

Knowledge and Attitude on Breastfeeding Practices among Medical Students in South India

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ABSTRACT

The study was performed to assess the knowledge and attitude of medical students about breastfeeding. It was a cross-sectional study conducted among 104 students in their first and final years. The study was performed using a self-administered questionnaire. The average age of study participants is 20.311.83. The majority of the study participants were female (63, 60.6%), and 63, 59.4%, belonged to the first year. 99% of the students are aware that mother's milk is the best food for babies. Only 29.8% of students were aware of breastfeeding when a baby has diarrhea, and there is also poor knowledge about latching methods. 54.8% of students knew that breastfeeding reduces the risk of pregnancy. The overall knowledge was good, and when compared, final-year students and females performed better than the other groups. Medical students, as future physicians, will be at the forefront of assisting mothers with breastfeeding issues. Because these students will become an important cadre of health professionals, the medical curriculum should place a strong emphasis on nutrition counseling for mothers and children.

Keywords: Breastfeeding, Knowledge, Medical Students

INTRODUCTION

The only optimal meal for infants for at least the first six months of life is breast milk, a complex secretion. The finest nutrition for a

baby is breast milk, which also offers protection from infectious diseases and fosters optimum growth and development. However, over the years, there has not been much progress in breastfeeding rates, as evident by the National Family Health Survey (NFHS-3) data, which show less than half of infants under 6 months of age are exclusively breastfed, with the exclusive breastfeeding rate dropping to 28% for infants in the age group 4–5 months. ¹ Since 2001, the World Health Organization has recommended exclusive breastfeeding for six months. ² Exclusive breastfeeding is the most effective intervention to reduce infant mortality and is estimated to prevent 13% of under-5 child mortality in low-income countries. ³ The Lancet Series on Breastfeeding estimated that >800 000 child deaths globally and cognitive losses totaling US\$302 billion per year were attributable to not breastfeeding according to recommendation and exposure to breastmilk substitutes. ⁴

Breastfeeding enhances birth spacing and provides protection against breast cancer for nursing mothers. It may also reduce the risk of type 2 diabetes and ovarian cancer. Compared with formula-fed infants, breastfed infants experience less acute and chronic otitis media, bronchiolitis, diarrhea, meningitis, and necrotizing enterocolitis. ^{5,6}

Before conception and even before adolescence, opinions on child feeding can be established, indicating that encouraging breastfeeding among people at various stages of human development may be useful. It takes years to develop favorable attitudes and beliefs about nursing, so it is crucial to continuously disseminate this kind of information to individuals. There have been reports in the literature of a lack of breastfeeding promotion information for young people.⁷ Low breastfeeding rates could be a result of young children and adolescents not receiving enough positive nursing role models. Adolescents are more successful at retaining information and having positive attitudes about breastfeeding⁸ Knowledge, attitude, and future goals vary by culture. In south India, little research has been done on medical students' knowledge, attitudes, and intentions towards breastfeeding. This study was carried out to evaluate medical students' understanding of breastfeeding practices at a private medical institution.

MATERIALS AND METHODS

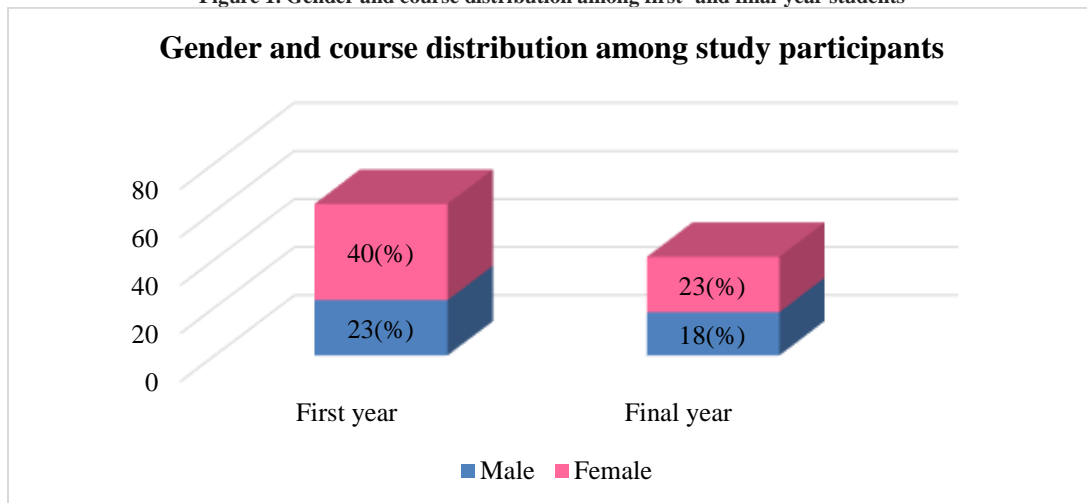
This cross-sectional survey was conducted using a pretested questionnaire among medical students at the Sree Mookambika Institute of Medical Sciences, Kulasekharam. This study was done between March 2023 and May 2023. The questionnaire asked questions about medical students' knowledge of breastfeeding procedures. There was a total of 20 questions, some of which assessed knowledge of general breastfeeding practices while others focused on the initiation, continuation, and supplementation of breastfeeding. The questionnaire was sent via Google Forms.

