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Knowledge and practice among nurses regarding breastfeeding in a hospital with baby-friendly hospital initiative

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Private Practice

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Abstract

Introduction: The baby-friendly hospital initiative is a global program launched by WHO and UNICEF in 1991 to encourage hospitals, mainly maternity wards to implement practices that protect, promote, and support breastfeeding. This study aimed to assess Knowledge and Practice regarding breastfeeding of BFHI among Nurses.

Method: A cross-sectional analytical study design was used among nurses of Maternity, Children, Gynaecology, and Postpartum wards of Patan Hospital, from January 2019 to February 2020. Data on knowledge of baby-friendly hospital initiative and breastfeeding was collected by using a self-administered structured questionnaire and practice of breastfeeding by observation checklist. Descriptive (frequency, percentage, mean, standard deviation) and inferential (Chi-square, normality test, and Spearman's rank correlation) statistics were used for data analysis with SPSS version 20.

Result: The findings show that out of 100 nurses surveyed, more than half (58%) of the respondents had a good level of knowledge and less than one-fourth (23.8%) had a good level of practice of breastfeeding. There was no significant association between level of knowledge and baby-friendly hospital initiative in the nursing course ($p=0.814$), training on breastfeeding in hospital ($p=0.069$), or outside ($p=0.944$). There was a weak positive correlation between knowledge and practice of breastfeeding.

Conclusion: Compared to knowledge on breastfeeding, the practice was quite low among the nurses.

Keywords: baby-friendly hospital, breastfeeding, knowledge, nurses, practice

Introduction

A facility can be considered as baby-friendly when it does not accept breast milk substitutes, feeding bottles, and has implemented ten steps to support breastfeeding.^{1,2} Integrative review of 18 studies revealed that many of the nurses, doctors, and health professionals have theoretical knowledge but lack practical skills.³ A study has shown that despite a good knowledge and practice among nurses, only 4% had adequate score regarding breastfeeding.⁴ Breastfeeding education and encouragement is higher at the hospitals with implementation of baby-friendly hospital initiative (BFHI) compared to non-BFHI, 93.3% vs. 48.2%, $p < 0.01$.⁵

A study done in India identified only 1.2% had a good practice of BFHI.⁶ Majority of nurses had average knowledge regarding BFHI in a study done in Nepal.⁷ Globally annual death of children around 823,000 can be prevented by increasing breastfeeding.⁸ Similarly 20,000 breast cancers are associated with lack of breastfeeding.⁸ Nurses play a crucial role in the implementation of BFHI by encouraging them to actively participate in counseling, educating, and preparing mothers for breastfeeding.^{9,10} The BFHI policy needs to be adopted by hospitals.¹¹ There is a lack of initiation of breastfeeding in the labor room.¹²

This study aimed to identify the knowledge and practice of nurses regarding breastfeeding in a hospital with the Baby-Friendly Hospital Initiative.

Method

A cross-sectional analytical study was conducted at Patan Hospital, Patan

Academy of Health Sciences (PAHS), Nepal, from January 2019 to February 2020.

Ethical clearance was obtained from the Institutional Review Committee-PAHS (IRC-PAHS). Written permission was taken from the nursing director and ward In-charge to collect data and observe practice among the nurses. The objective of the study was explained to the respondents and written consent was taken from each respondent before data collection regarding knowledge. Participation in the study was voluntary. The anonymity of the respondents was assured by giving a code number instead of a name. The confidentiality of the respondents was maintained by using the information only for research purposes and by not disclosing the information. Five wards were selected purposively, and a total enumerative sampling technique was used. All nurses willing to participate and available during the period of data collection were included in the study. The postpartum ward A was chosen to observe the practice. The ward In-charge was excluded from the practice assessment as she was involved in assigning nurses for assessing practice.

The total score of questionnaires for knowledge was 40. A score of 20 (i.e. <50% of total) indicates a poor level of knowledge, 20-28 (50-70%) satisfactory, and >70% (>28) as good knowledge.¹⁴ The total practice score was 10 and the level was graded accordingly as poor for <50%, satisfactory 50-70%, and good practice >70%.¹⁴

Statistical Package for the Social Science (SPSS) version 20 was used for data analysis. Knowledge and practice were calculated in terms of descriptive statistics like frequency, percentage, mean and

standard deviation. Chi-square test was used to find out the association between professional information and knowledge level regarding breastfeeding. The normality assumption was tested. Spearman’s rank correlation coefficient was used to measure the correlation between knowledge and practice.

