

Breastfeeding Knowledge, Attitude and Intention of Nursing Students in Nigeria

Oluwatosin Olushola Leshi*, Mary Oluwabunmola Makanjuola

Department of Human Nutrition and Dietetics, Faculty of Public Health, University of Ibadan, Ibadan, Nigeria

Email: ttlesh@gmail.com, *oo.leshi@ui.edu.ng

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Abstract

Background: Nurses are important frontline health workers that promote and support optimum breastfeeding. They are, therefore, expected to have basic breastfeeding knowledge and favourable attitude for better clinical experience as students and intention to breastfeed as potential parents. This study aimed to assess the breastfeeding knowledge, attitude, and intention of nursing students in Nigeria. **Methods:** This cross-sectional study was conducted among 142 nursing students. A validated tool was used to obtain breastfeeding knowledge, attitude, and intention of the students. Descriptive and inferential statistics were used to analyze the data. **Results:** The majority (81%) of the nursing students had adequate breastfeeding knowledge, however, only four out of every 10 students had a positive attitude towards breastfeeding and 36.6% had good intention to breastfeed in the future. This study revealed no significant relationship ($p = 0.102$) between the breastfeeding knowledge and attitude of the students while a significant relationship ($p = 0.002$) existed between breastfeeding knowledge and future breastfeeding intention of the nursing students. **Conclusion:** Nursing students demonstrated adequate knowledge of breastfeeding; however, their attitudes towards breastfeeding and the intention to breastfeed were inadequate. There is a need to focus on the attitudinal changes of the nursing students which could influence their future professional practices and engagement in the optimal breastfeeding practices.

Keywords

Breastfeeding Knowledge, Attitude, Intention, Nursing Students

1. Introduction

Nutrition is critical to health and development, especially during the critical times of pregnancy and the first two years of life [1]. To achieve optimum nutrition in

early life, adequate breastfeeding is, therefore, essential [1]. The recent global report on nutrition revealed that only 35 countries are on course to meet the breastfeeding related target of the World Health Assembly's Global Nutrition Targets by 2025 [2]. In Nigeria, the largest country in Sub-Saharan Africa in terms of population; breastfeeding practices indicate that 42.1 percent of the mothers initiate breastfeeding within one hour of birth, prelacteal feeds are introduced to 48.8 percent of the children in the first three days of birth and exclusive breastfeeding is at 28.7 percent [3]. Despite several attempts to improve breastfeeding practices for optimal survival, growth, and development, little progress has been recorded [4] [5] [6] [7]. Awareness, behaviour, and habits of mothers have been established as part of the hindrances to optimum breastfeeding [8] [9], and the need to intensify breastfeeding education among women, especially before motherhood has been identified [10] [11] [12]. The aspiration of young adults to breastfeed has been linked to their knowledge and understanding of the concept of breastfeeding [11] [13] [14] [15].

One of the goals of nursing education is to encourage healthy behaviors in the general population and among nurses. However, little is known on how nursing education influences nursing students' behavior, skills, intention, and perception towards breastfeeding in Nigeria. Nurses' breastfeeding perspective has been shown to predict their commitment to support breastfeeding [16] [17]. According to the principle of reasoned action, a person's attitude and opinion about a given behaviour are formed based on previous understanding and familiarity with the behavior, as well as the external force to practice or not perform the activity [18] [19]. Earlier studies had, however, reported a positive attitude of nurses towards breastfeeding and a lack of adequate breastfeeding knowledge [20] [21] and their desire to provide the necessary breastfeeding assistance cannot be compared to their actual breastfeeding conduct [16].

