AFRICAN JOURNAL OF MEDICINE
and medical sciences

VOLUME 31, NUMBER 2 JUNE 2002

EDITOR:
B. O. OSOTIMEHIN

ASSISTANT EDITOR:
A. O. UWAIFO

ISSN 1116 — 4077

Afr. J. Med. med. Sci (2002) 31, 137-140

Previous BFHI training and Nurses' knowledge, attitudes and practices regarding exclusive breastfeeding

ET Owoaje, A Oyemade and OO Kolude

Department of Community Medicine, University College Hospital, Ibadan, Oyo State, Nigeria

Summary

The UNICEF/WHO Baby Friendly Hospital Initiative (BFHI) programme was developed to train health workers and equip them with the required knowledge and skills to protect, promote and support breastfeeding among mothers through the implementation of the" Ten Steps to Successful Breastfeeding". This study was conducted to assess the effect of BFHI training on knowledge, attitudes and support practices of nurses with regards to exclusive breastfeeding. A total of 298 nurses in maternal and child health care units were interviewed, of these 113 (37.1%) had participated in the BFHI training workshop. Significantly higher proportions of the BFHI trained nurses had the correct knowledge regarding the causes and management of common breastfeeding problems. The overall knowledge scores of the BFHI trained nurses was significantly higher than that of the untrained (11.9 ± 1.8 versus 10.7 ± 2.4 $P < 0.01$). Higher proportions of BFHI trained nurses reported correct support practices for the initiation and establishment of exclusive breastfeeding among mothers. The findings show that nurses who had participated in the BFHI training workshop were significantly more knowledgeable about some aspects of exclusive breastfeeding, they had more positive attitudes and were more likely to employ correct practices for the promotion of exclusive breastfeeding.

Keywords: *BFHI Training, Nurses, exclusive breastfeeeding, knowledge, attitudes and practices*

Résumé

Le programme d'initiative hospitalière 'Baby-Friendly' de l'UNICEF/OMS était développé pour former les cadres de santé et de leur équiper avec tout les atouts et connaissances pour protéger, promouvoir et soutenir l'allaitement maternel parmi les mères par l'implémentation des dix points qui mènent à un allaitement réussit. L'étude était mené pour évaluer l'effet d'une formation IHBF sur la connaissance, les attitudes et les pratiques soutenus par des infirmières à propos de l'allaitement maternel exclusif. Un total de 298 infirmières du service maternel et de la santé d'enfant sont convoqués. Parmi eux, 113 (37,1%) ont participé dans l'atelier de formation (IHBF). Une proportion très signifiant des infirmières qui ont eu la formation IHBF avait la connaissance correcte à ce qui concerne les causes et la gestion des problèmes communs de l'allaitement maternel. La manque total de connaissance des infirmières formés était plus élevé que dans ceux qui n'ont pas la formation ($11,9 + 9, 1, 8$ contre $10,7 + 2,4$ $p < 0.01$). Une proportion très élevé des infirmières formés en IHBF ont remarqué correctement des pratiques d'appui pour l'initiation et la création de l'allaitement exclusif parmi les mères. L'étude montre que les infirmières qui ont participé à cette formation IHBF ont plus de connaissances sur quelques aspects de l'allaitement exclusif, ayant des attitudes plus positives et sont plus probables d'employer les pratiques correct pour la promotion de l'allaitement exclusif.

Correspondence: Dr. Eme Owoaje, Department of Community Medicine, University College Hospital, Ibadan, Oyo State, Nigeria

Introduction

Epidemiological research has established that exclusive breastfeeding is the optimal way to feed an infant both in the developed and developing nations in the first 4-6 months of life [1-3]. Despite the attendant advantages of this form of infant feeding, the prevalence of exclusive breastfeeding still remains quite low [4]. In most developing countries of Africa, Asia and Latin America, breastfeeding initiation rates have remained high, but few babies are exclusively breastfed, most of them receive some form of supplementation such as milk, water, tea or fluids by the age of 1 to 2 months [5,6]. Various socioeconomic and cultural factors have contributed to this practice [7], however health workers especially nurses have played a key role, through inadequate knowledge of breastfeeding management and the introduction of routines which interfere with the initiation and establishment of breastfeeding [8]. Previous research has demonstrated that proper counseling and support by health workers can significantly improve the initiation and duration of exclusive breastfeeding among mothers [9,10].