Result

Out of 100 nurses from selected wards (Maternity-34, Children-19, Post-partum A- 22, Postpartum ward B-7, and Gynaecology- 18) more than half (58%) had good, one-third (33%) had satisfactory and 9 (9%) had a poor level of knowledge regarding breastfeeding of BFHI. The mean score of knowledge was 28.84±5.790, Figure 1. On practice

assessment of 21 nurses, eight scored satisfactory, eight poor, and five scored good. The mean value of practice was 6.05±1.658, Figure 2.

Total 72 (72%) nurses had studied about BFHI in their nursing course. More than one-third 36(36%) had taken training on breastfeeding at Patan hospital and 21(21%) had taken training outside Patan Hospital, [Table 1](#). There is no significant association between knowledge level and BFHI studied in nursing course or training on breastfeeding in or outside Patan Hospital, Table 2.

There was a weak positive correlation between knowledge and practice with a correlation coefficient of 0.065, p-value of 0.779, Table 3.

Table 1. Source of information regarding breastfeeding of baby-friendly hospital initiative (BFHI) among nurses at Patan Hospital, N=100

Source of information	N	%
Studied about BFHI in nursing course		
Yes	72	72.00
No	28	28.00
Training about breastfeeding in Patan Hospital		
Yes	36	36.00
No	64	64.00
Training about breastfeeding outside Patan Hospital		
Yes	21	21.00
No	79	79.00

Table 2. Association between the source of information and knowledge level among nurses regarding breastfeeding of BFHI, N=100

Source of information	Knowledge level			χ ² value	p-value
	Good	Adequate	Poor		
Studied BFHI in nursing course					
Yes	43	23	6	0.345	0.841
No	15	10	3		
Training on breastfeeding in Patan Hospital					
Yes	24	7	5	5.354	0.069
No	34	26	4		
Training on breastfeeding outside Patan Hospital					
Yes	12	7	2	0.012	0.994
No	46	26	7		

Table 3. A significant correlation (at 0.05 level, 2-tailed) between knowledge and Practice among nurses regarding breastfeeding of BFHI, N=21

Variables	Correlations	Knowledge score	practice score
knowledge score	Correlation Coefficient	1.000	0.065
	Significance (2-tailed)		0.779
Practice score	Correlation Coefficient	0.065	1.000
	Significance (2-tailed)	0.779	

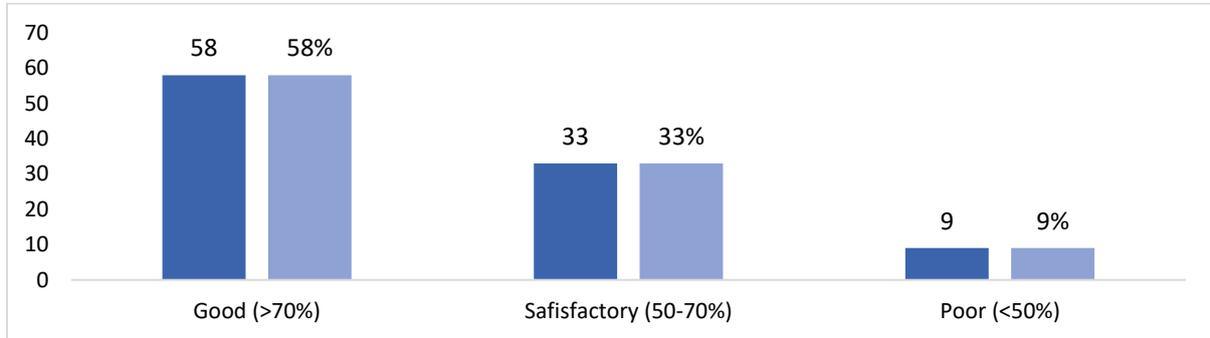


Figure 1. Level of knowledge among nurses regarding breastfeeding of BFHI N=100.