It is critical to specifically identify nursing students' level of breastfeeding awareness, mindset, and possibly purpose for breastfeeding. Students who have adequate breastfeeding experience are more likely to help mothers who are breastfeeding. Research had recorded that nursing students graduate with little breastfeeding knowledge [22] [23], which may have a significant impact on their capacity to provide breastfeeding help. Whelan and colleagues had previously stated that healthcare providers' skills and behaviours must be included in any attempt to improve breastfeeding rates [24]. Nurses, as the key frontline health professionals in fostering and endorsing breastfeeding activities, must be properly trained as students with basic breastfeeding expertise and skills for the benefit of their clinical experience and personal practice as potential mothers. Breastfeeding recommendations and targets can be quickly fulfilled if nursing students are trained to give breastfeeding assistance to mothers [25]. With a scarcity of studies examining nursing students' breastfeeding knowledge, attitude, and intentions in Nigeria, this study was commissioned to assess the breastfeeding knowledge, attitude, and intention of nursing students in the south-eastern region of

Nigeria.

2. Methodology

This descriptive cross-sectional study was conducted among Nursing Students of the Mater Misericordiae Nursing School which is one of the leading schools of Nursing in Ebonyi State, South Eastern region of Nigeria. The school of nursing is affiliated to Mater Misericordiae Hospital in Afikpo North Local Government Area of Ebonyi State. The school runs a 3-year nursing program and the female students who were unmarried and without children were considered eligible for the study. A total number of 142 students across all the 3 tiers of the school who gave their consent and were available to participate in the study were recruited.

Data were collected through the use of a semi-structured, self-administered questionnaire in November 2018. This research used the breastfeeding knowledge, attitude, and intention scales from an earlier study among the young adults in Nigeria [11] to assess the breastfeeding knowledge, attitude, and intention of the study participants in the current study. The tools from Leshi and colleagues [11] were a set of validated 12 points breastfeeding knowledge scale, 14 items breastfeeding attitude which were scored on a Likert scale, and 9 points breastfeeding intention scale. Respondents with knowledge score of 7 and above were considered to have had good breastfeeding knowledge while those with scores below 7 were regarded to have poor breastfeeding knowledge. Participants with attitude score below 9 were regarded to have negative attitude towards breastfeeding and those with a score of 9 and above had positive attitude towards breastfeeding. The breastfeeding intention was categorized such that those with intention score below 6 had poor intention to breastfeed while those with score of 6 and above had good intention to breastfeed. The collected data were analyzed using IBM-SPSS version 21. Descriptive statistics were presented in frequency, percentages, mean and standard deviation. The relationship between the breastfeeding knowledge, attitude, and intention of the respondents was explored through chi-square test with a level of significance set at 0.05. Ethical approval was sought from the UI/UCH Ethics Committee and permission was also obtained from the management of the school. Informed consent was provided for each of the students to read and was duly signed before the data collection.

3. Results

The sociodemographic characteristics of the respondents are presented in **Table 1**. A total of 142 Nursing Students with 131 (92.3%) from Ebonyi state and 11 (7.7%) from other states studying at the Mater Misericordiae Nursing School, Ebonyi State participated in the study. Responses were received from the three levels of study; 37.3% in year 1, 33.1% in year 2, and 29.6% in year 3. The average age of the students was 22.5 ± 2.2 years with most (61.3%) of the students being above 20 years of age.

Table 1. Demographic characteristics of the nursing students.

Demographic characteristics	Frequency	Percentage
State of origin		
Ebonyi state	131	92.3
Other states	11	7.7
Age		
<20 years	55	38.7
≥20 years	87	61.3
Level of study		
Year 1	53	37.3
Year 2	47	33.1
Year 3	42	29.6
Total	142	100.0

