

Female College Students Knowledge, Attitude and Future Intention towards Breastfeeding: Implications for Advocacy

RAMYA PADMANABHAN¹, MAHALAKSHMY THULASINGAM², PALNIVEL CHINNAKALAI³

ABSTRACT

Introduction: Breastfeeding is important for promoting child's health. Since, breastfeeding decisions are made before pregnancy and are strongly influenced by women's knowledge and attitude, it is important to identify knowledge gaps in youth girls.

Aim: To assess the knowledge, attitude and future intention regarding infant feeding among female college students in Puducherry, India.

Materials and Methods: This descriptive study was done among 307 college going female students. Their knowledge, attitude and future intention was assessed using structured questions and Likert's scale. Data were summarized as percentages with 95% confidence interval. Responses to Likert's scale were analyzed using consensus index.

Results: Around 98% (95% CI: 96.5%, 99.6%) and 86.3% (95% CI: 82.5%, 90.2%) knew that breast milk and colostrum

respectively is good for the child. However, students had poor knowledge about exclusive breastfeeding, the age of starting supplementation, recommended duration of breastfeeding. Noteworthy, 15% and 38% of them thought that breastfeeding spoils the mother's beauty and interferes with mother's employment respectively. Around 98% (95% CI: 97.0%, 100.0%) wanted to breastfeed their child in future. A high proportion of students, 20.5% (95% CI: 16.0%, 25.0%) wanted to give formula feed before 6 months. Knowledge and future intention to breastfeed was better among 'arts and science' students than engineering students.

Conclusion: The knowledge and attitude of female college students on breastfeeding is good. Almost all students wanted to breastfeed their children in future. However, the study has identified knowledge gaps and misconceptions which need to be stressed during the health education activity to promote optimal breastfeeding practices.

Keywords: Female adolescents, India, Misconceptions

INTRODUCTION

Breastfeeding practice is an important public health recommendation which benefits both the mother and child. One of the global target endorsed by the WHO's Member States is to increase the rate of exclusive breastfeeding in the first 6 months up to at least 50% [1]. In India, 46.4% of children are exclusively breastfed during the first six months of life [2] and in Puducherry, it is around 45.5% [3]. To further improve these rates it is important to extent the advocacy program beyond mothers to groups such as youth and men. Addressing the next generation of youth would play a crucial role in inculcating a positive breastfeeding practice in the community [4]. Adolescents are key stakeholders for breastfeeding health education program as the decision on breastfeeding is made even before conception. Also, attitudes towards breastfeeding are also formed in the early life. Infant feeding decisions made by the mothers is largely dependent on their knowledge and attitude towards breastfeeding [5,6]. Most studies about breastfeeding among adolescents are done among pregnant or post-natal adolescent mothers [7,8]. A few studies done among non-pregnant adolescents on breastfeeding has identified that there are gaps in knowledge and attitude [9-13]. They have identified that adolescent mother's prenatal attitude is an important predictor of optimal breastfeeding practice [7,10]. The knowledge, attitude, future intention varies with culture [10]. There is a dearth of research in India focusing on adolescent girl's knowledge, attitude, and intention to breastfeed. It is important to identify knowledge gaps in adolescent girls who would be stepping into motherhood in near future. It will help in tailoring advocacy with culture-specific interventions. This study aims to assess the knowledge, attitude and future intention regarding infant feeding among female college students in Puducherry, India.

MATERIALS AND METHODS

This descriptive study was conducted in (July-October) 2013 among female students from non-medical colleges in Puducherry,

India. The sample size was calculated using the formula $4pq/l^2$. It found that the future intention to breast feed among female university students was 63% [14]. Assuming this prevalence (p), with 95% confidence level, relative precision of 10, the sample size was calculated to be 234. Adding 20% extra to account for any loss in data due to incompletely filled questionnaires, sample size was calculated to be 281. Two non-medical colleges were selected for the study. To ensure representatives stratified random selection was done. One professional (engineering) course college and one non-professional course college was selected out of the 26 such colleges in Puducherry. All female students who were present on the day of data collection and who consented for the study were enrolled.

