

Assessment of knowledge and attitudes regarding exclusive breastfeeding among 3rd-year nursing students at the University of Namibia

J G Kadhila, BNSc (Clinical)

School of Nursing and Public Health, Windhoek Campus, University of Namibia

Corresponding author: J G Kadhila (jkadhila@unam.na)

Background. Breastfeeding plays a crucial role in an infant's growth and development. Exclusive breastfeeding (EBF) during the first 6 months of an infant's life protects against infections such as gastroenteritis and respiratory tract infections, and against malnutrition. Breastfeeding support from health professionals, including nursing students, can have a considerable impact on the mother's decision to initiate and continue EBF. However, nursing students do not always receive adequate teaching on EBF during their course of study. EBF remains a challenge in Namibia, and elsewhere in the world.

Objectives. To explore knowledge and attitudes regarding EBF among 3rd-year nursing students at the University of Namibia.

Methods. A quantitative, non-experimental, descriptive study design was used. Self-administered questionnaires were handed out to each 3rd-year nursing student at the main campus and in clinical settings. The convenience sample size was 86, but only 74 questionnaires were completed and returned. Data were analysed using SPSS version 20 software.

Results. The majority of the respondents (79.7%) strongly agreed that human milk alone can sustain an infant for 6 months. Overall knowledge regarding EBF was satisfactory; 97.3% of participants knew the recommended duration of EBF, and 82.4% knew that breastfeeding should commence within 1 hour after delivery.

Conclusion. This study illustrates the need to enhance a maternal and child health curriculum that promotes positive attitudes to breastfeeding in nursing students. The main challenge observed was failure of the participants to define what EBF is and what it entails.

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International organisations such as the World Health Organization (WHO)^[1] and the United Nations Children's Fund^[2] maintain that exclusive breastfeeding (EBF) is the ideal choice for infant feeding and a central element in infant health and survival. Breastfeeding is the best way of providing ideal nutrition for the infant to ensure optimal growth and health. According to the WHO,^[1] it is recommended that all infants be exclusively breastfed for a period of 6 months to ensure optimal growth, health and development. EBF during the first 6 months of life protects the infant against infections such as gastroenteritis and respiratory tract infections.^[2] The rate of EBF has improved over the past few years, with the global rate standing at 37%. However, in most regions the percentage of infants aged <6 months receiving the benefits of EBF was <50%, with the lowest rate of 40% being in developing countries. The rate is particularly low in Africa, where fewer than one-third of infants aged <6 months are exclusively breastfed.^[2] In two out of six regions with available data, the rate of early initiation of EBF for births with a skilled attendant was lower than that for births with an unskilled or no attendant (34% v. 39% in South Asia and 45% v. 58% in the Middle East and North Africa).^[2]

Infants who are not breastfed have been shown to be five times more likely than breastfed infants to die of infectious disease during the first 2 months of life and are twice as likely to succumb to infectious disease within the first 6 months.

The majority of the Namibian population, including nursing students, lack sufficient knowledge on the benefits of EBF or on adequate complementary feeding. Only half of all Namibian babies are exclusively breastfed for the first 2 months of life, and <25% are exclusively breastfed for 6 months. Furthermore, >14% of Namibian neonates receive prelacteal feeds immediately after birth.^[3] Bottle feeding, non-breastmilk feeds such as juices, plain water and complementary solid foods are generally introduced within the first 3 months of infants' lives. Currently the number of bottle-fed babies in Namibia exceeds the number of exclusively breastfed babies at 3 months.^[3] Studies have identified various factors that influence breastfeeding practices, such as inadequate knowledge of the health benefits of breastfeeding^[4] and poor antenatal counselling on breastfeeding.^[5] The objective of the present study was to explore knowledge and attitudes regarding EBF among 3rd-year nursing students at the University of Namibia.

Methods

A research design forms a 'blueprint' of a study and determines the methodology used to obtain sources of information, collect and analyse data, and interpret the results.^[6] For the present study, the researcher (author JGK) implemented a quantitative, non-experimental, descriptive study design to assess knowledge and attitudes of 3rd-year nursing

students at the University of Namibia. The research instrument was a self-administered questionnaire designed by the researcher. The questionnaire consisted of three sections: section A captured the demographic characteristics of the participants, section B captured the knowledge of the participants on EBF, and section C captured the attitudes of the participants to EBF, based on a Likert scale.

Before data collection, the researcher obtained permission to undertake the study from the School of Nursing and Public Health research committee (ref. no. SoNEC14/2019) and signed informed consent from the participants. The questionnaire was tested by means of a pilot study on five nursing students, and no changes to it were found to be necessary. Self-administered questionnaires were handed out to each 3rd-year nursing student at the main campus and in clinical settings. The completed questionnaires were handed in to the researcher personally in the university boardroom, over a period of 1 week. Data were analysed using SPSS version 20 software (IBM, USA). The ethical considerations of respect for a person, justice, non-maleficence and beneficence were adhered to throughout the study.

