was conducted amongst 62 clinical members of staff in the neonatal units of the hospital in August 2020.

Results: Only 40.3% of the healthcare workers had received formal BFHI training. Of these, only 11% had been trained in the previous two years. This falls short of the standard set by the World Health Organization (WHO) of more than 80% in the previous two years. More than 80% of the healthcare workers correctly defined the aim of the BFHI, exclusive breastfeeding and early initiation of breastfeeding. However, fewer than 67% knew the definitions of demand feeding and rooming in. Only 55% knew the correct management of mastitis, one of the common breastfeeding difficulties. Over 80% of healthcare workers did not view the BFHI as a burden to staff.

Conclusion: Although the BFHI training was below the WHO recommendations in terms of the proportion of staff trained, the staff had good knowledge and positive attitudes towards BFHI. There is a need to improve the frequency of BFHI training focusing on less understood areas such as rooming

in, demand feeding and the management of mastitis.

Keywords: Breastfeeding, BFHI, training, knowledge, attitudes,

Résumé: *Contexte :* L'initiative Hôpitaux amis des bébés (IHAB) est une stratégie d'amélioration de la qualité des soins conçue, pour favoriser l'initiation, le maintien et l'allaitement maternel exclusif et pour renforcer la capacité du personnel soignant dans le domaine de la promotion de l'allaitement maternel.

Objectifs : Évaluer la formation du personnel soignant, les connaissances et les attitudes concernant l'IHAB dans l'unité de néonatalogie de l'hôpital Cecilia Makiwane, un des établissements accrédités pour l'IHAB en Afrique du Sud.

Méthodologie: Une enquête a été menée auprès de 62 membres du personnel clinique des unités de néonatalogie de l'hôpital en août 2020.

Résultats: Seulement 40,3 % du personnel soignant avait reçu une formation officielle à l'IHAB. Parmi eux, seuls 11 % avaient été formés au cours des deux années précédentes. Ce chiffre est inférieur à la norme fixée par l'Organisation mondiale de la santé (OMS), qui est de plus de 80 % au cours des deux années précédentes. Plus de 80 % des professionnels de la santé ont correctement défini l'objectif de l'IHAB, l'allaitement maternel exclusif et l'initiation précoce à l'allaitement. Cependant, moins de 67% connaissaient les définitions de l'alimentation à la demande et du rooming-in. Seuls 55 % savaient comment prendre en charge la mastite, l'une

des difficultés les plus courantes de l'allaitement maternel. Plus de 80 % des professionnels de la santé ne considéraient pas l'IHAB comme une charge pour le personnel.

Conclusion: Bien que le taux de personnel formé à l'IHAB ait été inférieur aux recommandations de l'OMS, le personnel avait de bonnes connaissances et des attitudes posi-

ves à l'égard de l'IHAB. Il est nécessaire d'améliorer la fréquence des formations sur l'IHAB en mettant l'accent sur les aspects moins bien compris tels que le rooming-in, l'alimentation à la demande et la gestion de la mastite.

Mots-clés: Allaitement maternel, IHAB, formation, connaissances, attitudes.

Introduction

The Baby Friendly Hospital Initiative (BFHI) is a quality improvement strategy aimed at promoting timely initiation, maintenance and the exclusivity of breastfeeding in the first six months of life.¹ BFHI equips healthcare workers with knowledge and skills as major role players in the promotion of successful breastfeeding by ensuring the implementation of the ten steps to successful breastfeeding that every facility providing maternity services and care to newborn infants should follow.^{2,3} South Africa adopted and implemented the BFHI in 1993 after its launch in 1991 in Geneva, and some facilities were transformed to comply with the ten steps to successful breastfeeding. By the end of 2005, about 37% of health facilities in the country had been accredited for BFHI. In August 2011 the Tshwane declaration of support for breastfeeding reemphasised BFHI at a meeting held in Gauteng. Despite the progress made, the infant and child mortality rates in South Africa have remained high, and the rates of exclusive breastfeeding low.^{4,5} Since the Tshwane declaration, there have been better breastfeeding outcome rates in BFHI accredited maternity facilities compared to non-accredited facilities in South Africa.⁶