The questionnaire was designed based on the review of literature and it assessed the student's knowledge about breastfeeding, attitude and future intention towards breastfeeding [5,11,15]. Knowledge was assessed using multiple choice questions. The attitude was captured using a set of 9 questions. Students were asked to mark their degree of agreement or disagreement regarding breastfeeding on a five-point Likert's scale. Most of the questions were framed positively with 'strongly agree' reflecting a positive attitude towards breastfeeding. However, three questions were negatively framed in which 'strongly disagree' reflects positive attitude towards breastfeeding. The intention of breastfeeding their child in future was assessed as open ended question. The questionnaire was translated into Tamil (the local language) using translation and back-translation method. The questionnaire was pre-tested among six female college students. Cognitive interview was done among these six college students and questions which were understood wrongly or were difficult to understand were corrected.

After briefing the students about the study and obtaining written informed consent, the questionnaire was self-administered. The students were free to choose either the English or Tamil

questionnaire. Investigators were available while the participants filled the form for clarifications in the questionnaire. Data collection was done anonymously. After data collection from the college, a health education session with the help of audio-visual aid regarding infant feeding was organized in the college. The study was approved by the Institute Ethics Committee of Indira Gandhi Medical College and Research Institute, Puducherry.

STATISTICAL ANALYSIS

Data entry was done in EpiData. The analysis was done with SPSS Version 13. Results were summarized as percentages with 95% Confidence Interval. Consensus index was calculated for the attitude questions which were in Likert scale [16]. Consensus index more than 80% was considered as good consensus. The difference in knowledge, attitude among the professional college and non-professional college students were compared using Chi-square test wherever relevant. The p-value <0.05 was considered as statistically significant.

RESULTS

In total, 307 college students participated in the study with 163 (53.1%) students from Engineering college (professional college) and 144 (46.9%) from Arts and Science college (non-professional college). Among the students from the Arts and Science college 98% were pursuing bachelor's degree courses in Science. The participant's age ranged from 18 to 24 years and majority (n=289, 94.1%) were in the age group of 18-20 years.

Most of them felt that breastfeeding is good (98%). The knowledge regarding colostrum feeding was poor than that regarding breastfeeding [Table/Fig-1]. Most of them (78.2%) knew that pre lacteal feeds should not be given. Less than 25% of the adolescents knew correctly about exclusive breastfeeding for first six months and feeding of infant with diarrhea. They also had the misconception that water or gripe water has to be given to infant less than six months of age.

Knowledge on breastfeeding was mostly similar between the arts and science students and engineering student except that concerning feeding of colostrum and on breastfeeding during diarrhea in children. About 92.4% (95% CI: 88.0, 96.7) of arts and science students knew that colostrum is good for the child and among engineering students the knowledge was only 81% (95% CI: 75.0, 87.0). A higher proportion of arts and science, 29.9% (95% CI: 22.4, 37.3) knew that breastfeeding can be given during diarrhea in children as compared to engineering students, 17.2% (95%CI: 11.4, 23.0).

The source of information about breastfeeding was mostly from family members (68.4%) followed by television (28.7%), magazines

Knowledge regarding breast feeding	All students (%, n=307)	95% CI
Is breastfeeding good?		
Yes	301(98.0)	(96.5, 99.6)
No	6 (2.0)	(0.4, 3.5)
Is colostrum good for the child?*		
Good	265 (86.3)	(82.5, 90.2)
Not good	12 (3.9)	(1.7, 6.1)
Don't know	29 (9.4)	(6.2, 12.7)
Can pre lacteal feeds be given?		
No	240(78.2)	(73.6, 82.8)
Yes	21 (6.8)	(4.0, 9.7)
Don't know	46(15.0)	(11.0, 19.0)
Feeding an infant less than 6 months		
Exclusive breastfeeding	62 (20.2)	(16.0, 25.0)
Predominant breastfeeding (Water/gripe water)	166 (54.1)	(48.5, 59.6)
Partial breastfeeding (cow's milk / commercial food)	20(6.5)	(3.7, 9.3)
Don't know	59(19.2)	(14.8, 23.6)
Age at start of supplementation		
Correct timing (At the end of 6 months)	138 (45.0)	(39.4, 50.5)
Incorrect timing (< or >6 months)	158 (51.5)	(45.9, 57.1)
Don't know	11(3.6)	(1.5, 5.7)
Duration of breastfeeding:		
Correct duration (Upto 2 years or beyond)	65 (21.2)	(16.6, 25.7)
Less than 1 ½ years	207 (67.4)	(62.2, 72.7)
Don't know	35(11.4)	(7.8, 15.0)
Can a baby suffering from diarrhea be breastfed?		
Yes	71(23.1)	(18.4, 27.8)
No	49(16.0)	(11.9, 20.1)
Don't know	187(60.9)	(55.4, 66.4)