Breastfeeding knowledge of the students in the current study, as shown in **Table 2**, revealed that more than three-quarters knew that breastfeeding should be initiated within one hour of birth, about 80% knew that pre-lacteal feed should not be given to infants, and the majority (78.9 percent) knew what colostrum meant and could describe it. Almost all of the students (97.9%) were able to correctly define exclusive breastfeeding. Nine out of ten students were aware that breast milk is only adequate for infants in the first six months of life, and a similar proportion believed that water should not be introduced to infants before the age of six months. Eight out of ten students correctly identified complete covering of the nipple and its surroundings as an appropriate breastfeeding positioning, while the majority correctly indicated that mothers with small breast sizes can produce enough breastmilk. Concerning the benefits of breastfeeding, 89.4 percent were aware that it benefits both the mother and the child, while 8.5 percent and 2.1 percent were aware that it benefits only the child and the mother, respectively. Six out of ten students believed that breastfeeding should be done on demand by the babies, while 36.6 percent believed that breastfeeding should be done regularly by the mother. While approximately 70% knew that complementary food should be introduced to infants at six months, approximately 10% believed that complementary food should be introduced earlier. The majority of students (70.4 percent) believed that breastfeeding should be discontinued by mothers before 24 months, whereas only three out of every ten students believed that breastfeeding should be continued for 24 months and beyond. Overall, the majority (81%) of the nursing students had adequate breastfeeding knowledge, while 19% had inadequate breastfeeding knowledge (**Figure 1**).

Table 3 depicts the nursing student's attitudes toward breastfeeding. Breastfeeding should begin within one hour of birth, according to the majority of 85.2 percent and 88.7 percent of respondents, and it should be the first food introduced to every child after birth. Nearly all (97.9%) agreed that babies should be

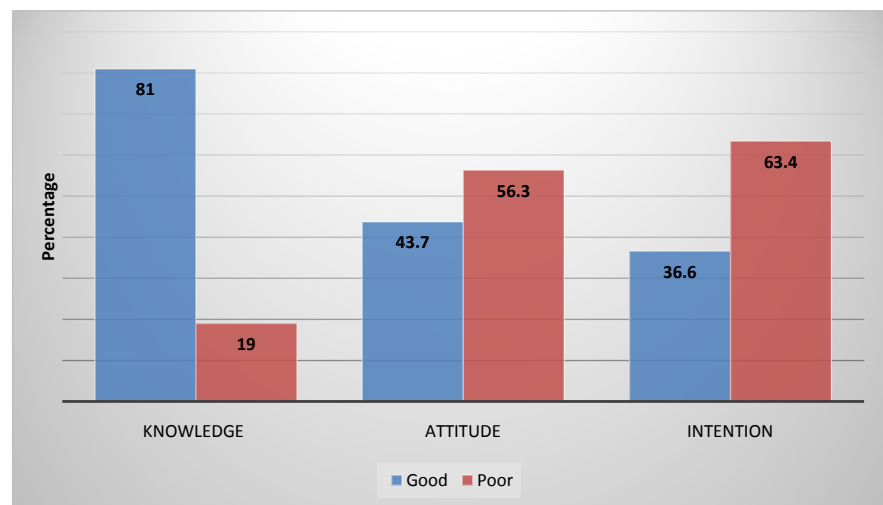
Table 2. Breastfeeding knowledge of the Nursing students.

Breastfeeding knowledge variable	Frequency	Percentage
Initiation of breastfeeding by mother		
Within 1 hour after birth	108	76.1
After 1 hour of delivery	34	23.9
Feeding of pre-lacteal liquid		
Yes	138	19.7
No	4	80.3
Knowledge of colostrum		
Yes	112	78.9
No	30	21.1
Only breast milk is sufficient for infants in the first 6 months		
Yes	132	93.0
No	10	7.0
Introduction of water to the infant		
Before six months	6	4.2
Six months and above	136	95.8
Definition of exclusive breastfeeding		
Correctly defined	139	97.9
Incorrectly defined	3	2.1
Complete covering of the nipple and its surroundings is one of the appropriate positioning for breastfeeding		
Yes	118	83.1
No	24	16.9
Women with small breasts cannot produce sufficient breast milk		
Yes	11	6.9
No	131	92.3
Benefit of breastfeeding		
Only to mother	3	2.1
Only to child	12	8.5
Both mother and child	127	89.4
The mode of breastfeeding a baby		
As baby demands	90	63.4
As scheduled by the mother	52	36.6
Introduction of complementary food to the infant		
Before 6 months	14	9.9
At 6 months	103	72.5
After 6 months	25	17.6
Cessation of breastfeeding by the mother expected		
Before 24 months	100	70.4
24 months and beyond	42	29.6
Total	142	100

Table 3. Breastfeeding attitude of the nursing students in Nigeria.

