

Knowledge of Breastfeeding among Health Workers in the University of Port Harcourt Teaching Hospital

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Abstract

All health workers who care for women and children during the postnatal period and beyond are key players in protecting, promoting, and supporting breastfeeding. However, most health workers do not have the necessary knowledge and skills to effectively play their roles. This study aims to assess the knowledge about breastfeeding among health workers. This was a cross-sectional study among 220 health workers at the University of Port Harcourt Teaching Hospital. A 32-point questionnaire based on the World Health Organisation (WHO) and the United Nations Children's Fund (UNICEF) manual on the Baby-Friendly Hospital Initiative Training Course for Maternity Staff was used to assess the knowledge of the health workers. Scores of >50% were classified as good knowledge and <50% as poor knowledge. The overall good knowledge about breastfeeding was 51.8%. The majority (80.0%), had good knowledge about the benefits of breastfeeding and 169 (76.8%) of health workers had good knowledge about exclusive breastfeeding and the timing of breastfeeding. Good knowledge about the importance of colostrum was 27.7%, 91 (41.4%) health workers had good knowledge of birth practices that affect breastfeeding, and only 72 (32%) health workers had good knowledge about the problems of breastfeeding. In conclusion, the overall knowledge about breastfeeding among health workers in this study was not satisfactory. To breach this gap, hospitals should ensure that their staff has sufficient knowledge, competence and skill to support breastfeeding.

Keywords: Breastfeeding, Knowledge of breastfeeding, University of Port Harcourt Teaching Hospital.

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INTRODUCTION

Breastfeeding provides nourishment for the infant, encourages bonding between the baby and the mother, and has health benefits for the woman [1]. Breast milk contains all the nutritional requirements of an infant, it is easily digested, efficiently used by the infant's body, improves the infant's immune system, and protects against long term chronic non-communicable diseases [2, 3]. Breastfeeding can prevent malnutrition, diarrhoea and pneumonia in infants, and has the single largest potential impact in preventing infant morbidity and mortality [3, 4]. When a child suckles on the mother's breast, it stimulates the secretion of oxytocin and prolactin from the pituitary gland into the maternal circulation [5, 6]. Oxytocin has been called "the love hormone" because when a mother thinks of her child it causes the breast to secrete milk as though the mother was breastfeeding, thereby

promoting bonding between the mother and her baby [6, 7]. Oxytocin also causes uterine contraction, thereby promoting uterine involution after birth [1, 7]. In addition to milk production, prolactin causes relaxation after each breastfeeding session [5, 6]. Breastfeeding also delays conception and reduces the risk of ovarian and breast cancers [8, 9].

The World Health Organisation (WHO) and the United Nations Children's Fund (UNICEF) through the global strategy for infant and young child feeding, have recommended exclusive breastfeeding for six months, the timely and appropriate introduction of complementary feeds, and continued breastfeeding for up to two years and beyond [10]. In other to implement these recommendations, the WHO adopted the Baby-Friendly Hospital Initiative (BFHI) [11]. The initiative aims to implement all of the "Ten Steps to Successful Breastfeeding", thereby providing an environment that

will help mothers acquire the knowledge and skill they require to establish and continue breastfeeding [12]. There are about 22,000 baby-friendly hospitals in 157 countries [13] but global data shows that only 44% of mothers initiate breastfeeding within one hour of birth and only 40% of babies are exclusively breastfed in the first six months of birth [14]. In Nigeria, there are over 100 hospitals baby-friendly hospitals [15] but only 29% of women practise exclusive breastfeeding for six months after the birth of their babies [16].

The knowledge and practice of breastfeeding are influenced by family beliefs, community practices, health workers, Social media, and advertisements. However the health worker occupies a key position, this is because they are usually present at delivery [17,18]. The first few hours and days after delivery have been described by the WHO as a critical window for initiating breastfeeding and providing the necessary support the women may need to breastfeed successfully [1]. Many women may find it difficult to initiate breastfeeding after birth, and the health care practices may prevent the process of establishing breastfeeding. Some women who initiated breastfeeding successfully may not continue for up to a month [18,19]. For health worker to effectively play their role in helping women initiate and sustain breastfeeding, they must understand their role in implementing the breastfeeding policy of the hospital and have good knowledge and the necessary skills required to encourage and support breastfeeding women [19, 20].

The importance of the maternity staff in supporting breastfeeding and ultimately preventing the morbidities and mortalities associated with malnutrition in infants and young children cannot be overemphasized. Most studies on breastfeeding mainly focus on breastfeeding mothers, leaving a paucity of information on the knowledge of breastfeeding among health workers. It is therefore important to fill this gap. The present study, therefore, is aimed at evaluating the knowledge of breastfeeding among health workers. This will enable a review of the training of health workers on breastfeeding.