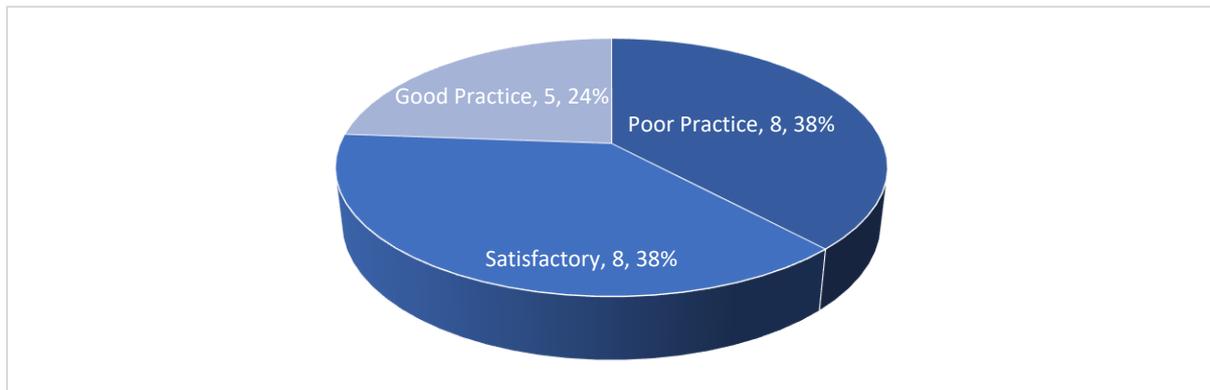


Figure 2. Level of practice among nurses regarding breastfeeding of BFHI, N=21

Discussion

In the present study, more than half (58%) of the nurses had a good level of knowledge regarding breastfeeding in a BFHI hospital. A similar finding is reported from India with more than half (53.33%) having a good level of knowledge.¹³ Highly contradictory A study done in Pakistan majority (99%) of the respondents had poor (<50%) level of knowledge.¹⁴ Another study done in Turkey revealed 28.4% of the participants had poor, 43.1% average, and 28.5% good level of knowledge.¹⁵ The diversity of hospitals and

practices may have resulted in such a difference in the level of knowledge of breastfeeding.

In the present study, nearly two-thirds (64%) of the respondents knew of the existence of breastfeeding policy, and out of them nearly two-third 41(64.1%) gave correct answers regarding ten steps of breastfeeding policy. Lack of information dissipation to the staff may have resulted in poor knowledge. A study from Pakistan reports 47% had knowledge of breastfeeding policy and 20% knew the correct number of steps.¹⁴ Another Study of

India, 90% of the staff nurses had good knowledge regarding BFHI policy.¹⁶

In this study, less than 1/4th (23.8%) had a good level of practice and 1/3rd (38.1%) had either a poor or a satisfactory level of practice. A study conducted in India showed half (51%) had poor practice.⁶ Another Indian study had shown that the majority (78.33%) had a good practice.¹³ Study of Lahore Pakistan, among 133 doctors and nurses showed the majority (80%) had poor (<50%) practices.¹⁴ The differences observed in practice between these studies may be attributed to the methodology adopted.

In the present study, all the respondents (100%) helped mothers to initiate breastfeeding. This finding was consistent with the study done in Pakistan where 80% of the respondents assisted mothers for breastfeeding.¹⁴ In another study done in Pakistan 67.6% of mothers were supported for breastfeeding in the postpartum war¹⁷A study done in India revealed there was the existence of faulty practice in breastfeeding. Health professionals' encouragement in optimal breastfeeding was very low. All postpartum mother requires motivation and continuous support from a health professional and family members for successful breastfeeding.¹⁹

The present study revealed that there is no statistically significant association between level of knowledge of breastfeeding and BFHI course in the nursing college ($p=0.814$), breastfeeding training in hospital ($p=0.069$), or outside ($p=0.944$). A similar finding was reported with no significant association between curriculum content and knowledge level.⁷ A systematic review revealed positive effects of training in breastfeeding knowledge and practices.²⁰

In this study, Spearman's rank correlation coefficient was found as 0.065 which shows that there is a weak positive correlation between knowledge and practice. It shows that nurses who have good knowledge also have a good practice on breastfeeding.

