# **Research Article**

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# Knowledge of breastfeeding among female college students: institution based cross-sectional study

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#### **ABSTRACT**

**Background:** Understanding of young women's attitudes towards BF should be an early step in the design and implementation of BF interventions. There is a need for breastfeeding promotion strategies among female students to encourage them, in the future, to breastfeed and also champion the cause of breastfeeding as a child survival strategy. This study was conducted to assess knowledge of breastfeeding among female college students and to study factors associated with knowledge of breastfeeding.

**Methods:** This was an institution based cross-sectional study conducted in August to October 2015. A validated structured questionnaire was used to assess knowledge of breastfeeding among female degree college students. Sample size derived was 580. Complete enumeration was done of all the students from the selected colleges. P-value <0.05 was considered statistically significant. Binary logistic regression analysis (enter method) was performed to find out the effect of co-variates on breastfeeding knowledge.

**Results:** Total 630 students participated in the study. Approximately 66% of the students had adequate knowledge regarding breastfeeding. As per logistic regression analysis mother being a housewife and living in a nuclear family were predictors for higher breastfeeding knowledge among participants.

Conclusion: There is a great scope for improving adolescents' knowledge of breastfeeding in colleges.

Key words: Breastfeeding, Knowledge, Female college students

#### INTRODUCTION

Breast milk makes the world healthier, smarter, and more equal. The deaths of 823 000 children and 20,000 mothers each year could be averted through universal breastfeeding, along with economic savings of US\$300 billion. Breastfeeding protects the baby against fewer infections, probable protection against overweight and diabetes, increases intelligence and protects mother against cancer.<sup>1</sup>

Though the ideal time to educate the women about the merits of breast feeding is before pregnancy, few receive counselling during pregnancy and many after failed lactation.<sup>2</sup> This has led to an increased burden on the health care providers to restart breast feeding and manage an undernourished newborn. A stronger educational awareness program to prepare the young mothers for a successful lactation will reduce the cost on health care programs.<sup>3</sup>

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Understanding of young women's attitudes towards BF should be an early step in the design and implementation of BF interventions. There is a need for breastfeeding promotion strategies among female students to encourage them, in the future, to breastfeed and also champion the cause of breastfeeding as a child survival strategy.<sup>4</sup>

Opinions on infant feeding can be formed prior to pregnancy suggesting that promoting breastfeeding with individuals in a range of phases of human development could potentially be effective.<sup>5</sup> Attitudes and expectations of adolescent girls may deviate widely from current international child feeding guidelines. Youth may enter into parenthood with suboptimal information about infant and child feeding. Such information will reproduce poor health across generations as the largest cohort of adolescents ever become parents. This necessitates specific points of entry for adolescent nutrition education interventions especially about breastfeeding.<sup>6</sup>

No study has been conducted on knowledge of breastfeeding among female college students in this part of the country; which justifies the need for this study.

Objectives of the study were to assess knowledge of breastfeeding among female college students and to study factors associated and co-variates of knowledge of breastfeeding.

#### **METHODS**

This was an institution based cross-sectional study conducted in August to October 2015. A validated structured questionnaire was used to assess knowledge of breastfeeding among female degree college students. The colleges were located in the rural field practice area of A.J.Institute of Medical Sciences and Research Center, Mangaluru. The colleges were at a distance of approximately 25 km from Mangaluru. Prior permission was obtained from concerned authorities of the selected colleges. Students were briefed regarding the purpose of the study and informed consent was taken from all the female students.

**Sample size estimation:** As level of knowledge among female college students reported by studies varies, we took it as 55%.

# Sample size was calculated using the formula: 4 pq/L2

P: knowledge of breastfeeding among female college students: 55%

Q: 1-p: 45%, L: allowable error: 7.5%

Sample size derived was 580.

Complete enumeration was done of all the students from the selected colleges. Students who gave written informed consent were included in the study. Students who were not willing to participate and who were absent on the day of visit; were not included in the study.

Data collection tool: Self-administered questionnaire in english was distributed among participants. Questionnaire had two parts. First part was about socio-demographic information of the participants. Second part had total 25 questions. Participants had three options namely yes, no or don't know for majority of the questions. Questions were mix of positive and negative ones to break the monotony. Participants also had an option of marking the answer as I don't know. Each correct answer was given a score of 1. Filling up the questionnaire took around 15-20 minutes. Students who gave correct answers to 13 questions were considered as having adequate knowledge regarding breastfeeding. Questionnaire was validated for internal consistency. Cronbach's alpha was calculated using SPSS Inc 16.0. Cronbach's alpha was 7.44; reflecting good internal consistency between the questions.

Data entry was done in Microsoft excel sheet. Data analysis was done by using SPSS (Statistical Package for Social Sciences) Inc 16.0 software. Frequencies and percentage were calculated.