The modification of health care practices has been seen as a key strategy to the reversal of this trend of early supplementation. Consequently the UNICEF/WHO Baby Friendly Hospital Initiative (BFHI) programme was developed to train health workers and equip them with the required knowledge and skills to protect, promote and support breastfeeding among mothers through the implementation of the" Ten Steps to Successful Breastfeeding". Continuous lactation management training among health workers in Nigeria has been conducted since 1992, but there is little information on the current knowledge, attitudes and support practices of nurses regarding exclusive breastfeeding . This study was designed to provide some information in this regard.

Materials and methods

This is a descriptive study carried out in government health institutions at the three levels of health care services, in Ibadan, Oyo State, Nigeria between April and August 1997. The study was conducted in government health institutions where previous BFHI Lactation Management training had been conducted. The University College Hospital is the only tertiary institution in Ibadan and it met the inclusion criteria. At the secondary level only two of the three hospitals in Ibadan met the selection criteria namely Adeoyo Maternity Home and Jericho Nursing Home. BFHI training had also been conducted at the Primary health care level. All 13 Primary Health Centres which provided comprehensive health services including antenatal care, delivery, postnatal services were selected for this study. All the nurses known to have been working for at least six months prior to the study in the specialty units most likely to be involved with breastfeeding mothers i.e. Paediatrics, Obstetrics & Gynaecology and Community Medicine departments were eligible to participate in the study. Permission was obtained from the appropriate authorities at each level of health care delivery and in each institution to conduct the study. A total of 305 nurses were eligible to participate in the study but 7 refused to be interviewed.

The questionnaire was based on the "Ten Steps to Successful Breastfeeding ",the code of practice for Baby Friendly Hospitals. The objectives of the study were explained to the respondents and verbal consent was obtained before administering the questionnaire. Information was sought regarding the respondents' demographic characteristics, knowledge , attitudes and support practices with regards to exclusive breastfeeding. Likert scales [11] (1 to 5) were used for the attitudinal questions to allow for varying degrees of agreement or disagreement as well as a neutral choice. Knowledge of the management of breastfeeding problems was assessed using clinical scenarios about common lactation problems; correct answers were based on recommendations of the BFHI 18-hour lactation management training course.

The data was entered into floppy diskettes using an IBM compatible computer and was analyzed using EPI-Info version 6.04 [12] package. Frequencies of all the variables were generated. Items using the 5-point Likert scale were collapsed to reflect the direction of the response, i.e. either positive or negative The nurses' knowledge was scored, for the 20 knowledge questions one mark was awarded for a correct response and zero for an incorrect response. The nurses' support practice was similarly scored. The Chi Squared (X^2) and Kruskal Wallis tests were used to determine the relationship between categorical variables and to compare means respectively. Multiple linear regression analysis was used to evaluate the factors affecting the nurses' knowledge and support practice regarding exclusive breastfeeding.

Results

A total of 298 nurses were interviewed, 102(34.2%) from the UCH, 144(48.2%) and 52(17.6%) from the secondary and primary health institutions respectively. Of these 113(37.1%) had been exposed to the BFHI training. Table 1 compares the nurses' knowledge of the advantages of exclusive breastfeeding to the child and mother based on exposure to previous BFHI training.