Findings from a study in India showed a weakly positive relationship ($r=0.222$) between knowledge and practice scores.¹³The weak positive correlation between knowledge and practice suggests that continuous monitoring and guidance, encouragement for self-study on breastfeeding as per BFHI guidelines might help improve both knowledge and practice among nurses.

This is a single-center study with a relatively small sample size (100) and the practice was observed in only 21 nurses, so the findings may not be generalized.

Conclusion

Compared to knowledge on breastfeeding as per BFHI guidelines, the practice among the nurses appeared to be low (23.8%). There was a weak positive correlation between knowledge and practice.

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Conflict of Interest

None

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Reference

1. World Health Organization, United Nations Children's Fund (UNICEF). Protecting, promoting and supporting breast-feeding: the special role of maternity services. Geneva: World Health Organization; 1989. 32p. | [Google Scholar](#) | [Full Text](#) | [Weblink](#) |
2. World Health Organization, United Nations Children's Fund (UNICEF). Baby-friendly hospital initiative: revised, updated and expanded for integrated care. Geneva: World Health Organization/UNICEF; 2009. 419p. | [Google Scholar](#) | [Full Text](#) | [Weblink](#) |
3. de Almeida JM, de Araújo Barros Luz S, da Veiga Ued F. Support of breastfeeding by