[Table/Fig-1]: Knowledge on breastfeeding among college students in Puducherry.
* one missing data

(16.3%), school/college curriculum (16.0%), friends (8.5%) and internet (3.9%). Only one student (0.35%) commented that the source of information was the health worker in an awareness program.

Around 73-85% of adolescent girls strongly agreed to the statements regarding importance of early initiation of breastfeeding and protective effect of breastfeeding against breast/ovarian cancer. Only 25% to 35% of girls strongly agreed that breastfeeding decreases the chance of respiratory illness, diarrhea, ear infection and obesity in

Questions	Strongly Agree, (%)	Agree (%)	Neither Agree nor Disagree (%)	Disagree (%)	Strongly Disagree (%)	Consensus Index (%)
1. It is important to breast feed the child as soon as possible after birth	261(85.0)	29 (9.4)	13 (4.2)	4 (1.3)	-	84.3
2. Infant formula is as good as breast milk*	44 (14.3)	12 (3.9)	35 (11.4)	28 (9.1)	187 (61.1)	37.2
3. If a baby is breastfed, he or she will be less likely to get ear infections**	82 (27.1)	51 (16.8)	76 (25.2)	27 (8.7)	66 (21.4)	61.1
4. If a baby is breastfed, he or she will be less likely to get respiratory illness*	109 (35.6)	62 (20.2)	61(19.9)	22 (7.1)	52 (16.9)	60.4
5. If a baby is breastfed, he or she will be less likely to get diarrhea*	107 (34.9)	51 (16.6)	74 (24.1)	31 (10.1)	43 (14.0)	62.9
6. If a baby is breastfed, he or she will be less likely to become obese*	77 (25.1)	58 (18.9)	86 (28.1)	33 (10.7)	52 (16.9)	63.7
7. If a mother breast feeds her baby she has reduced risk of developing breast cancer and ovarian cancer	226 (73.6)	41 (13.4)	14 (4.6)	9 (2.9)	17 (5.5)	68.5
8. Breast feeding spoils mother's beauty*	22 (7.2)	24 (7.8)	35 (11.4)	19 (6.2)	206 (67.3)	46.2
9. Breastfeeding interferes with the employment of mother*	77 (25.1)	40 (13.0)	66 (21.5)	30 (9.8)	93 (30.3)	34.5

[Table/Fig-2]: Attitude towards breast feeding among college students in Puducherry.
*one missing data **five missing data, sentence marked in italics are negatively framed statements

Future Breast Feeding Intention	All students (%), n=307	95% CI
Is future do you intend to breast feed?		
Yes	302 (98.4)	(97.0, 100.0)
No	0 (0.0)	Not applicable
Not decided	5 (1.6)	(0.2, 3.0)
What method would you use to feed a child upto 6 months?		
Only breast milk	225 (73.3)	(68.3, 78.2)
Breast milk & formula feeds	63 (20.5)	(16.0, 25.0)
Don't know	19 (6.2)	(3.5, 8.9)

[Table/Fig-3]: Future intention of breastfeeding among college students of Puducherry.

the infant. However, around 15% of the subjects reported (strongly agree + agree) that breastfeeding spoils mother's beauty and 38.1% (strongly agree + agree) of the subjects agreed that breastfeeding interferes with the employment of mothers. Consensus index was calculated and index more than 80% was considered as good consensus. Only the statement "it is important to breastfeed the child as soon as possible after birth" had good consensus. Among the positively framed questions consensus ranged 61.1% to 68.5% reflecting that their attitude towards the benefits of breastfeeding to the child and the mother varied [Table/Fig-2]. It is noteworthy that 98.4% (95% CI: 97.0, 100.0) students wanted to breastfeed their children in future. However, their choice of feeding practice was not optimal [Table/Fig-3].