METHODOLOGY

This cross-sectional study was in the University of Port Harcourt Teaching Hospital in Rivers State, south-south Nigeria. The participants included medical doctors, nurses and midwives, pharmacists, and administrative staff in the hospital. The sample size was estimated using the formula for cross-sectional studies [21], $n = z^2pq/d^2$. Where “n” was the sample size, “z” was the level of significance (at 95%=(1.96), “d” was the margin of error (0.05), “p” was the estimated percentage of health workers with good knowledge of breastfeeding (0.84 as reported in the previous study) [22] and $q = 1 - p = 0.16$ (assuming a 5% non-response). A minimum sample size of 217 was used. The sampling method was systematic. A 32-point

questionnaire based on the World Health Organisation (WHO) and the United Nations Children’s Fund (UNICEF) manual on the Baby-Friendly Hospital Initiative Training Course for Maternity Staff was used to assess the knowledge of the health workers. Data analysis was done using the IBM Statistical Product and Services Solutions version 25.0. The sum of correct responses by each participant was determined. A score of >50% was classified as good knowledge and <50% as poor knowledge. The Pearson’s chi-square test was used to determine the association between the socio-demographic variables of the participants and their knowledge of breastfeeding and the test was significant at a p-value < 0.05.

RESULTS

A total of 220 healthcare workers were recruited for the study. Their age ranged from 26 and 58 years, 8 (3.6%) were less than 30 years, 157 (71.4%) were between 30 and 49 years and 55 (25.0%) were above 50 years. The mean age was 43.6 years and the standard deviation was 6.9 years. More than half 145 (65.9%) of the respondents were females, 138 (62.7%) were nurses and over two-thirds, 156 (70.9%) had been practising for over 10 years (Table 1).

Table 1: Socio-demographic characteristics

	Frequency (n=220)	Percent
Age group (years)		
<30	8	3.6
30-49	157	71.4
>50	55	25.0
Mean age (SD) in years	43.61 (6.92)	
Range (years)	26-58	
Sex		
Male	75	34.1
Female	145	65.9
Profession		
Doctor	48	21.8
Nurse	138	62.7
Pharmacy	15	6.8
Admin	19	8.6
Practice duration (years)		
<5	19	8.6
5 to 10	45	20.5
>10	156	70.9

SD=Standard deviation

Table 2 shows the frequency distribution of correct and incorrect responses of the health workers to the knowledge of breastfeeding. From the table, most participants 217 know that exclusive breastfeeding can help with child spacing. All participants know that effective breastfeeding will make a baby gain weight and the majority 217 (98.6%) have good knowledge of exclusive breastfeeding. Only 8 (3.6%) of the participants know that a warm compress to the breast immediately before breastfeeding is helpful in mastitis. Only 17 (7.7%) of participants know that colostrum can

prevent jaundice and less than one-quarter of 43 constipation.
(19.5%) know that colostrum does not cause

Table 2: Knowledge about breastfeeding

SN	Variable	Correct	Incorrect
		N (%)	N (%)
Benefits of breastfeeding			
1	Breastfeeding reduces the risk of respiratory infections	185 (84.1)	35 (15.9)
2	Breastfeeding reduces the risk of diarrhoea	184 (83.6)	36 (16.4)
3	Breast milk provides more protection from allergies than formula	130 (59.1)	90 (40.9)
4	Breastfeeding promotes mother and baby bonding thereby reducing child neglect.	198 (90.0)	22 (10.0)
5	Breastfeeding helps stimulate contraction of the uterus	161 (73.2)	59 (26.8)
6	Breastfeeding reduces the risk of ovarian and breast cancers	177 (80.5)	43 (19.5)
7	Exclusive breastfeeding can help with birth spacing	217 (98.6)	3 (1.4)
8	Breastfeeding frequently may prevent breast engorgement	154 (70.0)	66 (30.0)
Importance of colostrum			
9	Colostrum is the yellowish thick fluid that is secreted by the breast after delivery.	128 (58.2)	92 (41.8)
10	Colostrum is difficult to digest and can cause constipation	56 (25.5)	164 (74.5)
11	Colostrum contain growth factors and vitamin A	43 (19.5)	177 (80.5)
12	Colostrum can prevent babies from having jaundice	17 (7.7)	203 (92.3)
Exclusive breastfeeding and timing of breastfeeding.			
13	Breastfeeding should be initiated within one hour after delivery of the baby.	174 (79.1)	46 (20.9)
14	Exclusive breastfeeding: only breast milk for the first six months.	217 (98.6)	3 (1.4)
15	Baby should be breastfed on demand	191 (86.8)	29 (13.2)
16	Wakefulness, restlessness, and turning the head towards the breast are early signs showing the baby want to breastfeed	84 (38.2)	136 (61.8)
17	Each breastfeeding session should be at least 10 -20 minutes	190 (86.4)	30 (13.6)
18	Complementary feeds should be introduced after six months	180 (81.8)	40 (18.2)
19	Breastfeeding should be continued for two years and beyond even after complementary feed has been commenced.	147 (66.8)	73 (33.2)
Effective breastfeeding			
20	The baby's head and body in a straight line with the mother's arm supporting the whole body is a good position.	56 (25.5)	164 (74.5)
21	The position of the baby will not affect effective breastfeeding	136 (61.8)	84 (38.2)
22	Babies will gain weight if they have effective breastfeeding	220 (100.0)	0 (0)
23	Babies will sleep well if adequately breastfed	188 (85.5)	32 (14.5)
Birth practices that affect breastfeeding			
24	Lack of emotional and psychological support during labour is a practice that discourages early establishment of breastfeeding.	90 (40.9)	130 (59.1)
25	Separating the mother and the baby after delivery is a practice that discourages early establishment of breastfeeding.	92 (41.8)	128 (58.2)
Problems of breast breastfeeding			
26	Breast size may affect milk production	64 (29.1)	72 (32.7)
27	Women with inverted nipples cannot breastfeed their babies	86 (39.1)	102 (46.4)
28	Breastfeeding should be stopped if mother has cracked nipples	78 (35.5)	110 (50.0)
29	Breastfeeding should be stopped if mother has breast engorgement.	66 (30.0)	90 (40.9)
30	Massaging the breast may reduce breast engorgement	129 (58.6)	45 (20.5)
31	Mastitis is same as breast engorgement	72 (32.7)	64 (29.1)
32	Warm compress to the breast immediately before breastfeeding is helpful in mastitis.	8 (3.6)	84 (38.2)