Attitude statements	Agree (%)	Neutral (%)	Disagree (%)
Mothers should breastfeed their babies within 1 hour after delivery	85.2	5.6	9.2
Breast milk should not be the first food given first to a child after delivery	8.4	2.9	88.7
Babies should be fed with colostrum	97.9	1.4	0.7
Colostrum helps the baby to fight against infections	97.9	2.1	-
Breast milk only is not sufficient for a baby in the first six months of life	8.5	6.3	85.2
Water should be given to babies below 6 months of age	12.7	16.2	71.1
Herbs/herbal drinks are beneficial to the health of babies especially in the first 6 months	1.4	4.9	93.7
Formula feeding is healthier and supplies more nourishment than breastfeeding for babies below 6 months	3.5	4.9	91.5
The size of the breast determines the amount of breast milk produced	9.9	7.0	83.1
Breastfeeding should not be continued when semi-solid or solid foods are introduced	14.8	6.3	78.9
Other foods (semi-solid) should be introduced to a child from 6 months.	86.7	3.5	9.8
Breastfeeding in the public is embarrassing therefore should be discouraged.	13.4	7.0	79.6
Breastfeeding helps a mother to feel closer to her baby.	92.3	2.8	4.9
Husband/Partner should play a supportive role in breastfeeding	90.9	4.9	4.2

Disagree = strongly disagree/tend to disagree; Agree = strongly agree/tend to agree.

**Figure 1.** Breastfeeding knowledge, attitude and intention category of the respondents.

fed with colostrum and that it helps to fight against infections. While 85.2% were of the view that breast milk alone is sufficient for infants in the first 6 months of life, more than 10% still feel water should be introduced to infants below 6 months of age and 16.2% were indifferent. Nine out of ten students believe that herbs and herbal drinks are beneficial to infant health and that infant formula provides more nourishment than breastfeeding. The majority (86.7 percent) agreed that other foods should be introduced to a child starting at 6 months, while 83.1 percent disagreed that breastfeeding should be stopped when such foods are introduced. The students' attitudes toward breastfeeding in public as being embarrassing revealed that eight out of ten were in disagreement. Approximately 90% agreed that

breastfeeding improves mother-child bonding and that men should play a more supportive role in breastfeeding. **Figure 1** indicated that 43.7 percent of respondents had positive attitude about breastfeeding, while 56.3 percent had negative attitude about breastfeeding.

From **Table 4**, about two-thirds (67.6%) indicated their intention to initiate breastfeeding within one hour of birth, while nearly a quarter (23.9 percent) were yet to decide, and 8.5% intend to start breastfeeding after one hour of birth. Surprisingly, 80.3 percent are yet to decide on their intended duration of breastfeeding, while only 12.9 percent intend to breastfeed for at least 12 months. While the majority (88.7 percent) intend to introduce colostrum to their children, up to 15% have indicated their intention to introduce prelacteal feed in the first 3 days after delivery.

Eight out of every 10 students intend to practice exclusive breastfeeding, about half indicated their intention to breastfeed based on demand by the baby and one-third intend to breastfeed at scheduled intervals while 13.4% are yet to decide on their intended mode of breastfeeding. About 30% intend to bottle feed their children in the future while 11.3% are yet to decide. It is noteworthy to reveal that only 2.1% had the intention of introducing complementary food before 6months and 14.8% are yet to decide. Also, about two-thirds indicated their intention to breastfeed beyond 12months while only 14.8% are yet to decide their intended duration for breastfeeding. Overall, 63.4% of the respondents had poor intention towards breastfeeding while only 36.6% had good intention towards breastfeeding (**Figure 1**).