Data was entered into an Excel sheet, and analysis was done using SPSS version 21. P-values <0.05 were considered significant.

RESULTS

104 students participated in this study. The average age of study participants is 20.31 ± 1.83 . The majority of the study participants were female (63, 60.6%), and 63, 59.4%, belonged to the first year. Figure 1 show the gender and course distribution of first- and final-year medical students.

Figure 1. Gender and course distribution among first- and final-year students



While the majority of the participants thought only mother's milk should be given in the initial few days, 15 (14.4%) thought cow's

milk could be supplemented, and 8 (7.7%) and 1 (1%) thought babies could be fed with hot water and honey, respectively. The

majority of the participants agreed on feeding the baby colostrum, while 7 (6.7%) thought it should be discarded. One person also mentioned that it should be mixed with cow's milk and honey, respectively. 69.2% of the participants knew the baby should be fed within one hour, while 18 (17.3%), 10 (9.6%), and 4 (3.8%) felt it was okay to feed the baby within 6 hours, by the next day, and within 2 days, respectively. Almost half of the participants were aware of the fact that frequent nursing increases the quantity of breast milk, and 20 (19.2%), 24 (23.1%), and 4 (3.8%) had the intention that milk intake by the mother, consumption of dry fruits, and only medication could increase the quantity. When asked about the condition in which to avoid breast milk, the majority answered rightly as a mother having HIV/AIDS, while 7 (6.7%) and 16 (15.4%) respectively assumed breast milk should be avoided if the baby is small or sick or when the mother has a fever. Only 51.9% of the participants were aware of the concept of breast feeding on demand, while 5 (4.8%) felt that it is necessary to feed the baby once an hour, 29 (27.9%), and 16 (15.4%) said it is okay to feed the baby every 4 hours and 4 times a day, respectively. While only 32.7% were aware of the proper latching technique, 43 (40.6%) thought it was okay to have only half of the areola inside the baby's mouth, and 27 (26%) thought only the nipple should be placed inside the mouth. The majority of the participants were aware of the period of initiation of weaning, while 9 (8.7%) believed supplementary food could be

started as early as 2 months and 15 (14.4%) said it should be started after 1 year of age. 11 (10.6%) assumed frequent breast-feeding causes child obesity, 16 (15.4%) believed it to be a cause of postpartum depression, and 7 (6.7%) said it causes low quality milk. 87 (83.7%) knew that breast milk doesn't have hormones, while 13 (12.5%) and 4 (3.8%) believed fat and protein not to be components of breast milk. 15 (14.9%) thought breast milk was not digestible, 8 (7.6%) did not think it was a balanced, nutritious food, and 19 (18.3%) did not believe that it prevents infection. 17 (16.3%), 1 (1%), and 1 (1%), respectively, believed breast milk prevents only diarrhea, ear infection, and respiratory infection in babies, while 4 (3.8%), 13 (12.5%), and 9 (8.7%) thought breast milk prevents anemia, infection, and hypertension among mothers. Only 50% believed in the fact that breast feeding can be stopped once the baby has adequate food intake, while 14 (13.5%), 18 (17.3%), and 22 (20.8%) assumed breast feeding should be completely stopped at 6 months, 1 year, and 2 years, respectively. Almost 43 (41.3%) did not know if to continue breast feeding in case the baby develops diarrhea, 17 (16.3%) thought one should stop breast feeding, and 13 (12.5%) thought the baby should be started on formula feed. 85 (81.7%) said the mother should feed with the unaffected nipple, and 19 (18.3%) said to feed with the same nipple in case of sore nipples. Table 1 shows the frequency distribution of participants having good awareness of breast feeding.