The majority 176 (80.0%) of the participants had good knowledge about the benefits of breastfeeding while less than one quarter had good knowledge of colostrum. About one-thirds 169 (76.8%) had good knowledge of exclusive breastfeeding and the timing of breastfeeding. More than half 150 (68.2%) have good

knowledge of effective breastfeeding, 91 (41.4%) had good knowledge of birth practices that affect breastfeeding, and only 72 (32.7%) participants had good knowledge of problems of breastfeeding. The overall good knowledge about breastfeeding in this study was 144 (51.8%), See Table 3.

Table 3: Grading of breastfeeding knowledge

SN	Variable	Good knowledge ($\geq 50\%$)	Poor knowledge ($< 50\%$)
		N (%)	N (%)
1	Benefits of breastfeeding	176 (80.0)	44 (20.0)
2	Importance of colostrum	61 (27.7)	159 (72.3)
3	Exclusive breastfeeding and timing of breastfeeding	169 (76.8)	51 (23.2)
4	Effective breastfeeding	150 (68.2)	70 (31.8)
5	Birth practices that affect breastfeeding	91 (41.4)	129 (58.6)
6	Problems of breast breastfeeding	72 (32.7)	148 (67.3)
	Overall knowledge about breastfeeding	114 (51.8)	106 (48.2)

Knowledge of breastfeeding differed significantly across respondents' age, profession, level of care provided and duration of practice. Knowledge of breastfeeding was significantly higher among respondents less than 30 years (100.0%) than among respondents between 30 and 49 years (50.3%) than among respondents above 50 years (49.1%); $X^2=7.744$, $p=0.021$. Knowledge of breastfeeding was higher among doctors (70.8%) compared to pharmacists

(66.7%) and nurses (49.3%), than among administrative officers (10.5%), and this was statistically significant ($X^2=21.609$, $p<0.001$). Also, knowledge of breastfeeding was significantly higher among respondents with less than 5 years of practice (94.7%), than among those with over 10 years of practice experience (50.6%), than among those with 5 to 10 years practice experience (37.8%); $X^2=17.657$, $p<0.001$, See Table 4.

Table 4: Factors affecting breastfeeding knowledge

	Breastfeeding knowledge (n=220)				X^2	p-value
	Poor (n=106)		Good (n=114)			
	n	%	n	%		
Age (years)						
<30	0	0.0%	8	100.0%	7.744	0.021*
30-49	78	49.7%	79	50.3%		
50-59	28	50.9%	27	49.1%		
Sex						
Male	33	44.0%	42	56.0%	0.797	0.372
Female	73	50.3%	72	49.7%		
Profession						
Doctor	14	29.2%	34	70.8%	21.609	>0.001*
Nurse	70	50.7%	68	49.3%		
Pharmacy	5	33.3%	10	66.7%		
Admin	17	89.5%	2	10.5%		
Practice duration (years)						
<5	1	5.3%	18	94.7%	17.657	<0.001*
5 to 10	28	62.2%	17	37.8%		
>10	77	49.4%	79	50.6%		

*=Statistically significant at $p<0.05$

DISCUSSION

This study has shown that the overall good knowledge about breastfeeding among health workers in this study is 51.8%. This is lower compared to a similar study in Calabar where 72.5% of health workers had good knowledge of breastfeeding [20]. However, 80% of the health workers have good knowledge of the benefits of breastfeeding to the mother and the baby. This Knowledge about the benefits of breastfeeding will enable the health workers to educate the women on why they should breastfeed. Studies have shown that women who know the benefits of breastfeeding are more likely to breastfeed [23, 24].