According to **Table 5**, out of 80 respondents with negative attitudes towards breastfeeding majority (76.2%) had good breastfeeding knowledge. Similarly, the majority (87.1%) of the students with positive attitude towards breastfeeding had good knowledge of breastfeeding. According to this study, no statistically significant relationship exists between breastfeeding knowledge and the attitudes of the nursing students ($P > 0.05$). Also indicated in **Table 5** is the significant relationship that was found to exist between breastfeeding knowledge and breastfeeding intention of the nursing students in this study ($P < 0.05$) and nearly all (94.2%) the respondents with good knowledge had the intention to breastfeed.

Table 4. Breastfeeding intention of the nursing students.

Variables	Frequency	Percentage
Intention to initiate breastfeeding		
Within one hour	96	67.6
After one hour	12	8.5
Yet to decide	34	23.9
Intended duration for breastfeeding (n = 132)		
12 month and below	9	6.8
Beyond 12months	17	12.9
Yet to decide	106	80.3

Continued

Intention to introduce prelacteal feed		
Yes	22	15.5
No	120	84.5
Intention to introduce colostrum		
Yes	126	88.7
No	16	11.3
Intention to breastfeed exclusively		
Yes	116	81.7
No	26	18.3
Intended mode of breastfeeding		
On-demand	74	52.1
At interval	49	34.5
Yet to decide	19	13.4
Intention to bottle feed		
Yes	42	29.6
No	84	59.2
Yet to decide	16	11.3
Intended age to introduce complementary food		
Before 6 months	3	2.1
6 months and beyond	118	83.1
Yet to decide	21	14.8
Intention to breastfeed beyond 12months		
Yes	93	65.5
No	28	19.7
Yet to decide	21	14.8
Total	142	100

Table 5. Relationship between breastfeeding knowledge, attitude and intention of nursing students.

		Attitude		Intention	
		Negative attitude	Positive attitude	Poor intention	Good intention
Knowledge	Poor knowledge	19 (23.8)	8 (12.9)	24 (26.7)	3 (5.8)
	Good knowledge	61 (76.2)	54 (87.1)	66 (73.3)	49 (94.2)
	Total	80 (100.0)	62 (100.0)	90 (100.0)	52 (100.0)
		$X^2 = 2.67$ P-value = 0.102		$X^2 = 9.35$ P-value = 0.002	

4. Discussion

Determination and decisions around breastfeeding practice have been established to be significantly influenced by knowledge, attitude, and intention towards breastfeeding [11] [26]. Breastfeeding which is both an act and art that protect both the mothers and infants and nurses are expected to play a pivotal role for successful breastfeeding through adequate support and appropriate promotion of breastfeeding. Nurses are known to be essential in the healthcare system and they are expected to be knowledgeable about breastfeeding in order to provide accurate and consistent information to pregnant women and new mothers [27]. Bemaix (2000) had indicated breastfeeding knowledge and attitude as two key supportive behaviour by nurses that ensure successful breastfeeding [16]. However, several studies have substantiated inadequate breastfeeding knowledge of the nurses [19] [28] [29] [30]. In this Nigerian study, trainees in the nursing profession were found to be knowledgeable about breastfeeding, this is contrary to an Egyptian study that reported inadequate breastfeeding knowledge among nursing students [31]. The adequacy of knowledge of the respondents in this study could be attributed to their exposure to breastfeeding topics either in their nursing curriculum or students' posting to antenatal and postnatal clinics which could have contributed to their breastfeeding knowledge. In a scoping review by Chuisano and Anderson, it was indicated that health care providers such as nurses have appropriate breastfeeding knowledge but lack the necessary confidence and skills to guide mothers through breastfeeding experience [32]. A study by Ogunba and Agwo [33] had earlier indicated a poor knowledge of breastfeeding among students, however, this contrasts the findings from the current study. Adequacy of breastfeeding knowledge by the majority of the respondents in this present study could be attributed to the exposure of nursing students to the fundamentals of breastfeeding which are often covered by their training programme. Studies have indicated that nursing curricula are often limited in scope targeted towards breastfeeding and this has resulted in a high proportion of nurses who are inadequately equipped to provide optimal breastfeeding support for mothers and infants [16] [22] [23] [34] [35]. Unlike the findings from this study, Marzalik [36] reported low breastfeeding knowledge but more supportive attitudes among nursing students in the United States. This implies that being able to provide needed support for successful breastfeeding goes beyond the knowledge of breastfeeding of the nurses. In a review by Chuisano and Anderson [32], breastfeeding knowledge was revealed not to have necessarily translated to breastfeeding management skills within the nursing profession. Bemaix [16], however, reported that nurses' ability to provide breastfeeding support was influenced by their attitudes and knowledge. Earlier studies have indicated that the inclusion of breastfeeding content in baccalaureate nursing programs improves students' breastfeeding attitudes and knowledge [25] [37] therefore the provision of fundamental breastfeeding knowledge to nursing students could instill the need for the nursing students to prepare for their supportive role to all new mothers.