In South Africa exclusive breastfeeding for six months remains an uncommon practice.⁵ These feeding practice patterns are attributed to the biopsychosocial challenges encountered in the promotion and maintenance of breastfeeding.² A cluster randomised control trial that examined determinants of early cessation of breastfeeding by HIV-positive women found that at three months postpartum, 20% of HIV-negative women and 40% of HIV-positive women had discontinued breastfeeding.⁷ A third of the women in this study had introduced formula feeds by the third day of life.⁷ The early introduction of complementary feeds by both HIV-negative and HIV-positive women is attributed to the common misconception in South Africa that exclusive breastfeeding is an inadequate source of nutrients for the first six months of life.^{7,8} A study looking into the demographics of lactating mothers in the Eastern Cape of South Africa, showed that married mothers, who were unemployed, as well as mothers who didn't smoke or drink were more likely to continue exclusively breastfeeding for the recommended first six months.⁹ The importance and benefits of breastfeeding infants in providing adequate nutrition and preventing diarrhoeal disease is recognized

worldwide.^{4,10,11}

Training of all members of staff is the most critical element of the BFHI and forms the second step of the ten steps to successful breastfeeding. According to the WHO, training is optimal if 80% of healthcare workers who provide antenatal and/or new-born care services receive pre-service or in-service training on breastfeeding during the previous two years to ensure adequate knowledge and skills.¹² Gavine et al conducted a systematic review on how education and training about breastfeeding to healthcare workers affects their knowledge, skills, and attitudes towards breastfeeding mothers. Unfortunately, only four out of 1192 identified reports could be included, leading to the major finding that much more research is needed for good quality answers.¹³

Studies show that in some facilities the training of healthcare workers even in BFHI hospitals can be as low as a third of the healthcare workers. In Turkey a survey in four different BFHI accredited hospitals located in Istanbul interviewing 269 doctors and nurses, who were not exclusively working in the obstetric or neonatal units, found that only 39.3% of the staff were trained on breastfeeding.¹⁴ An even lower percentage of 32.5% was shown in Kerala, in South India when assessing 80 staff nurses working in obstetric and paediatric care units in BFHI accredited hospitals.¹⁵ A prospective cohort study from Nepal, where the training of BFHI was started in 1992, only 35% of mothers had been advised on all eight and 60% on six of the WHO breastfeeding recommendations.¹⁶ The study also showed that if mothers had been counselled about "breastfeeding on demand" and "not to provide pacifier or teats" the risk of cessation of exclusively breastfeeding before six months dropped significantly.¹⁶ Although Nepal adopted and implemented the BFHI in 1991, a recent study from the Kathmandu Medical College Teaching Hospital found only 41% of the interviewed 27 nurses, who were working with pregnant and women after delivery, were aware of the 10 steps to successful breastfeeding.¹⁷

A study in Nassarawa state, Nigeria, looked at 10 out of 16 accredited health facilities and found that the staff were not BFHI trained¹⁸. Furthermore, there was a general lack of awareness and knowledge of the major points for successful breastfeeding recommendations. For example, only 20.8% of the 250 interviewed staff were aware of the benefit of initiating breastfeeding within 30 minutes of birth and only 19.2% of the health

workers believed that babies less than 6 months of age should not be given water. Knowledge about practices was even lower with only 5.22% of health workers being able to demonstrate correct positioning and attachment.¹⁸

A study conducted in Cape Town, South Africa that examined the knowledge, attitudes and practices of nursing staff working in a non-accredited obstetric unit, found that only 41% of the nurses had formal training in breastfeeding management. This study further showed that only 56.6% of the staff were able to define the components of the BFHI, while 47.2% could define rooming-in.¹⁹ In rural Limpopo a study showed that most professional and enrolled nurses had a positive attitude towards breastfeeding, but it also showed that up to 91% of them thought that the implementation of breastfeeding in their daily work was a burden.²⁰ Recently, a cross-sectional study which included data from self-assessment questionnaires sent to accredited and non-accredited 33 neonatal wards in public and private hospitals in South Africa showed a good median score of BFHI compliance of 77, with public and accredited hospitals scoring higher than private and non-accredited hospitals.²¹ Though most of these facilities have challenges with written policies on breastfeeding, training of staff on breastfeeding practices, promoting exclusive breastfeeding, and fostering the establishment of breastfeeding support groups.²¹

The above-described literature demonstrates a need for strong interventions to promote BFHI; more research on training, knowledge and attitudes is needed to identify problem areas and implement fit-for-purpose interventions that are relevant to the facilities and context. Thus, the aim of the study was to assess the training of healthcare workers and their knowledge, attitudes in BFHI in the neonatal unit of an accredited facility.