Table 1: Previous BFHI training of nurses and knowledge of advantages of exclusive breastfeeding to child and mother

Knowledge of advantages	BFHI training n=113 (%)	No. BFHI training n=185 (%)	P-value
Decreases incidence of diarrhoea	110(97.3)	161(87.0)	0.002
Decreases incidence of ARI/Ear infections	13(11.5)	22(11.9)	0.92
Promotes Growth	56(49.6)	98(55.4)	0.34
Provides immunity	55(48.7)	113(61.1)	0.04
Cheap	105(92.9)	165(89.2)	0.28
Readily available	77(68.1)	113(61.1)	0.21
Promotes bonding	94(83.2)	159(85.9)	0.51
Aids uterine contractions	29(26.5)	59(32.4)	0.28
Reduces PPH	18(15.9)	17(9.2)	0.07
Contraceptive	28(24.8)	45(24.3)	0.92
Decreases incidence of breast cancer	2(1.8)	14(7.6)	0.03

The trained nurses were more knowledgeable about the advantages of reduction in the incidence of diarrhoea in children (97.3% versus 87.0%, p<0.001), its cheapness (92.9% versus 89.2%,p=0.28) ready availability (68.1% versus 61.1%,p=0.21) and reduction in post partum haemorrhage (15.9% versus 9.2%,p=0.07). The difference in the proportions of knowledgeable nurses was significantly higher for the trained nurses regarding the advantage of reduction in the incidence of diarrhoea. However the nurses who had not received BFHI training were significantly more knowledgeable about the role of exclusive breastfeeding in the provision of immunity and reduction in the incidence of breast cancer.

The knowledge of the nurses regarding the effect of prelacteals and causes of common breastfeeding problems is shown in Table 2. The proportions of BFHI trained nurses who were knowledgeable about the effect of prelacteal feeds on breastfeeding and the causes of common breastfeeding problems i.e. painful nipples, insufficient milk and breast engorgement was significantly higher compared to those who were not trained.

Table 2: Previous BFHI training and nurse's; correct knowledge of causes of breastfeeding problems.

Knowledge of causes breastfeeding problems	BFHI training n = 113(%)	No BFHI training n = 185(%)	P-value
Effect of prelacteals	93(82.3)	106(57.3)	0.00
Painful Nipples	73(64.6)	72(38.9)	0.00
insufficient milk	70(61.9)	45(24.3)	0.00
Breast engorgement	106(93.6)	160(86.5)	0.00

Regarding the management of common breastfeeding problems, higher proportions of the BFHI trained nurses were more knowledgeable about the correct management of mastitis (85.0% versus 56.8%, $P < 0.01$), breast abscess(79.6% versus 55.1%, $P < 0.01$), breast engorgement (100.0% versus 89.7%, $P < 0.001$), low milk supply (75.2% versus 56.8%, $P < 0.01$), and breastfeeding counsel to a mother of child with neonatal jaundice (97.3% versus 93.0%, $P = 0.1$)

The mean knowledge score for the BFHI trained and untrained nurses regarding various aspects of exclusive breastfeeding was 11.9 ± 1.84 and 10.7 ± 2.4 respectively. Using the Kruskal- Wallis variance test, the difference in the mean knowledge scores was found to be statistically significant ($P < 0.01$).

The nurses were asked to indicate whether or not they agreed with the statements about exclusive breastfeeding shown in Table 3. Higher proportions of the BFHI trained nurses had positive attitudes for all the statements. In particular, significantly higher proportions of the trained nurses compared to the untrained agreed that exclusively breastfed infants should not be given water to drink (93.8% versus 82.7%, $P < 0.01$), pregnancy is not a contraindication to breastfeeding (73.5% versus 40.0%,$P < 0.01$) and it is unnecessary for breastfeeding mothers to drink fluids in excess of their requirements (56.6% versus 15.7%, $P < 0.001$).

The nurses' support practices for the promotion of exclusive breastfeeding (putting baby to breast within 30 minutes of birth, rooming, teaching mothers to express milk , giving no other fluids to infants on after birth and referral of mothers to breast feeding support groups), was assessed. Analysis of previous BFHI training and correct breastfeeding support practices by nurses showed that significantly higher proportions of the health workers with previous training reported correct sup

