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Original Article

Community Medicine Section

Effect of Intervention on Awareness of Appropriate Infant Feeding Practices Among Undergraduate Women Students in an Urban and Taluka Area of Karnataka State in India

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ABSTRACT

Introduction: Awareness of advantages of breast feeding and infant feeding practices among young women would help in optimal feeding of future children.

Aim: To assess the awareness and to determine the effect of intervention on the knowledge of infant feeding practices among undergraduate women students in an urban and taluka area of Karnataka state in India.

Materials and Methods: An interventional study was conducted among 634 females in final year of college of an urban and taluka area. Their knowledge of breastfeeding and infant feeding was assessed followed by an interactive session on the advantages of breastfeeding and appropriate feeding of infants. A follow-up assessment of their knowledge was done after two weeks.

Results: We observed that the mean scores among the students improved from mean of 21.23 (S D ± 4.19) to mean of 30.37 (S D ± 3.42) after the intervention and this difference was found to be statistically significant $p \leq 0.001$. The domain wise scores also showed improvement except among taluka students in domain related to initiation of feeds.

Conclusion: Knowledge regarding infant feeding practices among young women in college is inadequate. This can be improved in a significant way by including a health educational session on the same.

Keywords: Breastfeeding, Health education, Knowledge

INTRODUCTION

Although breastfeeding is nearly universal in India, only 46 percent of children under 6 months of age are exclusively breastfed [1]. There has been a 5.2% increase in exclusive breastfeeding from 1998 to 2005 [2]. Introduction of complementary feeding along with breastfeeding in the 6-9 month age group is 53% [3]. Exclusive breastfeeding and complementary feeding help to reduce mortality and morbidity among under 5 children [4,5]. Breastfeeding has benefits for mother too; reduced occurrences of breast and ovarian cancer have been reported [6]. Global strategy for infant and young child feeding emphasizes on educating the youngsters towards proper feeding [7]. The findings of the India Assessment on Policy and Programmes 2012, conducted by Breastfeeding Promotion Network of India (BPNI) states that there is a gap in terms of information support for breastfeeding [8]. Females in reproductive age group need to be sensitized to benefits of breastfeeding. It is expected that many of these women will utilize the knowledge gained during these sensitization programs in future. Further, these young women are potential communicators of "appropriate infant feeding" message among peer group and families and thereby support cause of breastfeeding in their communities. Studies on awareness of breastfeeding practices in Karnataka state are relatively minimal. Hence the current study was conducted.

AIM

To assess the awareness of appropriate infant feeding practices and to determine the effect of intervention on the knowledge of infant feeding practices among undergraduate women students in an urban and taluka area of Karnataka.

MATERIALS AND METHODS

Urban area is a place with a municipality, corporation,

and cantonment board or notified town area committee [9]. Taluka is a subdivision under district. It is an area of land with a city or town that serves as its headquarters, with possible additional towns, and usually a number of villages [10]. This interventional study was conducted between August-October 2013 in 2 women's colleges in Bangalore and Chintamani. All females in final year undergraduate course of science, commerce and arts in the study college were included after written informed consent. The students not willing to participate were excluded.

Sample Size: In a study conducted in college girls in Tamil Nadu awareness about weaning was found to be 68.2% [8]. With a relative precision of 5.5 % and 95% confidence level sample size worked out to be 598 to which 5% was added to take care of attrition. The sample size worked out to be 630. Tamil Nadu is geographically next to Karnataka. The way of life and culture of Karnataka and Tamil Nadu are homogenous. Hence, the Tamil Nadu study was used to calculate sample size. In the absence of available studies from Karnataka this particular study was selected to maintain regional comparison.

Sampling Method: Permission was sought from the authorities of Directorate Collegiate Education and college Principals. All government women colleges in Bangalore urban area were listed and Maharani's College was selected randomly through lottery method [11]. In the taluka area we had only one government Women College in Chintamani, which was selected. Sections were selected randomly to meet the desired sample size. A pretested and predesigned semi structured questionnaire was used. The subject experts developed the questionnaire after multiple group discussions during which content and face validity were tested.

All procedures followed were in accord with the ethical standards of the M S Ramaiah Medical College ethical board. Investigators administered questionnaire in classrooms with a range of 37 - 52 students per room. The questionnaire was based on National Guidelines on Infant and Young Child Feeding [12]. The questionnaire consisted of 45 questions divided in three parts–socio-demographic details (8), knowledge (36) and perception on infant feeding (1).