Results

The majority of the respondents were between 17 and 26 years old (83.8%), with the second-largest group aged 27 - 35 years (13.5%) and the smallest group ≥ 36 years (2.7%). Most of the respondents were female (75.7%) (Table 1).

A large proportion of the respondents (98.6%) indicated that the benefits of breastfeeding were being addressed in the nursing course, only 1.4% (one respondent) stating that they were not.

Table 1 shows that 79.7% of the respondents were introduced to the concept of EBF during the first year of their nursing course, 16.2% stated that it was during the second year, 2.7% stated that it was during the third year, and 1.4% stated that they had never been exposed to any information pertaining to EBF.

Table 2 shows that the overall knowledge of the respondents regarding EBF was satisfactory. Their attitudes are presented in Table 3.

Discussion

The majority of the respondents fell into the age category 17 - 26 years. This is because a large proportion of nursing students come straight from high school, and are often very young.^[7] Females outnumbered males, probably because of the traditional view that nursing is a female profession.^[8] All the respondents were registered for the honours degree course in nursing. With regard to their marital status, many stated that they were single.

The majority of the respondents indicated that the benefits of breastfeeding were being addressed in their nursing course. A large proportion stated that they were introduced to the concept of EBF during their first year of study. This is likely to be because there are modules on maternal and child health in all 3 years of the bachelor of nursing science curriculum at the University of Namibia. Nursing students are also exposed to midwifery as a module in the initial phase of the course.

Knowledge about EBF

It is imperative for student nurses to be equipped with sufficient knowledge about EBF. The overall knowledge of the participants regarding EBF was satisfactory, as indicated by 97.3% knowing the recommended duration

Table 1. Gender of participants, whether they considered that the benefits of EBF were addressed in the course, and academic year of introduction to the concept of EBF

	Frequency, <i>n</i> (%)	Cumulative %
Gender		
Male	18 (24.3)	24.3
Female	56 (75.7)	100
Total	74 (100)	
EBF benefits addressed		
Yes	73 (98.6)	98.6
No	1 (1.4)	100
Total	74 (100)	
Academic level of introduction to EBF		
1st year	59 (79.7)	79.7
2nd year	12 (16.2)	95.9
3rd year	2 (2.7)	98.6
Never	1 (1.4)	100
Total	74 (100)	

EBF = exclusive breastfeeding.

of EBF and 82.4% knowing that breastfeeding should commence within 1 hour after delivery. The researcher deduced that the high level of knowledge in this regard was mainly attributable to student exposure to clinical settings such as the labour ward and antenatal care. The fact that 90.5% of the respondents agreed with the statement that breastmilk is the ideal food for babies may indicate that many had already been exposed to this view and agreed with it. The results of the present study are similar to those of Natan *et al.*,^[9] who found that nursing students had a very good level of breastfeeding knowledge, which was higher than that of students from other faculties. However, both their students and the respondents in the present study had similar moderately positive overall breastfeeding attitude scores, suggesting that, in addition to helping nursing students acquire the necessary knowledge about breastfeeding, more emphasis should be placed on improving attitudes to breastfeeding in nursing education programmes.

All the respondents in the present study failed to disagree with the incorrect statement that EBF includes giving fluids other than human milk; instead, 90.5% gave a neutral response, indicating uncertainty about what EBF is, and 9.5% agreed with the statement. These results support those of Elareed and Senosy^[10] in Egypt, who found that overall the majority of their study participants (80.2%) had inadequate knowledge about breastfeeding and 54.4% had negative attitudes to it. There was a statistically significant association between gender and knowledge score ($p=0.03$) and between knowledge and attitude scores ($p=0.001$). A study by Altwalbeh^[11] revealed a lack of knowledge about breastfeeding, coupled with neutral attitudes, low confidence in breastfeeding management and a low level of satisfaction with breastfeeding education, among diploma midwifery students in Jordan. Lack of adequate breastfeeding knowledge can lead to confused guidance to breastfeeding mothers when the nursing student becomes a qualified registered nurse.^[12]

The participants' responses to the statements on EBF in the knowledge section of the questionnaire also indicated that they recognised that

Table 2. Knowledge of the participants on EBF

Knowledge	Agree, n (%)	Neutral, n (%)	Disagree, n (%)
EBF includes giving fluids other than human breastmilk	7 (9.5)	67 (90.5)	0
EBF should continue for a period of 6 months	72 (97.3)	1 (1.4)	1 (1.4)
Infants not exclusively breastfed are prone to infections	57 (77.0)	14 (18.9)	3 (4.1)
Breastfeeding should commence within 1 hour after delivery	61 (82.4)	4 (5.4)	9 (12.2)
EBF does not have any maternal benefits	2 (2.7)	3 (4.1)	69 (93.2)
Human breastmilk does not contain all the nutrients and nourishment needed by the infant	1 (1.4)	0	73 (98.6)
Formula feeding is more convenient than breastfeeding	3 (4.1)	5 (6.8)	66 (89.2)
Breastmilk is cheaper than formula milk	69 (93.2)	0	5 (6.8)
Breastfeeding can enhance intimacy between mother and infant	69 (93.2)	4 (5.4)	1 (1.4)
Formula-fed infants are more likely to gain weight than breast-fed infants	6 (8.1)	32 (43.2)	36 (48.6)
Benefits of breastfeeding are limited to a specific period of time	6 (8.1)	8 (10.8)	60 (81.1)
Women should not breastfeed in public places such as restaurants	7 (9.5)	13 (17.6)	54 (73.6)
Breastmilk is the ideal food for babies	67 (90.5)	5 (6.8)	2 (2.7)

EBF = exclusive breastfeeding.