#### Variables information

Independent variables: Literacy status of mother (nominal scale), Type of family (nominal scale), Literacy status of father (nominal scale), House -own/rented, Attending Anganwadi center (nominal scale),

Dependent variables: breastfeeding knowledge score - measured on ratio scale.

Statistical methods: Descriptive statistics in the form frequencies, percentages, mean, standard deviation was calculated. Chi-square was used as test of significance. P-value <0.05 was considered statistically significant. Binary logistic regression analysis (enter method) was performed to find out the effect of co-variates on breastfeeding knowledge.

# **RESULTS**

Total 630 students participated in the study. Majority belonged to age group of 15-19 years. More than half of the students were from commerce stream followed by arts and least from science. Approximately 66% of the adequate knowledge students had regarding breastfeeding. The aggregate responses to the questions are presented in Table 1. Breastfeeding knowledge of participants was significantly associated with mother's occupation and type of family Table 2. As per logistic regression analysis mother being a housewife and living in a nuclear family were predictors for higher breastfeeding knowledge among participants Table 3.

Table 1: Responses to breastfeeding knowledge questionnaire (n=630).

Question	Yes	No	Don't
Question	No.	No.	know
	(%)	(%)	No.(%)
Baby should be breastfed round the clock (day and night)	337	78	215
	(53.5)	(12.4)	(34.1)
Breastfeeding can cause excessive weight gain in mother.	153	246	231
	(24.3)	(39)	(36.7)
Secretion of breastmilk starts after one week of childbirth.	81	367	182
	(12.9)	(58.3)	(28.9)
Have you ever heard the term exclusive breastfeeding.	298	332	_
	(47.3)	(52.7)	
When the baby is sick, should mother breastfeed the baby?	486	70	74
	(77.1)	(11.1)	(11.7)
Baby may suffer from infections/illnesses if breastmilk substitutes (milk other than	283	140	207
breastmilk) are given.	(44.9)	(22.2)	(32.9)
Breastmilk doesn't contain any factors which may improve baby's immunity/resistance	166	290	174
power to infections. True / False / Don't know	(26.3)	(46.0)	(27.6)
Exclusive breastfeeding protects mother from pregnancy for 4-6 months.	184	114	332
	(29.2)	(18.1)	(52.7)
Only, women who belong to lower socio economic status should breastfeed their babies.	68	453	109
	(10.8)	(71.9)	(17.3)
Feeding bottles can be a potential source of infection/illness for the baby.	346	164	120
	(54.9)	(26.0	(19.0)
Breastfeeding is good for baby but harmful to mother.	125	415	90
	(19.8)	(65.9)	(14.3)
Cow's milk is actually better for baby than breastmilk.	38	579	13
	(6.0)	(91.9)	(2.1)
Mothers suffering from diabetes should not breastfeed their babies.	185	247	198
	(29.4)	(39.2)	(31.4)
Breastmilk is a complete food for the baby upto six months of age.	514	68	48
	(81.6)	(10.8)	(7.6)
The initial breast milk (the first milk) is not good for baby and should be discarded.	97	382	151
	(15.4)	(60.6)	(24.0)
Breastfeeding at night disturbs baby's sleep.	78	438	114
	(12.4)	(69.5)	(18.1)
Breastfed babies suffer from diarrhoea less frequently compared to babies who receive	207	107	316
formula feeding/breastmilk substitutes.	(32.9)	(17.0)	(50.2)
Sitting position is the only position mother can breastfeed the baby.	256	305	69
	(40.6)	(48.4)	(11.0)
Breastfeeding protects mother against breast cancer.	330	99	201
P. (0.1)	(52.4)	(15.7)	(31.9)
Breastfeeding improves baby's intelligence quotient (IQ).	493	44	93
If and a filling in the second of the second	(78.3)	(7.0)	(14.8)
If mode of delivery is cesarean section (operation), mother is not supposed to breastfeed	138	319	173
the baby for one week.  Prosetfooding improves emotional banding between mother and the baby	(21.9)	(50.6)	(27.5)
Breastfeeding improves emotional bonding between mother and the baby.	560	29	41
Civing hangy/water immediately after high to haby is and for help a health	(88.9)	(4.6)	(6.5) 95
Giving honey/water immediately after birth to baby is good for baby's health.	344	191	
Working mothers can avarage their broadmills which can be given to the belief desired	(54.6)	(30.3)	(15.1)
Working mothers can express their breastmilk which can be given to the babies during their absence.	152 (24.1)	159 (25.2)	
UICH AUSCHCE.	(24.1)	(25.2)	(50.6)

Table 2: Associate factors with knowledge of breastfeeding.