Table 1. Frequency distribution of participants having good awareness of breast feeding

Knowledge component	Frequency (N)	Percentage (%)
Best food for new born – mother's milk	103	99
Breast milk supplementation in initial few days - Nothing	80	76.9
Colostrum should be fed to the baby	95	91.3
Breast feeding started within one hour	72	69.2
Frequent nursing increases the quantity of breast milk	56	53.8
Avoid breast milk if mother has AIDS/HIV	81	77.9
Breast feeding done on demand	54	51.9
Full areole to be inside the mouth while feeding	34	32.7
Supplementary food to be started at 6months	80	76.9
Frequent breast feeding caused no harm	70	67.3

Breast milk advantages on digestion, nutrition, infection	83	79.8
Breast feeding prevents baby from diarrhoea respiratory and ear infection	85	81.7
Breast feeding prevents mother from breast cancer	78	75
Continue breast feeding even if baby develops diarrhoea	31	29.8
Working mothers should feed the baby	98	94.2
Breast feeding reduces chance of subsequent pregnancy	57	54.8

All the female participants believed mother’s milk was the best food for newborns, while only one male participant voted for cow’s milk. While 53 (84.13%) of the females knew nothing to be supplemented in the initial few days, only 27 (65.85%) males believed the same. 32 (78.05%) of male participants and 49 (77.78%) of female participants 3 (7.32%) and 6 (14.63%) of the male participants believed breast milk should be avoided in small or sick babies and when the mother has a fever, while 4 (6.35%) and 10 (24.39%) of the female participants believed the same. 6 (14.63%), 9 (21.95%), and 1 (2.44%) of the male participants thought frequent breast-feeding causes child obesity, post-partum depression, and low-quality milk, respectively, while 5 (7.94%), 7 (11.11%), and 6 (9.52%) of the female participants presumed the same. 4 (9.76%) and 9 (14.29%) of the male and female participants

thought the breast milk didn’t constitute fat, while 4 (6.35%) of the female participants said it was devoid of protein. 34 (82.93%) of male and 49 (77.78%) of female participants knew breast milk is easily digestible, provides adequate nutrition, and prevents against infection. 30 (73.17%) of the male and 55 (87.30%) of the female participants were aware that breast feeding protects babies from diarrhea, respiratory infections, and ear infections, and 30 (73.17%) male and 48 (76.19%) female participants knew it protected the mother from breast cancer. 33 (80.49%) and 52 (82.54%) of males and females agreed on the fact to feed the baby with alternate nipples when one is sore. Table 2 shows the association between breastfeeding awareness and gender. Figure 2 shows the usual weaning foods in the participants’ families.