The questionnaire was piloted among 15 individuals who were not included for main study. The pilot study data was analysed and Cronbach's alpha coefficient was 0.73 indicating adequate test-retest reliability and internal consistency. Each correct answer was scored '1' and wrong was given '0'. The maximum score was 36.The answers were later added up based on the domains they targeted. Separate questionnaires were given to each and questions were read in English and local language to make it easy for the students to understand and answer in writing immediately. The process lasted about 20 minutes. Precautions were taken to prevent discussion among them. This has made the study more robust.

This was followed by intervention, which consisted of health education session lasting for 45 minutes conducted by investigators. The session included topics on nutritional superiority of breast milk, early initiation of breastfeeding, value of colostrum, exclusive breastfeeding, complementary feeding, role of breastfeeding in preventing malnutrition, which matched the questionnaire content. Posters on pre-lacteal feeds, advantages of breastfeeding to baby and mother, disadvantages of bottle feeding, rooming in, complementary feeding, role of breastfeeding in preventing malnutrition were displayed to reinforce the messages. The session ended with interactive discussion.

Fifteen days after this a follow-up of the students was done using same questionnaire. A comparison of their awareness before and after health education was made.

STATISTICAL ANALYSIS

All quantitative variables were expressed in terms of descriptive statistics such as mean and SD. All qualitative variables were expressed in terms of proportions. Paired t-test was used to compare pre and post awareness test scores in undergraduate students. Comparison of knowledge of urban and taluka area students was also done.

RESULTS

There was statistically significant difference in pre test knowledge of the science and commerce students ($p<0.000$) by independent t test. The study targeted unmarried women in the age group of 18 - 24 years

		Urban n (%) 318 (%)	Taluka n (%) 316 (%)	Total
Age (years)	≤ 19	185 (58.2)	118 (37.3)	303 (47.8)
	20 – 24	131 (41.2)	195 (61.7)	326 (51.4)
	≥ 25	2 (0.6)	3 (0.9)	5 (0.8)
Branch of study	Science	116 (36.5)	88 (27.8)	204 (32.1)
	Arts and Commerce	202 (63.5)	228 (72.2)	430 (67.8)
Religion	Hindu	294 (92.5)	299 (94.6)	593 (93.5)
	Muslim	10 (3.1)	14 (4.4)	24 (3.7)
	Christian	13 (4.1)	0 (0.0)	13 (2.0)
	Others	1 (0.3)	3 (0.9)	4 (0.6)
Marital status	Married	18 (5.7)	10 (3.2)	28 (4.4)
	Unmarried	300 (94.3)	306 (96.8)	606 (95.6)
Type of family	Nuclear	284 (89.3)	241 (76.3)	525 (82.8)
	Three generation	20 (6.3)	43 (13.6)	63 (9.9)
	Joint	14 (4.4)	32 (10.1)	46 (7.3)
Socio economic status (B G Prasad Classi-fication) [13]	I	25 (7.9)	13 (4.1)	38 (5.9)
	II	26 (8.2)	9 (2.8)	35 (5.5)
	III	25 (7.9)	12 (3.8)	37 (5.8)
	IV	68 (21.4)	28 (8.9)	96 (15.1)
	V	174 (54.7)	254 (80.4)	428 (67.5)

[Table/Fig-1]: Socio-demographic characteristics of the study subjects.

	Urban		Taluka		Combined	
	Pre awareness test	Post awareness test	Pre awareness test	Post awareness test	Pre awareness test	Post awareness test
Mean Scores (SD)	20.71 (4.75)	30.28 (3.86)	21.75 (3.47)	30.46 (2.92)	21.23 (4.19)	30.37 (3.42)
No of questions = 36	p*≤0.001	p*≤0.001	p*≤ 0.001			
*= Paired t test						

[Table/Fig-2]: Scores of the study subjects before and after intervention.