Table 3: Previous BFHI training and nurses' attitudes to exclusive breastfeeding

Statement	BFHI training n = 113(%)	No BFHI training n = 185(%)	P-value
Exclusive breastfeeding is not more demanding than bottle feeding	88(77.9)	142(76.8)	0.82
Breast-milk only is the adequate nutrition for infants in the first 4-6 month of life	109(96.5)	158(85.4)	0.00
Breastmilk is better for baby than formula milk	113(100.0)	184(99.5)	0.62
Exclusive breastfed infants are healthier than formula fed infants.	111(98.2)	181(97.8)	0.82
Exclusive breastfed infants not should be given water to drink	106(93.8)	153(82.7)	0.00
There is no need to give exclusive breastfed infants solids or any other comple mentary foods before 4 months	109(96.5)	171(92.4)	0.15
Women can continue to breastfeed exclusive even after they return to work	107(94.7)	161(87.0)	0.03
Breastfeeding should not stop if pregnancy occurs	83(73.5)	74(40.0)	0.00
Breastfeeding mothers do not need to drink a lot of fluids in order to have adequate supply of milk for breastfeeding	64(56.6)	29(15.7)	0.00
There should be community based support groups for breastfeeding mothers	111(98.2)	172(93.0)	0.04

Table 4: Previous BFHI training and correct breast feeding support practices by nurses.

	BFHI training n = 113(%)	No BFHI training n = 185(%)	P-value
Putting baby to breast within 30 minutes after delivery	103(91.2)	151(81.6)	0.02
Giving no other fluid to new born infants	83(73.5)	101(54.6)	0.00
Rooming in/bedding-in of newborn infants with mothers	107(94.7)	174(94.1)	0.81
Giving no other fluids to infants who cries after breastfeeding	108(95.6)	162(87.6)	0.21
Mothers taught to manually express breastmilk	85(75.2)	121(65.4)	0.07
Referral of breast feeding mother to breastfeeding support group.	63(59.3)	76(41.1)	0.00

port practices; putting baby to breast within 30 minutes of delivery (91.2% versus 81.6%, $P < 0.05$) breastfeeding rooming/bedding in (73.5% versus 54.6%, $P < 0.01$), teaching mothers to manually express breastmilk (75.2% versus 65.4%, $P < 0.05$) and referral of mothers to breastfeeding support groups (59.1% versus 41.1%,$P < 0.01$). Table 4.

The results of multiple linear regression analyses for the factors affecting the nurses' overall knowledge and support practices scores are shown in Table 5. Previous BFHI training was the only factor positively and significantly associated both scores.

Table 5: Factors affecting nurses knowledge and support practices regarding exclusive breastfeeding

Variable	Regression Coefficient	P. value	r^2
Knowledge score			
Years of professional experience	-.010	.723	.075
Health Care Level	-.031	.632	
BFHI training	.276	.000	
Practice score			
Years of professional experience	-.117	.421	.134
Health Care Level	-.109	.078	
BFHI training	-.264	.000	

Discussion

In this study the positive effect of the BFHI training on the nurses' knowledge, attitudes and support practices was similar to that reported by other researchers [9,10]. Nurses who had received previous BFHI training were more knowledgeable about the role of exclusive breastfeeding in the reduction of diarrhoea and ready availability . The control of diarrhoeal diseases has received special attention by the WHO in the recent times and the role of breastfeeding in the control of diarrhoea has been strongly featured in the BFHI training programme which is partly sponsored by the WHO, thus this finding is not unexpected. Nurses who had no previous BFHI training were more knowledgeable regarding some of the advantages of exclusive breastfeeding , this may be due a weakness in the BFHI course and indicative that there is a need to emphasize the advantages of exclusive breastfeeding during the training. Correct knowledge of causes of breastfeeding problems was also found to be positively related to previous BFHI training. The causes of breastfeeding problems is an area which is given prominence in the BFHI training programme, thus the nurses who were trained would have had a good exposure to the practical problems that may arise and therefore were more knowledgeable

More of the BFHI trained nurses knew how to correctly manage breastfeeding problems compared to those without training, this is to be expected because the management of breastfeeding problems is an area that is emphasized in the BFHI training course. This finding is consistent with the findings of the study conducted by Popkin which reported that fewer health workers held the belief that mastitis and breast abscess were contraindications to breastfeeding following a breastfeeding training workshop [13].