Figure 2. Usual weaning food

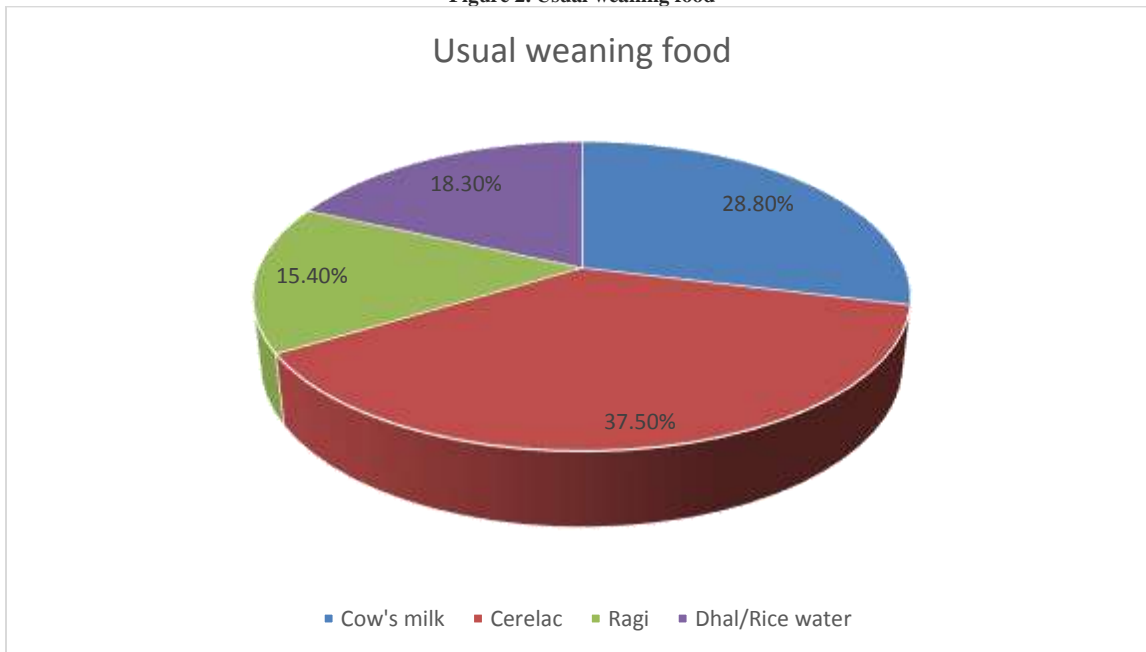


Table 2. Association of awareness of breastfeeding among both genders

Awareness component		Gender N (%)		p value
		Male	Female	
Breast feeding started	Within 1 hour	22(30.56)	50(69.44)	0.001
	Within 6 hours	7(38.89)	11(61.11)	
	By next day	8(80)	2(20)	
	Within 2 days	4(100)	0	
Increases Quantity of breast milk	Frequent breast feeding	18(32.14)	38(67.86)	0.029
	Milk intake	9(45)	11(55)	
	Dry fruits	10(41.67)	14(58.33)	
	Medication	4(100)	0	
Frequency of breast feeding	On demand	18(33.33)	36(66.67)	0.009
	Once in an hour	0	5(100)	
	Every 4 hours	12(41.38)	17(58.62)	
	4 times a day	11(68.75)	5(31.25)	
Latching method	Full areola in mouth	14(421.18)	20(58.82)	0.927
	Half areola in mouth	16(37.21)	27(62.79)	
	Only nipple in mouth	11(40.74)	16(59.26)	
Supplementary feed started in	2 months	7(77.78)	2(22.22)	0.015
	6 months	26(32.50)	54(67.50)	
	1 year	8(53.33)	7(46.67)	
Breast feeding should be completely stopped	6 months	6(42.86)	8(57.14)	0.284
	1 year	9(50)	9(50)	
	2 year	5(22.73)	17(77.27)	
	On adequate food consumption	21(42)	29(58)	
When baby develops diarrhoea	Continue breast feeding	10(32.26)	21(67.74)	0.337
	Stop breast feeding	10(58.82)	7(41.18)	
	Give formula feed	5(62.50)	8(37.50)	
	Don't know	16(37.21)	27(62.79)	
Working mothers breast feed?	Yes	36(36.73)	62(63.27)	0.020
	No	1(50)	1(50)	
	Don't know	4(100)	0	
Contraceptive nature	Yes	25(43.86)	32(56.14)	0.308
	No	16(34.04)	31(65.96)	

Except for one first-year participant, all others agreed on mother's milk being the best food for the baby, and 48 (76.19%) of the first-year and 32 (78.05%) of the final-year students were also familiar with the fact that no supplementation is needed in the initial few days. 57 (90.48%) and 38 (92.68%) of the first and final year participants agreed that the colostrum should be fed to the baby. 30 (47.62%) and 24 (58.54%) of the first and final year participants were aware that breast feeding should be done on demand, and 47 (74.60%) and 33 (80.49%) of the first and final years knew supplementary feeding should be started at 6 months only. 56

(88.89%) and 31 (75.61%) of the first and final years, respectively, knew hormones were not present in breast milk. 51 (80.95%) of first-year and 34 (82.93%) of final-year participants knew breast milk is easily digestible, provides adequate nutrition, prevents infection, and 47 (77.05%) and 36 (87.80%) of the first and final years were aware of the advantages of breast milk, respectively. 50 (79.37%) and 35 (85.37%) of the first and final years agreed on the fact that the baby should be fed with alternate nipples when one is sore. Table 3 shows the association of awareness of breast feeding with the year of study.