A higher proportion of arts and science students, 85.4 (95% CI: 79.6, 91.2) told that in future they would exclusively breastfeed their child for the first six months of age as compared to 62.6% (95% CI, 55.1, 70.0) among engineering students. Around 30.1% (95% CI: 20.0, 37.1) of engineering students wanted to give mixed feeding (breast milk and formula feed) for their future child for the first six months.

A majority of adolescent girls told that they would approach their mother (67.1%) for clarification regarding breastfeeding. The rest 49.5%, 11.4% and 1.6% would approach doctor, their grandmother and health worker respectively.

DISCUSSION

In the study, most students knew that breastfeeding is good for the child. But they were unclear of the duration of breastfeeding and feeding of the child less than six months. Many students (54%) think that water and gripe water can be given during first six months. Studies show that adolescents knowledge on breastfeeding is average with knowledge gaps on issues such as duration of exclusive breastfeeding and about the time of starting supplementary food [9,10,12]. Mothers with good knowledge on breastfeeding have a positive attitude towards breastfeeding and they are prepared to breastfeed their future child [5,11–13]. Usually, in Indian culture women are taught about breastfeeding after childbirth or during pregnancy. Preparing adolescent for breastfeeding their child will go a long way in improving the breastfeeding practice. Speaking to adolescents about breastfeeding was one of highlight of the slogan of the breastfeeding week of 2011 "Talk to Me! Breastfeeding - a 3D experience" [4]. It becomes more relevant in the era of nuclear family where couples are living alone. Speaking to adolescents will help them go through the learning cycle of awareness to interest to evaluation, thereby preparing them for adoption of correct breastfeeding practice at childbirth.

Most adolescent girls (67.1%) would seek clarification from their mother for their doubts regarding breastfeeding. Indicating that family is the main source of information regarding breast feeding. Families should also be encouraged to speak about breastfeeding to adolescents. Only 1.6% told that they would approach the health worker. In Puducherry, under the National Health Mission adolescent clinics are conducted in all sub-centers and primary health centers

[17]. This setting would be ideal to educate adolescent girls regarding breastfeeding. Another setting to reach out to younger generation is through the school health education sessions. School based health education sessions which are age appropriate, culturally sensitive and teen friendly were found to be positively influence the student's knowledge, attitude and future intentions of breastfeeding [18].

With regards to benefits of breastfeeding, the attitude of students was varied and had poor consensus index. In addition, the attitude that breastfeeding spoils the mother's beauty and interferes with their employment will have a negative influence on breastfeeding practices.

Noteworthy, that 98.4% student wanted to breastfeed their children in future, indicating that future mothers wanted to breastfeed their child. But they are not aware of the current breastfeeding recommendations such as six months of exclusive breastfeeding, avoiding pre-lacteal feeds, breastfeeding till two years, etc. Among our study participants, the future intention to breastfeed their child (98.4%) is better than that noted in Hong Kong (63%) [12]. Noteworthy, that only 1.6% participants would seek advice from health worker on breastfeeding. Hence, during the adolescent clinics at the Primary Health Centre the health worker should educate girls about the importance of breastfeeding and has to assure them that they are available to support them.

The knowledge and future intention of breastfeeding was poor among engineering college students. Hence, it is important to give attention to student groups who are less exposed to biology in their curriculum. Educating the future mothers and making them feel that breastfeeding will not interfere with their employment or spoil their beauty would make the soil receptive for future counseling during pregnancy regarding breastfeeding.

LIMITATION

The study did not include adolescent girls who drop-out of college, thereby the finding cannot be generalized to all adolescent girls.

CONCLUSION

The knowledge and attitude of female college students on breastfeeding is good. Almost all students wanted to breastfeed their children in future. However, the study has identified knowledge gaps and misconceptions which need to be stressed during the health education activity to promote optimal breastfeeding practices.

ACKNOWLEDGEMENTS

We acknowledge the support from Indian Council of Medical Research under the Short Term Studentship Program.