- health professionals: integrative review of literature [Article in Portuguese]. *Rev Paul Pediatric*. 2015;33(3):355-63. | [DOI](#) | [PubMed](#) | [Google Scholar](#) | [Full Text](#) | [Weblink](#) |
4. Alakaam A, Lemacks J, Yadrick K, Connell C, Choi HW, Newman RG. Maternity nurses' knowledge and practice of breastfeeding in Mississippi. *MCN Am J Matern Child Nurs*. 2018;43(4):225-30. [DOI](#) | [PubMed](#) | [Google Scholar](#) | [Weblink](#) |
 5. Mosher C, Sarkar A, Hashem AA, Hamadah RE, Alhoulan A, AlMakadma YA, et al. Self-reported breastfeeding practices and the baby friendly hospital initiative in Riyadh, Saudi Arabia: prospective cohort study. *BMJ Open*. 2016;6(12):e012890. | [DOI](#) | [PubMed](#) | [Google Scholar](#) | [Full Text](#) | [Weblink](#) |
 6. Varghese T, Subrahmanyam N, Shenai S. The practice adherence on baby friendly hospital initiative (BFHI) among staff nurses working in obstetric and pediatric care units. *Int J Appl Res*. 2018;4(11):140-3. | [Full Text](#) | [Weblink](#) |
 7. Ban RK, Paudel SK, Panta S, Shrestha A. Knowledge and attitude regarding baby friendly hospital initiative among nurses of tertiary level hospital. *Eur J Phar Med Res*. 2019;6(1):366-70. | [Full Text](#) | [Weblink](#) |
 8. World Health Organization. National Implementation of the baby-friendly hospital Initiative 2017. Gneva: World Health Organization; 2017. 50p. | [Google Scholar](#) | [Full Text](#) |
 9. Chabot G, Lacombe M. Factors influencing the intention of perinatal nurses to adopt the baby friendly hospital initiative in Southeastern Quebec, Canada: implication for practice. *Nurs Res Pract*. 2014;1-8. | [DOI](#) | [PubMed](#) | [Google Scholar](#) | [Full Text](#) | [Weblink](#) |
 10. Deshmukh V, Rasool UG, Kalyankar B, Gaikwad RA, Yelikar KA. Knowledge, attitude and practice of breastfeeding at a tertiary care centre in the government medical college and hospital, Aurangabad, India. *Int J Reprod Contracept Obstet Gynecol*. 2016;5(6):1912-5. | [DOI](#) | [Google Scholar](#) | | [Weblink](#) |
 11. World Breastfeeding Trends Initiative (WBTi), Nepal: Report card 2015. | [Full Text](#) |
 12. Shaw SC, Devgan A. Knowledge of breastfeeding practices in doctors and nurses: a questionnaire-based survey. *Med Armed Forces India*. 2018;74(3):217-9. | [DOI](#) | [PubMed](#) | [Google Scholar](#) | [Full Text](#) |
 13. ET Anusha. A study to assess the knowledge and practice of staff nurses regarding the implementation of baby-friendly hospital initiative in selected hospitals in Mangalore [PhD dissertation]. Bangalore: Rajiv Gandhi University of Health Sciences; 2013. | [Google Scholar](#) |
 14. Hasnain S, Majrooh A. Knowledge and practices of resident doctors and nurses in breastfeeding in obstetric and pediatric departments of Jinnah Hospital, Lahore. *Biomedica*. 2012;28(2):156-62. | [Google Scholar](#) | [Full Text](#) | [Weblink](#) |
 15. Artantas AB, Tetis BK, Kilic M, Eray IK, Cetin N, Guney S, et al. Knowledge level, attitude and own experience of health professionals about breastfeeding and breast milk in a city of Turkey: cross sectional study. *Arch Argent Pediatr*. 2016;114(6):514-20. | [DOI](#) | [PubMed](#) | [Google Scholar](#) |
 16. Rani B, P Rajesh, Kaur A. A descriptive study to assess the knowledge and attitude regarding baby friendly hospital initiative policy among staff nurses in selected hospitals at Amritsar. *International Journal of Immunological Nursing*. 2015; 1:1-2. | [Google Scholar](#) | [Pubmed](#) |
 17. Masood S, Rahman M, Mahmood H, Faisal T, Maroof S, Qureshi AM. Observance of WHO ten steps towards successful breastfeeding; a survey from postpartum mothers. *J Ayub Med Coll Abbottabad*. 2016;28(1):84-8. | [PubMed](#) | [Google Scholar](#) | [Full Text](#) | [Weblink](#) |
 18. Namutebi J, Nakanwagi H, Naluyima, L, Edwards G. Midwives' knowledge of baby friendly hospital initiative in Uganda. *Pract Midwife*. 2018;25-9. | [Google Scholar](#) | [Full Text](#) | [Weblink](#) |
 19. Farhan D, Das S, Malik A. Assessment of WHO ten steps towards successful breastfeeding among postpartum mothers in Karaikal: a hospital based cross-sectional study. *Asian J Med Sci*. 2018;9(3):1-5. | [DOI](#) | [Google Scholar](#) | [Full Text](#) |
 20. De Jesus PC, de Oliveira MI, Fonseca SC. Impact of health professional training in breastfeeding on their knowledge, skills and hospital practices: a systematic review. *J Pediatr (Rio J)*. 2016;92(5):436-50. | [DOI](#) | [PubMed](#) | [Google Scholar](#) |

Supplement

Research Questionnaire

Part I Proforma

1. Have you studied about the Baby-friendly hospital initiative (BFHI) in your nursing course?
 - a) Yes
 - b) No
2. Did you receive any training on breastfeeding in Patan hospital?
 - a) Yes
 - b) No
3. Did you receive any training on breastfeeding outside Patan hospital?
 - a) Yes
 - b) No

Part II

Questions related to knowledge regarding the Baby-friendly hospital initiative (BFHI).

Please put tick mark (v) in the correct answer.

1. I) Do you have a written breastfeeding policy in the hospital?
 - a) Yes
 - d) NoII) If yes, how many components are included in this policy?
 - a) 4 steps
 - b) steps
 - c) 8 steps
 - d) 10 steps
2. Which of the following is a component of the BFHI?
 - a) Complete immunization
 - b) Initiation of breastfeeding within a half-hour of birth.
 - c) Kangaroo mother care (KMC)
 - d) Management of newborn danger sign
3. What is the aim of BFHI?
 - a) Encourage formula feeding.
 - b) Initiate Pre-lacteal feeding
 - c) Provide Mixed feeding
 - d) Protect, promote and support breastfeeding
4. What are the benefits of skin-to-skin contact immediately after childbirth? (Multiple Response)
 - a) It reduces infants stress level and crying
 - b) It allows the baby easy access to breastfeeding
 - c) It helps the baby to maintain body temperature
 - d) It improves child and maternal bonding
5. What is the benefit of Breastfeeding to the mother? (Multiple responses)
 - a) Helps placenta separation
 - b) Helps the uterus return to its normal size (Involution)
 - c) Helps to reduce bleeding.
 - d) Protect the mother from breast and uterus cancer.
6. What are the benefits of breastfeeding to the baby? (multiple responses)
 - a) Helps the baby's body and brain develop and grow.
 - b) Makes the immune system stronger.
 - c) Protects babies against allergies.
 - d) Provide adequate water for hydration