Methods

Study design

This cross-sectional survey was conducted in 2020 in Cecilia Makiwane regional hospital, an accredited baby-friendly hospital, in the Eastern Cape Province of South Africa. The study population consisted of 62 healthcare workers (14 doctors, 37 nurses, 11 allied medical professionals) who have regular contact with nursing mothers and their infants in the neonatal unit. The training, knowledge, and attitudes of the healthcare workers were determined using a self-administered questionnaire which was completed in the presence of the researcher, allowing for clarification where questions were found to be ambiguous or unclear. Ethics approval was received from Walter Sisulu University with clearance number 028/2020. Confidentiality was maintained, and informed consent was obtained.

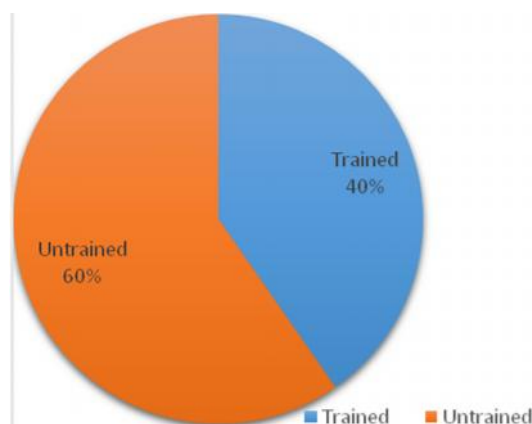
The questionnaire was developed by the researcher based on the ten steps to successful breastfeeding

(WHO, 2018), the UNICEF/WHO hospital self-appraisal tool and literature on the training, knowledge, attitudes of healthcare workers regarding the BFHI was used. The first part of the questionnaire collected the socio-personal and professional characteristics of the participants by asking for variables such as profession, age, gender, years of service and experience in breastfeeding. The second part of the questionnaire focused on assessing the participant's knowledge and attitudes of the BFHI. The knowledge of participants was assessed using three close-ended questions requiring a yes or no answer, such as awareness of the hospital breastfeeding policy, understanding of the ten steps to successful breastfeeding and training in BFHI. The knowledge was further assessed by asking for the definitions of the components of BFHI, namely exclusive breastfeeding, early initiation of breastfeeding, demand feeding and rooming in using five open-ended questions with single correct responses such as "what is meant by exclusive breastfeeding?". Their responses were assessed by the researcher as correct or incorrect using the definitions as per the WHO guidelines on the BFHI. A Likert scale was used for the assessment of attitudes of the healthcare workers. This scale assessed the responses by grading them from 'strongly agree' to 'strongly disagree'. The response frequencies were calculated in percentages, means and ranges for items on the knowledge, and attitudes variables. The statistical significance of the differences observed between the three different categories of healthcare workers, namely doctors, nurses and allied medical professionals, for knowledge, and attitudes were calculated using the chi-square formula with SPSS version 26. A p-value less than 0.05 was allowed for statistical significance.

Results

A total of 62 healthcare workers (HCW) were enrolled in the study and only 25 (40%) healthcare workers in the neonatal unit had received formal training in the BFHI. Of these, only 7 (11%) had received training in the previous two years as per the WHO recommendations. Figure 1 depicts a pie-chart of the proportions of staff trained.

Fig 1: Proportions of Staff who were trained



Awareness of breastfeeding policy

Most of the healthcare workers (79%) reported awareness of the breastfeeding policy. The highest level of awareness was amongst nurses (91%), followed by doctors (71%). The allied medical professionals had the least proportion of professionals who were aware (45%). Self-reported understanding of the ten steps to successful breastfeeding policy was reported by 45 HCW (71%). Similar to awareness, nurses had the highest proportion (84%) of participants who reported good understanding, followed by 64% of the doctors and 45% of the allied medical professionals. See figure 2.

Knowledge of definitions and components of BFHI

Overall, 74% (46) of the participants had knowledge of the aim of BFHI training and policy, while 86% (53) could define exclusive breastfeeding. Fewer participants had knowledge of demand feeding and rooming in 42 (68%) and 33 (53%), respectively. The knowledge of definitions of the components of BFHI was not statistically significant across the different health care worker categories (See Table 1).