Domain	Urban n = 318			Taluka n = 316		
	Pre awareness test Mean (SD)	Post awareness test Mean (SD)	p value	Pre awareness test Mean (SD)	Post awareness test Mean (SD)	p-value
Breastfeeding general	3.56 (1.33)	6.04 (1.26)	< 0.001	3.85 (1.27)	6.11 (0.98)	< 0.001
Benefits to mother	1.40 (1.19)	3.49 (0.87)	< 0.001	1.59 (1.11)	3.61 (0.70)	< 0.001
Benefits to baby	8.27 (2.30)	11.23 (1.32)	< 0.001	8.98(1.57)	11.31 (1.12)	< 0.001
Prelacteal feeds	3.15 (1.37)	4.47 (0.89)	< 0.001	2.91 (1.20)	4.35 (0.94)	< 0.001
Initiation of feeds	0.69 (0.69)	0.97 (0.49)	< 0.001	0.92 (0.65)	0.93 (0.41)	0.708
Complementary feeding	2.01 (0.95)	2.20 (1.03)	< 0.001	2.13 (0.84)	2.33 (0.88)	< 0.001
Rooming in	1.62 (0.63)	1.88 (0.40)	< 0.001	1.37(0.66)	1.82 (0.44)	< 0.001

[Table/Fig-3]: Domain wise scores among the study subjects.

[Table/Fig-1] and the census 2011 data states that mean age of marriage for females is 23.5 years. These students are future mothers and teaching them will be useful for new babies that will be born soon to them.

[Table/Fig-2] shows mean scores of study subjects before and after intervention. There was improvement in scores after intervention and this difference was statistically significant (p=<0.001). The combined scores also showed an improvement after intervention and this difference was found to be statistically significant (p=<0.001).

Among urban students, significant improvement in scores was observed in all 7 domains (p= <0.001). Among taluka students, except for domain on initiation of feeds, significant improvement was found in all other domains (p= <0.001) [Table/Fig-3].

DISCUSSION

In the present study we interacted with women students from urban and taluka colleges. The taluka college had on its rolls, women from surrounding villages while the urban college enrolled students living in the city. This study compares women students from urban and rural backgrounds. Health education on awareness of appropriate infant feeding practices among undergraduate women students in both urban and taluka areas was found to be effective. The pretest knowledge was higher among science students. This is probably because their curriculum includes: study of reproductive system, and other human body physiology. The mean scores increased from pre awareness level of 21.23 (4.192) to post awareness test level of 30.37 (3.423). The students evinced a keen interest in education about infant feeding. Almost all students opined that right time for health education on infant feeding was during the college education. This highlights appropriateness of issue and eagerness of women. Many of them expressed the lack of health information in their community and eagerness to learn.

Colleges are centers of teaching, where new knowledge is acquired, which can be transmitted to families and communities. Various studies and documents from across globe support the cause for inclusion of health education on breastfeeding at level of educational institutions [7,14]. It takes several years to cultivate positive attitudes and beliefs about breastfeeding [15]. Repeated interaction and discussion will make it acceptable within society and cultures in which the lady is growing up. Although there is evidence to support antenatal education, there is a need to develop other strategies to raise breastfeeding awareness. There is a need for research looking into this field as expressed by some experts [16]. A study conducted by Ganga et al., found that 72.9% (278) of the girls knew about advantages of breastfeeding [17]. In a study done among Korean university students 57.1% (117) knew about benefits of breastfeeding [18]. However in our study we found that knowledge level about advantages of breastfeeding was on an average 63.23% which increased to 92.61% after intervention. Study done in Tamil Nadu found that 79.7% (306) knew appropriate age for weaning [17]. In another study conducted in Saudi Arabia among high school students it was observed that 28 % (164) knew the correct age for weaning [19]. However, in our study we found that 58.5% (425) knew about appropriate age for weaning during pre awareness test. Around 60% of female students from Middle East were not aware of decreased risk of Post Partum Hemorrhage with breastfeeding. However in our study 67.1% knew about it [20]. According to census 2011, mean age at marriage for females, in last five years, has been 23.5 years [21]. Since, majority (99%) of students belonged to age group of 18 - 24 years, this seems to be appropriate age group for education. This is the strength of our study.

LIMITATION

This study had intervention only at one point of time and post-test was done within a short time, hence long term effect of the present intervention is not known.

CONCLUSION

The knowledge of undergraduate students about infant feeding was insufficient. A single session of health education showed significant improvement in their knowledge. The present study suggests benefits of having a session on infant feeding for the college students. There is a need to make this a part of their curriculum. The concerned governmental authority should probably make suitable changes in the educational program.

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