7. When breastfeeding should be initiated in a baby born by caesarean section?
 - a) ½ - 1 hour of birth
 - b) 2 - 3 hours of birth
 - c) 4 hours of birth
 - d) 6 hours of birth.
8. If a newborn is kept in the nursery, what do you suggest to the mother to maintain lactation and breastfeeding?
 - a) Expressed breast milk regularly
 - b) Provide formula feeding
 - c) Use milk suppression medicine
 - d) Wear firm brassiere
9. What is the correct technique for squeezing the breast while expressing breast milk?
 - a) Center to periphery
 - b) Downward to the upward direction
 - c) From areola area to nipple
 - d) Only from the nipple area
10. What is rooming in?
 - a) Keeping mother and baby together.
 - b) Maintaining room temperature.
 - c) Maintaining room clean and calm.
 - d) Maintaining the ventilation of the room.
 - e)
11. What is exclusive breastfeeding?
 - a) Breast milk and formula feeding
 - b) Give milk and water.
 - c) Only breastfeeding
 - d) Only formula feeding
12. What is demand feeding?
 - a) Feeding according to the desire of the baby
 - b) Feeding after one hour of the previous feeding
 - c) Feeding after two hours of the previous feeding
 - d) Feeding according to mother's convenience
13. What are the advantages of demand feeding? (multiple responses)
 - a) Earlier passage of meconium
 - b) Prevent maximum weight loss
 - c) Less incidence of jaundice
 - d) Established early lactation
14. What are the signs of good attachment? (multiple responses)
 - a) The lower lip is turned outward
 - b) Ear, shoulder, and hip in a line
 - c) Swallow and pause pattern
 - d) Do not hurt the mother when the baby sucks
15. How does the nipple crack can be prevented?
 - a) Apply hindmilk around the nipple.
 - b) Stop feeding if pain.
 - c) Expressed breast milk and feed by Spoon
 - d) Use of nipple shield
16. How does breast engorgement can be prevented? (Multiple responses)
 - a) Avoid formula feeding
 - b) Continue demand feeding
 - c) Wear supportive brassiere
 - d) Use the proper technique of feeding

17. What feeding would you suggest to a mother who complains of insufficient breast milk secretion in the first few days of postpartum?
 - a) Breast milk and formula feeding
 - b) Breast milk only
 - c) Breast milk and dextrose water
 - d) Expressed breast milk
18. What is the risk of bottle feeding and using pacifiers in infants? (Multiple Response)
 - a) Decrease maternal-child bonding
 - b) Increase the incidence of infections.
 - c) Weaken immunity of the baby
 - d) Inadequate weight gains of the baby.

Part III

Observational Checklist to assess Practice regarding Breastfeeding

S.N.	Statements	Yes	No
1.	Help the mother to initiate breastfeeding.		
2.	Provide information no other food (formula, glucose water, honey, and dextrose) is needed for the new-born.		
3.	Provide information on the benefit of colostrum feeding.		
4.	Assess nipple condition.		
5.	Assess milk secretion.		
6.	Help the mother to maintain correct positioning on breastfeeding.		
7.	Help the mother to maintain the correct attachment.		
8.	Keep mother and baby together. (rooming-in)		
9.	Advice mother/visitor to do breastfeeding on demand, during day or night.		
10.	Counsel risk of using artificial teats, pacifiers, bottle feeding to the mother/ visitor.		

Note: Involves Steps 2, 3, 4, 6, 7, 9, and 10 of breastfeeding policy of Patan Hospital. (Based on global criteria of BFHI).