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Research Article

Nutrition Education and its Impact on Knowledge and Practices about Infant and Young Child Feeding in Mothers

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Abstract

Introduction: Improper infant feeding practices may contribute to under nutrition, morbidity and mortality in infants. The reasons are not just the socioeconomic background but lack of knowledge and awareness about proper feeding practices. The present study was carried out with the objective that improving knowledge would lead to better feeding of the infant and young child.

Methodology: The study was conducted on 299 mothers of children 0-2 year of age attending the vaccination clinic of JK Lon Hospital in Jaipur city. All the selected mothers were approached personally and were interviewed based on a pre tested questionnaire cum interview schedule about their knowledge and practices of infant and young child feeding at pre and post stage. A structured intervention protocol was developed for intervention.

Results: In the pre stage of the study only 72% mothers knew about importance of colostrums. The knowledge score when calculated was found to be 11.28 ± 2.70 out of 20 in the pre stage which increased to 14.51 ± 2.58 in the post stage and difference in the means was found to be statistically significant ($p<0.01$). Changes in the breastfeeding scores could not be observed as some of the practices were irreversible although the difference in the scores was statistically significant ($p<0.01$). The complementary feeding score was found to be significantly increased from 2.64 ± 1.41 to 2.99 ± 1.31 in the post stage ($P<0.01$).

Conclusions: In India, infant and young child feeding is influenced by the socio- cultural, and economic factors so providing education to mothers and strengthening the public health education campaigns on it is recommend in improving the positive practices that in turn would improve the health and well being of the children.

Keywords: Infant Nutrition; IYCF; Breastfeeding; Complementary Feeding; Socioeconomic Status

Introduction

Children are the future of human societies and it is most important that they achieve their optimal physical growth and psychological development [1]. Breast feeding the infant is of importance to both the infants and mothers. The major risks to the health and development of children is poor maternal nutrition and inappropriate breastfeeding and complementary feeding given to the child [2]. The morbidity and mortality in infants is a result of poor diets [3]. Strong evidences in support of breast feeding have not been able to improve the practice of breast feeding around the world [4]. Initial years of child's life is precious as under nutrition resulting from poor nutrition leads to various diseases and claim the lives of millions of children throughout the world. Also damage is in terms of improper growth and development, which in turn diminishes the quality of life in the present and compromise their future [5]. The present research study was designed keeping in view the evidence that nutrition education empowers a mother to maximize the resources around her.

In India, breastfeeding appears to be influenced by various ecological factors and a simple intervention like providing education to mothers and promoting IYCF practices van do wonders [6].

Methodology

This study was conducted on mothers of children 0-2 year of age attending the vaccination clinic of JK Lon Hospital in Jaipur city. A written consent was taken from the participating mothers.

Inclusion criteria

- Mothers living in Jaipur City
- Mothers willing to participate
- Children without any health problem

A total of 299 mothers were selected after conducting a baseline survey. All the selected mothers were approached personally and were interviewed based on a pre tested questionnaire cum interview schedule about their knowledge and practices of Infant and Young child feeding. A structured intervention protocol was developed for the study based on the national guidelines for infant and young child feeding issued by India Academy of Pediatrics in 2016. Post intervention the knowledge and practices were accessed on the same scale which was used in the pre stage. Scores were given for the same and statistical analysis was done to study the impact of intervention on the knowledge and practices.

Aims and Objectives

- To assess the knowledge and practices towards breast feeding and infant feeding in mothers of young children.
- To outline and implement an education intervention program.
- To evaluate the impact of intervention on knowledge and practices.

Results

There were 299 mother- infant duos included in the study. The average age of mothers were 26.5 ± 5.4 years ranging from 18 years to 45 years. The gestational weight gain was observed to be 8.71 ± 5.77 kgs and mean hemoglobin status of 10.61 ± 2.01gm/dl, the results indicate that anemia was rampant in women. Since all the mothers were taken from the urban areas this is a poor reflection of the health status of mothers in Rajasthan.

The socio economic status of women was 43.1% from high income group, 24.4% and 32.4% in from middle and low socio economic status. The education status of mothers indicated that most women were literates with 34.1% post graduates, 27.4% graduates, 24.1% were senior secondary and 14,4% were illiterates.

Out of the total 299 infants and young children 53.5% were boys and 46.5% were girls. The average birth weight of the children was 2.66 ± 0.60 kgs.