Fig 2: Reporting of awareness of breastfeeding policy and understanding of the ten steps of successful breastfeeding.

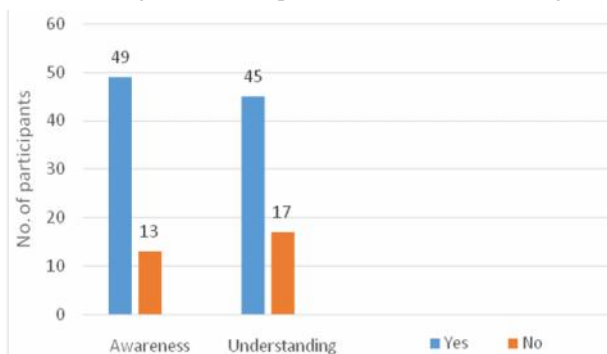


Table 1: Knowledge of the definition of the components of the BFHI

Components of the BFHI	Doctors (N=14)	Nurses (N=37)	Allied medical professionals (N=11)	Total (N=62)	p-values
Aim	11(79%)	26(74%)	9(81%)	46(74%)	0.05
Exclusive Breastfeeding	12(86%)	32(86.5%)	9(81%)	53(86%)	0.05
Early initiation of breastfeeding	14(100%)	34(92%)	8(73%)	56(90%)	0.11
Demand Feeding	8(57%)	29(78%)	5(45%)	42(68%)	0.05
Rooming In	9(64%)	20(54%)	4(36%)	33(53%)	0.37
Positioning	14(100%)	22(59%)	11(100%)	47(76%)	0.004
Nipple attachment	13(93%)	33(89%)	10(90%)	56(90%)	0.93
Hand milk Expression	13(93%)	31(84%)	8(73%)	52(84%)	0.61

Table 2: Identification of the major practices of the BFHI

Statements	Strongly Dis-agree	Disagree	Unsure	Agree	Strongly Agree
1. Exclusive breastfeeding for 6 months does not provide adequate nutrients for the baby.	45 (73%)	5 (8%)	0 (0%)	4 (6%)	8 (13%)
2. Water can be used to supplement the fluid intake in an exclusively breastfed baby.	44 (71%)	13 (21%)	0 (0%)	3 (5%)	2 (3%)
3. Breastmilk helps to protect the baby from infections.	3 (5%)	0 (0%)	0 (0%)	7 (11%)	52(84%)
4. A mother should stop breastfeeding if she develops mastitis.	21 (34%)	13 (21%)	13 (21%)	12 (19%)	3 (5%)
5. Babies need to suck on a dummy for soothing.	42 (68%)	17 (27%)	0 (0%)	1 (2%)	2 (3%)
6. BFHI is a burden to health workers.	31 (50%)	20 (32%)	4 (6%)	4 (6%)	2 (3%)

The identification of the major practices of the BFHI

A large proportion of the participants were able to correctly identify positioning (76%), nipple attachment (90%) and hand milk expression (84%). The differences in identification of major BHI were not statistically significant between the different categories of health care professionals except for the identification of positioning. Doctors and allied medical professionals had significantly higher proportions of participants who could identify the positioning. Table 2 summarises the

identification of the major practices of the BFHI across the different categories.

Attitudes of healthcare workers regarding principles of the BFHI

Only 55% of the healthcare correctly disagreed that a mother should stop breastfeeding if she develops mastitis. The rest of the healthcare workers either incorrectly agreed (24%) with this statement or were unsure (21%).

The attitudes of the healthcare workers toward the benefits of exclusive breastfeeding and breast milk, complementary feeding, and the use of teats and pacifiers were correct amongst most healthcare workers. A summary of attitudes is presented in Table 3 below.