Overall higher proportions of BFHI trained nurses had positive attitudes to exclusive breastfeeding. In particular, they were more likely to agree that breastmilk only was the adequate nutrition in the first 4-6 months of life , that other fluids are not required for exclusively breastfed infants and pregnancy is not a contraindication to breastfeeding. In Africa, fluids are introduced to infants in the first 1- 2 months of life

because it is believed that breastmilk only is inadequate particularly in the hot climates [6,7]. Culturally, once a mother is pregnant with another child breastfeeding should be discontinued, because it is believed that the breastmilk of a pregnant woman can cause disease in the nursing infant [14]. The attitudes of the trained nurses are contrary to the prevalent cultural attitudes and this indicates that training appears to have a positive effect on culture

With regards to their practices, higher proportions of the nurses who received training were more likely to report positive support practices for the promotion and protection of exclusive breastfeeding in line with Ten steps to Successful breastfeeding. Similarly Valdes *et al*, reported on the effects of the 3-day lactation management workshop on clinical breastfeeding support and concluded that practices of health workers were positively affected by the training [15].

In conclusion, this study has shown that nurses who participated in the 18hour lactation management training were more knowledgeable about some aspects of exclusive breastfeeding, had more positive attitudes and had higher reported support practices for the promotion and protection of exclusive breastfeeding compared to those who have not had training. Efforts should be made to ensure that more nurses involved in the maternal and child health care participate in the training in order to equip them with the adequate knowledge and skills to promote, support and protect exclusive breastfeeding among mothers.

References

1. Diaz S, Horreros G, Aravens R, Casado NNE, Reyes MC, Schiapesse E. Breastfeeding duration and growth of fully breastfed infants in a poor urban Chilean population. Am J Clin. Nutr 1995; 62: 371.
2. Cohen RI, Brown KH, Canahuachi J, Revera LL and Dewey KG. Determinants of growth from birth to 12 months among breastfed infants in relation to age of introduction of complementary foods. Paediatrics 1995; 96: (3pt1): 504-10.
3. Anderson JW, Jonstone BM and Remely. Breastfeeding and Cognitive Development: A meta-analysis. Am. J. Clin. Nutr. 1999; 70:525-535.
4. The progress of the Nations. UNICEF 1996.
5. Savage F. Breastfeeding in 1990s. Int J Child Health 1992; 3: 1: 29.
6. Victora C. Extra drinks unnecessary Diarrhoea. Diar rhoea Dialogue.1992 (4)2.
7. Chiang M, Lactation project. Breastfeeding practices in developing world. Int J Gynae Obstret1989;30 (suppl) :129-32.
8. Editorial. A warm chain for Breastfeeding. Lancet 1994; 344: 8932: 1239-40.
9. Valdes V, Perez A, Labbok M, Pugin E, Zumbrano I, Catalen. The impact of a hospital and clinic based breastfeeding promotion program in a middle class urban environment. J. Trop. Paediatr. 1993; 39(3): 142-51.
10. Davies-Adetugbo AA. Promotion of breastfeeding in the community: Impact of health education program in rural communities in Nigeria. JDDR 1996; 14(1): 5-11.
11. Mcdowell I and Newell. Measuring Health. A guide to rating scales and questionnaires. 2nd ed: Oxford University Press, 1996.
12. EPI Info, version 6.04b. Atlanta GA, Center for Dis ease Control and Prevention. 1997.
13. Popkin BM, Canahuati J, Bailey PE, O'Gara. An evaluation of a national breastfeeding promotion program in Honduras. Journal of biosocial science 1991; 23.5-21.
14. Bohler E, Instad. The struggle of weaning in East Bhutan 1996; Soc Sci Med. 43 (12) :1805-1815.
15. Valdes V, Perez, Labbok M, Pugin E, Zumbaro I, Catalen S, Aravena R, Adler MR. The effects of on professional practice of a three-day course on breastfTeeding. J Hum, lact 1995;11(3) 185-90.