Table 1 depicts the change in knowledge on IYCF of mothers from pre to post intervention. In the pre stage of the study 72% mothers knew what should be given to the children after birth but the concept of early initiation was known to only half of them. Though almost all the mothers were aware about the benefits of breast milk but feeding on cues was not known to three forth mothers participated in the study and 82.5% mothers knew the importance of colostrum which is very similar to an Indian study by Manwani, Thakur and Pandey [7] and a study in Jaipur by Mital., *et al*. 2014. Only 28% mothers knew how to correctly latch the children and 48% of them knew the signs to estimate the adequacy of breast milk. Almost all the participating mothers knew that breastfeeding in night and breastfeeding during illness should be continued but only 36% mothers knew about the hazards of prelactal feeds [8].

		Mean Knowledge Score	N	S.D	t value	p Value
Total	Knowledge_Pre	11.281	299	2.7074	28.497	.000
	Knowledge_Post	14.515	299	2.5898		
Below 6 Months	Knowledge_Pre	11.136	103	2.6937	18.232	.000
	Knowledge_Post	14.592	103	2.4552		
6-12 months	Knowledge_Pre	11.281	89	2.6457	16.012	.000
	Knowledge_Post	14.292	89	2.5280		
12-24 months	Knowledge_Pre	11.421	107	2.7882	15.526	.000
	Knowledge_Post	14.626	107	2.7729		

Boys	Knowledge_Pre	11.481	160	2.6587	19.533	.000
	Knowledge_Post	14.594	160	2.4528		
Girls	Knowledge_Pre	11.050	139	2.7540	20.971	.000
	Knowledge_Post	14.424	139	2.7452		
Low SES	Knowledge_Pre	9.959	97	2.3757	15.950	.000
	Knowledge_Post	13.196	97	2.4309		
Mid SES	Knowledge_Pre	10.945	73	2.3973	16.428	.000
	Knowledge_Post	14.397	73	2.5481		
High SES	Knowledge_Pre	12.465	129	2.6072	17.409	.000
	Knowledge_Post	15.574	129	2.2527		

Table 1: IYCN Knowledge(Pre and Post) Across Age Gender and SES.

The right age to start the complementary foods was known to 88% mothers but half of them did not know what food should be given to the children. The knowledge score when calculated was found to be 11.28 ± 2.70 out of 20 in the pre stage of data collection which increased to 14.51 ± 2.58 in the post stage of the total sample population. This difference in the means was found to be highly significant at P<0.01. The knowledge across SES at the pre stage was in an increasing order from low to mid to high SES as 9.95 ± 2.37, 10.94 ± 2.39 and 12.46 ± 2.60. This score also increased from pre to post stage the difference in the means was found to be statistically highly significant at p<0.01 reflecting an important role of education intervention in all the socioeconomic groups.

In the post stage of the study 90% mothers knew what should be given to the children after birth but the concept of early initiation was known by almost all of them. Feeding on cues was known to more than half of the mothers post intervention, 74% of mothers post intervention knew the signs to estimate the adequacy of breast milk. The hazards of prelactal feed was known to 59% mothers post the intervention. The right age to start the complementary foods was known to 95% mothers and approx 80% knew what food should be given to the children.

Table 2 depicts the change in practices on IYCF of mothers from pre to post intervention. Colostrums were given to three forth children who participated in the study whereas one forth children missed the opportunity to get nourished by the liquid gold. Pre lacteal feed was given to 38% of children and exclusive breastfeeding was practiced by only one fourth of the participating mothers, the present study is similar to the study by Vijayalakshmi, Susheela and Mythili [6] but lower than the NFHS- 4 data of urban Rajasthan. Seventy percent mothers introduced formula feeds and animal milk to the children before completing six months. The score of the breastfeeding was also calculated but most of the practices were irreversible making no major changes from pre to post stage.