REFERENCES

- [1] World Health Organization. Global Targets 2025. To improve maternal, infant and young child nutrition. [Internet]. [cited 2016 Jan 2]. Available from: <http://www.who.int/nutrition/global-target-2025/en/>.
- [2] Breastfeeding Promotion Network of India. Report card on exclusive breastfeeding (0-6 months) [Internet]. [cited 2016 Jan 2]. Available from: http://bpni.org/information_sheets/IS-17.pdf.
- [3] International Institute of Population Science. National Family Health Survey - 4, 2015-16, State fact sheet-Puducherry [Internet]. [cited 2016 Jan 2]. Available from: http://rchiips.org/nfhs/pdf/NFHS4/PY_FactSheet.pdf.
- [4] Ramji S. Breastfeeding – A 3D experience. *Indian J Med Res*. 2011;134(2):141–42.
- [5] Bella H. Are Saudi female college students prepared for successful breastfeeding? *J R Soc Health*. 1997;117(6):387–92.
- [6] Giles M, Connor S, McClenahan C Mallet J. Attitudes to breastfeeding among adolescents. *J Hum Nutr Diet*. 2010;23(3):285–93.
- [7] Mossman M, Heaman M, Dennis CL, Morris M. The influence of adolescent mothers' breastfeeding confidence and attitudes on breastfeeding initiation and duration. *J Hum Lact*. 2008;24(3):268–77.
- [8] Spear HJ. Breastfeeding behaviors and experiences of adolescent mothers. *MCN Am J Matern Child Nurs*. 2006;31(2):106–13.
- [9] Kapil U, Manocha S. Knowledge and attitude towards breast feeding among adolescent girls. *Indian J Pediatr*. 1990;57(3):401–04.
- [10] Hamade H, Naja F, Keyrouz S, Hwalla N, Karam J, Al-Rustom L, et al. Breastfeeding knowledge, attitude, perceived behavior, and intention among female undergraduate university students in the Middle East: the case of Lebanon and Syria. *Food Nutr Bull*. 2014;35(2):179–90.

- [11] Tjiang L, Binns C. Indonesian students' knowledge of breastfeeding. *Breastfeed Rev Prof Publ Nurs Mothers Assoc Aust*. 2001;9(2):05-09.
- [12] Tarrant M, Dodgson JE. Knowledge, attitudes, exposure, and future intentions of Hong Kong university students toward infant feeding. *J Obstet Gynecol Neonatal Nurs*. 2007;36(3):243-54.
- [13] Kang NM, Song Y, Im EO. Korean university students' knowledge and attitudes toward breastfeeding: a questionnaire survey. *Int J Nurs Stud*. 2005;42(8): 863-70.
- [14] Foulkes JL, Dundas KC, Denison FC. Infant feeding intentions of Scottish-adolescents. *Scott Med J*. 2008;53(2):09-11.
- [15] Vijayalakshmi P, Susheela T, Mythili D. Knowledge, attitudes, and breast feeding practices of postnatal mothers: A cross sectional survey. *Int J Health Sci (Qassim)*. 2015;9(4):364-74.
- [16] Tastle WJ, Russell J, Wierman MJ. A new measure to analyse student performance using the Likert scale. 2005 [Internet] [cited 2016 Jun 19]; Available from: <http://proc.isecon.org/2005/2142/ISECON.2005.Tastle.pdf>.
- [17] Puducherry State Health Mission Secretariat. Reproductive and child health. [Internet]. [cited 2016 Jun 3]. Available from <http://health.puducherry.gov.in/PSHM%20-%20WEB%20Master/RCH.htm>.
- [18] Reena I, Ruiz CS, Shows AR, Wallet KA. Breastfeeding promotion in an ethnically diverse adolescent sample. *Int J Nurs*. 2014;1(1):01-10.

PARTICULARS OF CONTRIBUTORS:

1. Intern, Indira Gandhi Medical College and Research Institute, Puducherry, India.
2. Assistant Professor, Department of Preventive and Social Medicine, Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry, India.
3. Assistant Professor, Department of Preventive and Social Medicine, Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Mahalakshmy Thulasingham,
Assistant Professor, Department of Preventive and Social Medicine,
Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry – 605006, India.
E-mail: maalakshmi.dr@gmail.com

FINANCIAL OR OTHER COMPETING INTERESTS: None.

Date of Submission: **Apr 18, 2016**

Date of Peer Review: **May 21, 2016**

Date of Acceptance: **Aug 29, 2016**

Date of Publishing: **Nov 01, 2016**