Variable		Breastfeeding knowledge		Chi gayaya (Df)	P-value	
		Adequate (%)	Inadequate (%)	Chi-square (Df)	r-value	
Mother's education	Literate	66.1	37.9	196(1)	0.658	
	Illiterate	62.1	37.9			
Father's education	Literate	66	34	0.679 (1)	0.410	
	Illiterate	50	50			
Mother's Occupation	Housewife	67.4	32.6	5.671(1)	0.017*	
	Employed	52.9	47.1			
Father's Occupation	Unskilled	62.5	37.5	0.041(1)	0.840	
	Others	65.9	34.1	0.041(1)	0.640	
Type of family	Joint	49.4	50.6	10 452(1)	0.0001*	
	Nuclear	68.6	31.4	12.453(1)		
Anganwadi Center visit	Yes	71.5	28.5	2.339(1)	0.126	
	No	64.4	35.6			

Table 3: Binary logistic regression analysis

Co-variate		Reference category	Odds Ratio (95%CI)	P-value
Mother's education	Literate	1	1.108 (0.469-2.617)	0.816
	Illiterate			
Father's education	Literate	1	1.746 (0.291-10.485)	0.542
	Illiterate			
Mother's occupation	Housewife	1	1.956 (1.153-3.317)	0.013*
	Other work			
Father's occupation	Skilled & above	1	1.230 (0.277-5.456)	0.786
	Unskilled			
Type of family	Nuclear	1	2.321 (1.468-3.670)	0.0001*
	Joint			
Anganwadi center visit	Yes	1	1.503 (0.973-2.321)	0.066
	No			

#### **DISCUSSION**

Sixty six percent of the students had adequate knowledge regarding breastfeeding in our study. While in a study conducted at Chitradurga, Karnataka in 2011-12 reported that knowledge of students regarding breastfeeding was generally inadequate. The students were aware about the benefits of breastfeeding to baby but majority of them could not give correct responses to questions related to advantages of breastfeeding to mother and breastfeeding in special situations.<sup>7</sup>

Breastfeeding knowledge of participants had no association with the level of education of mother in our study. Similar finding was reported by a study conducted among adolescent girls in Bikaner, India. In present study we found out that breastfeeding knowledge was higher among students who belonged to nuclear families than those of joint families. A study from Nepal noted higher practice of exclusive breastfeeding when the mothers lived in extended families probably due to better family support. On the contrary a study conducted in Mangalore, Karnataka reported that mothers living in unit

family practiced exclusive breastfeeding more than those living in joint families. Thus support from the family especially the spouse is needed for successful practice of breastfeeding initiation and exclusive breastfeeding for 6 months.<sup>10</sup>

In present study father's occupation was significantly associated with breastfeeding knowledge. While in a study conducted by Shetty SB et al it was found out that father's education was significantly associated with breastfeeding practices. <sup>10</sup> Eighty two percent of the participants in our study mentioned that breast milk is a complete food for the baby upto six months of age. While in a study conducted among adolescent girls in Delhi reported that 95% of the girls said that breast milk is a complete food for the baby. <sup>11</sup>

Forty six percent of the participants in our study said that breast milk contains antibodies to fight against infections. Twenty seven percent said they don't know whether it contains any protective antibodies or not. While a study conducted among adolescent girls in Delhi mentioned that 98% of the participants were aware that breast milk

contains protective antibodies.<sup>11</sup> Sixty one per cent of the participants said that colostrum is good for baby and shouldn't be discarded. A study conducted among adolescent girls from Delhi mentioned that 58% of the participants believed that colostrum is good for baby.<sup>12</sup>

Thirty nine per cent of participants agreed that diabetic mothers should also breastfeed their babies. Thirty one per cent acknowledged that they had no knowledge regarding this issue. While a study conducted in sweden mentioned that mothers with diabetes were less likely to partly or exclusively breastfeed their babies and it was level of education which was more important in determining the exclusive breastfeeding among diabetic mothers. <sup>13</sup>

Seventy eight per cent of the participants believed that breastfeeding improves IQ of the baby. A meta-analysis also concluded that after adjustment for confounding variables breastfeeding was associated with significantly higher scores for cognitive development than formula feeding. <sup>14</sup>

### Strength

A validated questionnaire (cronbach's alpha:7.44) was used.

#### Limitations

Temporality of association between breastfeeding knowledge and different factors need to be ascertained by conducting prospective studies.

# **CONCLUSION**

Two third of the participants had adequate knowledge of breastfeeding. Mother being a housewife and living in a nuclear family were predictors for higher breastfeeding knowledge among participants. There is a great scope for improving adolescents' knowledge of breastfeeding in colleges; to improve breastfeeding rates and reduce infant mortality.

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