		Mean Breastfeeding Score	N	Std. Deviation	t value	p value
Total	Breastfeeding Practice_pre	2.408	299	1.0995	3.763	.000
	Breastfeeding Practice_post	2.331	299	1.1296		
Below 6 Months	Breastfeeding Practice_pre	2.893	103	1.1018	1.149	.253
	Breastfeeding Practice_post	2.845	103	1.1181		
6-12 months	Breastfeeding Practice_pre	2.303	89	.9343	1.422	.158
	Breastfeeding Practice_post	2.281	89	.9413		
12-24 months	Breastfeeding Practice_pre	2.028	107	1.0592	4.031	.000
	Breastfeeding Practice_post	1.879	107	1.0878		
Boys	Breastfeeding Practice_pre	2.438	160	1.1085	2.902	.004
	Breastfeeding Practice_post	2.356	160	1.1402		
Girls	Breastfeeding Practice_pre	2.374	139	1.0920	2.397	.018
	Breastfeeding Practice_post	2.302	139	1.1207		
Low SES	Breastfeeding Practice_pre	2.557	97	1.0405	1.269	.208
	Breastfeeding Practice_post	2.515	97	1.0618		
Mid SES	Breastfeeding Practice_pre	2.575	73	.9562	2.163	.034
	Breastfeeding Practice_post	2.479	73	.9876		
High SES	Breastfeeding Practice_pre	2.202	129	1.1884	2.909	.004
	Breastfeeding Practice_post	2.109	129	1.2199		

Table 2: Breastfeeding Score (Pre and Post) Across Age Gender and SES.

The difference in the means of the breastfeeding score was found to be statistically significant in the total population of 299. When assessed across SES the difference in the means was statistically significant at P<0.05 in mid SES group and at p<0.01 in high SES group reflecting the adherence with the practices in low SES and changes in the high SES group. Across the different age group the changes in the mean score were highly significant (P<0.01) in the age group of 12-24 months and statistically insignificant in 0-6 months and 6-12 months group as the mothers concentrate more on complementary foods and dilute the breastfeeding practices.

Only 11% mothers started the complementary feeding at 6 months of age remaining 89% were either too early or too late to start the complementary feeding practices. Around 35% mothers didn't know about the right food to be introduced and 65% were unaware about the right consistency of the introduced food. During the time of data collection 56% of mothers were giving the right type of food and 88% were giving feeds in right consistency. Only 20% mothers added special ingredients to improve the nutritional density of the food which increased to 41% post intervention.

The complementary feeding score when calculated for pre and post practices was found to be increased from 2.64 ± 1.41 in the pre stage to 2.99 ± 1.31 in the post stage (Table 3). The difference in the means in total sample population were found to be statistically significant at p<0.01. When compared against different groups the difference from pre to post was highly significant across both the gender and in the age group of 6-12 months and 12-24 months. When compared for SES no statically significant difference was found in the mid SES whereas a highly significant difference was found at p<0.01 in low and high SES groups.

		Mean Complementary feeding Score	N	Std. Deviation	t value	p Value
Total	Complimentary Feeding _Pre	2.643	196	1.4124	4.140	.000
	Complimentary Feeding _Post	2.990	196	1.3126		
Below 6 Months	Complimentary Feeding _Pre	.	0[a]	.		
	Complimentary Feeding _Post	.	0[a]	.		
6-12 months	Complimentary Feeding _Pre	2.258	89	1.4812	3.585	.001
	Complimentary Feeding _Post	2.742	89	1.4023		
12-24 months	Complimentary Feeding _Pre	2.963	107	1.2733	2.242	.027
	Complimentary Feeding _Post	3.196	107	1.2009		
Boys	Complimentary Feeding _Pre	2.632	106	1.4164	2.291	.024
	Complimentary Feeding _Post	2.877	106	1.3360		
Girls	Complimentary Feeding _Pre	2.656	90	1.4155	3.550	.001
	Complimentary Feeding _Post	3.122	90	1.2793		
Low SES	Complimentary Feeding _Pre	2.271	70	1.4031	2.653	.010
	Complimentary Feeding _Post	2.729	70	1.2732		
Mid SES	Complimentary Feeding _Pre	2.480	50	1.3589	1.448	.154
	Complimentary Feeding _Post	2.700	50	1.2330		
High SES	Complimentary Feeding _Pre	3.092	76	1.3484	3.039	.003
	Complimentary Feeding _Post	3.421	76	1.2989		

Table 3: Complementary feeding Score (Pre and Post) Across Age Gender and SES.

Conclusions

The breastfeeding knowledge and practices are suboptimal even in the elite urban mothers. IYCN counseling at the right time can help in the improvement of infant and young child feeding practices. Focused counseling and advice regarding IYCF practices by the health workers along with emphasis on correct technique can improve the feeding of infants and improve their health and well being.

Ethical Approval

The study is approved by the Departmental Ethics Committee, Department of Home Science, University of Rajasthan, Jaipur.

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