Although adequate knowledge of breastfeeding was reported by the majority of nursing students in this study, however, more than half exhibited negative attitude towards breastfeeding. Findings from similar studies had reported negative attitude of nursing students towards breastfeeding [22] [31], this indicates that being knowledgeable about breastfeeding does not correspond to having positive attitude toward breastfeeding. The poor attitude could be linked to cultural beliefs and misconceptions about breastfeeding. A study had earlier reported breastfeeding misconceptions among nursing students in the United States [38]. In the study by Linares and colleagues [38], many of the nursing students were reported to agree that formula feeding is easier than breastfeeding. In this study, however, the majority of the nursing students disagreed that infant formula is easier, healthier and that it supplies more nutrients than breastmilk.

A qualitative study by Cricco-Lizza [39] among nursing students revealed that students' previous experiences with breastfeeding influenced their breastfeeding attitudes and beliefs. Findings on the attitudes of nursing students in this study are in contrast to a similar study among nursing students at the University of New Hampshire, where the students were generally found to have positive attitudes toward breastfeeding [40]. The findings on the attitude of the nursing students in this study align with what was obtained from another study that assessed the breastfeeding attitudes of nursing students along with medical students in Taiwan [41].

The decision to breastfeed has largely been dependent on maternal knowledge and attitudes as well as professional support from health workers [17]. Nurses are not only known for their important role as frontline health workers but also breastfeeding ambassadors to all new mothers therefore, they are expected to be well-grounded in breastfeeding knowledge, and possess positive attitudes and intention towards breastfeeding as early as during their training programme. It is, however, a concern that the majority of the nursing students in this study had poor intention to breastfeed optimally in the future. A recent study conducted in the same region where the current study was carried out revealed that a higher proportion of primiparous women had the intention to breastfeed their children exclusively [42]. This clearly indicates disparity in the intention of unmarried female students and women with previous birth history to breastfeed. Studies have also established that students' adequate knowledge and positive attitude formation toward breastfeeding can influence successful breastfeeding in the future [43] [44]. From this study, no statistically significant difference was observed between knowledge and attitude of the nursing students as the majority of the students with adequate knowledge of breastfeeding still possessed negative attitudes, this finding is contrary to results obtained from previous studies conducted among nursing students [14] [31] [45]. However, a significant relationship was observed between the breastfeeding knowledge and intention of nursing students and this is consistent with the findings obtained from Saudi Arabia [45]. There are some limitations to this study that should be noted. The respondents were from only one school of nursing in one of the southeastern states in Nigeria; therefore, the findings

could not be regarded as a true representation of all nursing students in Nigeria. This study was also limited to only female nursing students while their male counterparts were left out.

5. Conclusion

The findings of this study indicated that nursing students have adequate knowledge of breastfeeding but negative attitudes and poor intention toward breastfeeding. No relationship was observed between the students' breastfeeding knowledge and attitudes, however, a statistical association was found between breastfeeding knowledge and breastfeeding intention. There is, therefore, a need for targeted interventions that focus more on the attitudinal changes of the nursing students which will influence their future intention to engage in optimal breastfeeding practices.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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