Discussion

This study sought to examine the training, knowledge and attitudes of health care professionals towards BFHI at a BHFH accredited facility in South Africa. Regarding training, this study found that fewer than half of the participants in this study had BFHI training as part of their formal undergraduate curriculum or as part of the formal BFHI training programme. This finding is similar to findings of other studies in non-accredited facilities locally and abroad. While this level of training is below the WHO recommendation of at least 80% of staff to be trained in the previous two years it was higher than training in some other accredited facilities, like the study performed in Turkey.^{14,15} A major difference between the current study and the Turkish study though was that the Turkish study included healthcare workers of which not all were working in close contact with the mother-infant pair.¹⁴

Awareness of the hospital breastfeeding policy was reported by 79% of the healthcare workers working in the present study, comparable to the findings in a descriptive study Nigerian study, which looked at non-accredited hospitals that represented all levels of health care¹⁸. In Cape Town, a higher level of awareness (90%) was reported amongst nurses working in non-accredited maternity obstetric units.¹⁹ The reporting of awareness was much lower in the above mentioned Turkish accredited academic hospital amongst a group of doctors and nurses who worked in other departments besides maternity units.¹⁴ This finding suggests working in neonatal and maternal services experience coupled with adequate training may improve levels of awareness of the hospital breastfeeding policy.

The knowledge of demand feeding was lacking amongst the healthcare workers in this study, which is similar to findings of other two descriptive studies, one in a Turkish academic hospital and one South Asian hospital, which found only about 40% of the participants had this knowledge.^{14,17} Rooming in was another component that was poorly understood by 47% of healthcare workers in the present study. A similar finding was shown in two similar studies where 40% of the nurses could not define rooming, one in South African maternity obstetric units and one in South Indian obstetric and paediatric care units.^{15,19} In the management of the healthy term newborn baby, rooming in and demand feeding go hand in hand, and they are important in the successful continuation of breastfeeding as they assist with maintenance of lactation. This highlights the need to keep up with the training of staff providing neonatal services to ensure

the sharing of consistent and accurate messages with regards to the BFHI.

The knowledge of other components such as the aim of the BFHI, early initiation of breastfeeding and exclusive breastfeeding was well understood by about 80% the healthcare workers. The definition of exclusive breastfeeding was similarly understood by most healthcare workers in the South African study in maternity obstetric units, unlike in a South Indian hospital where the knowledge of exclusive breastfeeding was lacking in 40% of the healthcare workers.¹⁵

The attitudes on the management of a mother with mastitis were contradictory to the BFHI recommendation in 45% of the participants in this study. Again, this result confirms other descriptive surveys findings, where 32% and 47% of participants disagreed with the correct management of a mother with mastitis.^{15,19} In South Asia, the provision of information on benefits and management of breastfeeding was assessed as being poor for most of the nurses.^{15,17}

Most healthcare workers did not view the implementation of the BFHI as a burden to them, a finding common in previous South African studies in both non-accredited maternity obstetric units and primary healthcare facilities.^{19,21} Unfortunately in a study done in primary healthcare units in rural Limpopo, most nurses of all categories found the implementation of breastfeeding time consuming and different to their daily routine.²⁰ These results show that on one hand there is encouraging willingness to support breastfeeding among the healthcare workers, but also that there are areas where training and support of health care worker in implementing breastfeeding needs to be addressed urgently.

This can be achieved by strengthening the team that is responsible for BFHI-related matters by including a member of each category to be a champion for the BFHI. This will ensure that new members of staff and those needing refresher courses will have a platform for communication. Furthermore, more research assessing the knowledge, attitudes, and practices of the various groups of the multidisciplinary team needs to be conducted.

Strengths and limitations

This study to assesses the training, knowledge and attitudes of healthcare workers regarding BFHI in an accredited facility in an under resourced setting in South Africa. Furthermore, this study assessed other categories of healthcare workers, such as doctors, dieticians, and occupational and speech therapists, and not only nurses who are the usual target population in such studies in the country. Therefore, this study presents more nuances from a diverse range of health care workers, enabling targeted interventions. Notwithstanding these strengths, this study was also subject to limitations. First, it is a single-centre study with a small sample; the findings can therefore not be generalised to other facilities. However, because BFHI is facility-based, recommendations informed by evidence generated in this study can be

actioned by the facility. Lastly, due to resource limitations, this study did not analyse the factors associated with training, knowledge and attitudes. Further research to explore these factors is needed.

Conclusion

In conclusion, this study found that the proportions of healthcare workers trained, and the frequency of training

do not meet WHO standards. Despite this, there is good awareness, knowledge, and attitudes towards the BFHI except for rooming in and demand feeding. This adds to the finding that breastfeeding implementation is accepted and acknowledged by South African health care workers, but it requires also urgent attention to improve the training and practical support to reach the numbers of exclusively breastfeeding needed to reduce infant morbidity and mortality in South Africa.

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