Colostrum contains antibodies and vitamin A (which protects against allergy and infection) is rich in growth factors (which help in the maturation of the

intestine) and has a mild purgative effect (which helps clear meconium from the baby's gut thereby preventing Jaundice) [1]. The mother may have a misconception about colostrum and may replace this important milk with an artificial feed [23, 24]. Good knowledge about the importance of colostrum among health workers in this study was 27.7%. Health workers need to know the importance of colostrum so they can encourage mothers to give colostrum and thereby reduce the high prevalence of prelacteal feeding in our environment. The prevalence of prelacteal feeding in a rural community in Zaria Northern Nigeria was as high as 85% [23].

The World Health Organisation (WHO) and the United Nations Children's Fund (UNICEF) recommended exclusive breastfeeding for six months,

the timely and appropriate introduction of complementary feeds, and continued breastfeeding for up to two years and beyond [10]. A total of 169 (76.6%) health workers know about exclusive breastfeeding and the timing of breastfeeding. This is similar to a study by Utoo *et al.*, where 83.4% of health workers had good knowledge of exclusive breastfeeding [25]. However, a similar study in Mwanza city, northwest Tanzania reported that less than 25% of health workers have good knowledge of breastfeeding [26].

The World Health Organisation recommends responsive feeding (feeding on demand): a mother/parent/caregiver should feed her baby whenever the baby wants to feed [1, 10]. For the mother to feed her baby on demand, she must recognize when the baby wants to feed (this is called feeding cues). The health worker needs to counsel and support the mother identify the feeding cues and respond to them. However, from this study, only 38.2% of respondents know the early signals a baby will show when hungry.

A correct position during breastfeeding is very important for effective breastfeeding and this can be a huge challenge for most breastfeeding mothers. Key points in positioning a baby during breastfeeding are: ensuring the head of the baby and the body are in a straight line, the baby is held close to the mother's body, the whole body of the baby is supported and the baby approaches the nipple with the nose [1]. The health worker should be able to teach her how to position the baby during breastfeeding. This study shows that only 25.5% of health workers have good knowledge about how to position the baby while breastfeeding.

While a good birth practice can encourage the early initiation of breastfeeding, bad birth practices can significantly prevent the establishment of breastfeeding. A baby should stay with the mother immediately after birth -no separation for more than one hour both during the day and at night. This is called rooming-in [1]. This encourages good response to feeding cues, bonding and the establishment of breastfeeding [1]. Lack of emotional and psychological support during labour, Shouting at the woman during labour, unnecessary use of analgesics, separating the mother and the baby after birth, and prelacteal feeding are some birth practices that have negative effects on breastfeeding [1]. More than half (58.6%) of the health workers in this study don't know about birth practices that can affect breastfeeding.

The breastfeeding mother may have breast problems which may delay the establishment of breastfeeding or stop her from continuing breastfeeding. A woman who is worried about her breast size, or who has inverted nipples, breast engorgement, cracked nipples or mastitis will need counselling and support to establish and continue breastfeeding [1]. A health

worker needs to have adequate knowledge of these problems and how to manage each condition to be able to provide the necessary care the woman needs. This study shows that only 32.7% of health workers have good knowledge about the problems of breastfeeding.

The knowledge about breastfeeding in this study was significantly associated with age and duration of practice. However, Chale *et al.*, in Tanzania showed that age and duration of practice were not significantly associated with good knowledge of breastfeeding among health workers [26]. There was a significant association between knowledge about breastfeeding and profession. The knowledge about breastfeeding was significantly higher among medical doctors. This is similar to a report in Keffi, Nigeria [27] and Tanzania [26] and is contrary to a study in Calabar where nurses had better knowledge [20].

CONCLUSION

In conclusion, the overall knowledge about breastfeeding among health workers in this study was poor and they lack knowledge in critical areas of breastfeeding. The health worker also needs good knowledge and training on the importance of colostrum, early initiation of breastfeeding, responsive feeding, feeding cues, breastfeeding positions, good birth practices that will support breastfeeding, and how to manage problems of breastfeeding in other to promote, protect, and support breastfeeding. To breach this gap, hospitals should ensure that their staff has sufficient knowledge, competence and skill to support breastfeeding.

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