Table 3. Attitudes of the participants to EBF

Attitude	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
EBF is beneficial to the child	3 (4.1)	0	1 (1.4)	5 (6.8)	65 (87.8)
Human breastmilk is inadequate for infants aged ≥ 2 months	46 (62.2)	20 (27.0)	2 (2.7)	2 (2.7)	4 (5.4)
Breastfed babies are healthier than bottle-fed babies	4 (5.4)	4 (5.4)	10 (13.5)	18 (24.3)	38 (51.4)
Infant formula and breastmilk have the same health benefits	30 (40.5)	26 (35.1)	10 (13.5)	3 (4.1)	5 (6.8)
Human breastmilk alone can sustain an infant for 6 months	7 (9.5)	0	0	8 (10.8)	59 (79.7)
Breastmilk contains all the essential nutrients for an infant	2 (2.7)	1 (1.4)	0	6 (8.1)	65 (87.8)
EBF is better than artificial feeding	1 (1.4)	0	4 (5.4)	15 (20.3)	54 (73.0)
Colostrum contains essential antibodies necessary to help the child's immune system	2 (2.7)	0	2 (2.7)	7 (9.5)	63 (85.1)
Women who have breastfed have an increased risk of developing breast cancer	61 (82.4)	7 (9.5)	3 (4.1)	1 (1.4)	2 (2.7)

EBF = exclusive breastfeeding.

breastfeeding is the preferred method of feeding newborns and infants and acknowledged that it has many health benefits for the mother-baby dyad. Most of the students said that they would participate in a breastfeeding course if it was made available at the school of nursing. Whether a nursing student has or has not completed classes on human lactation during the nursing programme, and has had or not had children, significantly influences their attitudes to and knowledge about breastfeeding.^[13] Similar to the findings of Linares *et al.*,^[13] the respondents in the present study may already have acquired knowledge about maternal and child breastfeeding benefits prior to their child and maternal health course, for example through personal or family experience.

Not all health professionals are adequately prepared to manage breastfeeding problems, or feel confident and knowledgeable doing so.^[14] It is essential that students in the health professions have a positive attitude to breastfeeding, as well as sufficient knowledge to provide breastfeeding women with the basic information they require.

Attitudes to EBF

In this study it was imperative for the researcher to assess the attitudes of the students to EBF, for they will be registered nurses in the near future. The majority of the respondents had a positive attitude to EBF, with as many as 40.5% strongly disagreeing and 35.1% disagreeing with the statement that infant formula and breastmilk have the same health benefits. The positive attitude to breastfeeding can be attributed to the effect of participating in the maternal and child health modules. The results of the present study support the findings of Mohamad *et al.*^[15] that most final-year medical and dental students at Universiti Sains Malaysia generally had favourable attitudes to EBF and intended to breastfeed their own children. However, it was clear that some lacked understanding of important basic facts about breastfeeding. The students' experience of being breastfed as infants and a more positive attitude to the practice were associated with their future intentions to exclusively breastfeed their infants.^[15]

Yang *et al.*^[16] found that both the theoretical and clinical components of the breastfeeding education programme in Taiwan increased nursing

students' knowledge and created positive attitudes to breastfeeding.^[16] This occurred during lecture sessions and in clinical settings with breastfeeding mothers, where observations were made that formula feeding provides fewer nutrients to the infant than breastmilk.

The majority of the respondents in the present study (79.7%) strongly agreed that human breastmilk alone can sustain an infant for 6 months. This is in contrast to a study by Hatamleh and Sabeeb,^[17] in which 60% of nursing students thought that breastfed infants need supplemental formula during the developmental stages.

Responses to certain statements in the present study did not indicate a change in the students' attitudes to breastfeeding, and as suggested above, it could be that the respondents had already acquired positive attitudes prior to doing their maternal and child health modules.

Study limitations

The methodology used limited the researcher in terms of gaining more information from the participants. The study was also limited to third-year degree students only.

Conclusion

This study investigated knowledge and attitudes of third-year nursing students regarding EBF, and what impact a curriculum that promotes optimal breastfeeding practices has on attitudes and knowledge. It illustrates the need to enhance a maternal and child health curriculum that promotes positive attitudes to breastfeeding in nursing students. The main challenge observed was failure of the participants to define what EBF is and what it entails. It is vitally important for nursing students to receive adequate breastfeeding training so they can offer the necessary support to women who require it, at any healthcare level.^[18]

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