Table 3. Association of awareness of breast feeding with the year of study

Awareness component		Course year		p value
		First year	Final year	
Breast feeding started	Within 1 hour	38(52.78)	34(47.22)	0.004
	Within 6 hours	12(66.67)	6(33.33)	
	By next day	9(90)	1(10)	
	Within 2 days	4(100)	0	
Increases Quantity of breast milk	Frequent breast feeding	29(51.79)	27(48.21)	0.107

	Milk intake	14(70)	6(30)	
	Dry fruits	18(75)	6(25)	
	Medication	2(50)	2(50)	
Avoid breast milk	HIV/AIDS in mother	44(54.32)	37(45.68)	0.11
	Sick / small baby	5(71.43)	2(28.57)	
	Fever in mother	14(87.50)	2(12.50)	
Latching method	Full areola in mouth	14(41.18)	20(58.82)	<0.0001
	Half areola in mouth	23(53.49)	20(46.51)	
	Only nipple in mouth	26(96.30)	1(3.70)	
Frequent Breast feeding causes	Nothing	36(51.43)	34(48.57)	0.002
	Child obesity	7(63.64)	4(36.36)	
	Post partum depression	13(81.25)	3(18.75)	
	Low milk quality	7(100)	0	
Breast feeding protects mother from	Anemia	3(73)	1(25)	0.001
	Breast cancer	39(50)	39(50)	
	Infection	13(100)	0	
	Hypertension	8(88.89)	1(11.11)	
Contraceptive nature	Yes	30(52.63)	27(47.37)	0.066
	No	33(70.21)	14(29.79S)	

DISCUSSION

Although university-aged students realize the necessity of breastfeeding for their future children, many nevertheless face breastfeeding opposition, particularly when breastfeeding in public. The purpose of this study was to assess medical students' understanding of breastfeeding techniques. The overall knowledge of medical students about breastfeeding was good, with the final-year students having more knowledge than the first-year medical students.

A study done by Qudsia et al. also had similar results. ⁹ 69.7% of students identified the correct time to start feeding. A minority proportion of students believed that colostrum should be avoided, despite evidence showing that it is necessary for the newborn's health since it includes antibodies. In a study done among medical students in the UK by Kirsty et al., 92% were able to successfully recognize that breast milk contains antibodies and hormones. ¹⁰

Bottle feeding is thought to increase the risk of common childhood illnesses such as diarrhea and upper respiratory infections, both of which are major causes of infant death. Because exclusive breastfeeding necessitates only breast milk, administering prelacteals as a practice should be discouraged. 76.9% of the students agree that breastfeeding alone should be done for the initial 6 months.

Breastfeeding is a natural means of contraception when used exclusively. Only 54.8% are aware of the contraceptive nature. Similar results were obtained in the study done at Ziauddin University in Karachi. ⁹ 53.8% of students are only aware that frequent nursing increases milk supply. Feeding the baby more frequently, especially breastfeeding on demand every 2-3 hours, at least 8 times in 24 hours initially, increases the milk supply. 75% of the students agree that breastfeeding protects mothers from breast cancer. This is in accordance with the work done by Kirsty et al., in which 78% of the students were aware of the protective role. The usual weaning food was found to be Cerelac in the families of medical students, followed by cow's milk. This correlates with a study done on weaning in mothers by Muselli et al. ¹¹ A study done on nurses in Karachi showed that less than half of them were aware that breastfeeding should be continued in a child with diarrhea. ¹² In our study, only 29.8% of students were aware of breastfeeding a child with diarrhea.

CONCLUSION

The knowledge of students regarding breastfeeding was higher among the final-year medical students as compared to the first-year students. Female medical students were more aware of the practices than male medical

students. Medical students, as future physicians, will be at the forefront of assisting mothers with breastfeeding issues. Because these students will become an important cadre of health professionals, the medical curriculum should place a strong emphasis on nutrition counseling for mothers and children. All stages of medical education must teach optimal breastfeeding habits.

Declaration by Authors

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Conflict of Interest: The authors declare no conflict of interest.

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