



# Nutrition education as an important tool for empowering rural mother in infant feeding perspective

Neelam Kumari<sup>1\*</sup> and Ajay Goswami<sup>2</sup>

<sup>1</sup>Department of Nutrition, Isabella Thoburn College, Lucknow.

<sup>2</sup>Govt. Girls Postgraduate College, V.B.S. Purvanchal University, Jaunpur

\*e-mail: neelamkumari0809@gmail.com

(Received: August 02, 2011; Revised received: January 16, 2012; Accepted: January 18, 2012)

**Abstract:** The present study was carried out with an objective to evaluate the role of nutrition education as an important tool for empowering rural mother in infant feeding perspective. A total of 190 women with children below 03 years of age were enrolled in the study. Pre-intervention knowledge of mothers on maternal nutrition, importance of breast feeding and perceptions/practices regarding desirable feeding practices were evaluated followed by a nutritional education and counseling session. One month post-intervention results were compared with those of pre-intervention results. A significant improvement in knowledge of mothers on maternal nutrition, importance of breast feeding and perceptions/practices regarding desirable feeding practices was observed after nutritional education and counseling session. Nutrition education and counseling affects the knowledge of mothers on maternal nutrition, attitude related with breast feeding and practices regarding desirable feeding practices. Nutritional education and counseling should be made an essential part of antenatal and postnatal care.

**Key words:** Nutrition, infant, breast feeding, maternal nutrition

## Introduction

Malnutrition continues to be a significant health problem for children and adults in India. While there have been some improvements in the nutritional status of young children in several states, nutritional deficiencies are still widespread. There has been the increase in wasting (excessively thin), or weight per height, among children under age 3 years. Around 23% of children were wasted. At the same time, there has been very marginal change in the percentage of children who are underweight (43% in NFHS-2 and 40% in NFHS-3).

On all the factors that regulate the health and well being of an individual, nutrition is the most important. The requirement of different food stuff e.g. protein, fat, carbohydrate, minerals and vitamins are essential in proper ratio for adequate growth and nutrition. Malnutrition continues to be highly prevalent in India (Verma et al. 1980; Benjamin and Zachariah, 1993; Pratinidhi and Tambe, 1997). But it is erroneous to say that the root cause of all nutritional deficiencies is food shortage. Many at times, deficiency disorders occur as a result of aberrant food habits, prejudices, taboos, food fads and so on. Much can be done to rectify these through nutrition education.

Regarding nutrition, ignorance is not a 'bliss' but a 'mother of miseries'. It is inversely proportional to education. Though, the literacy rates in India have started rising the rural women, who form over 90% of total number of working women, have not yet been given the deserving attention. Ignorance is also an important

factor in the prevalence of malnutrition. The ignorance in respect of food values, food availability, nutritional requirements of family members lead to unequal distribution of nutrients and improper utilization of what is available in plenty. Ignorance leads to poverty that results malnutrition and vice-versa, having a vicious circle. So, ignorance is perhaps the most important single factor underlying poverty and malnutrition in our country.

In this context it is recognized that nutrition education is of considerable importance. To tackle the malnutrition among multitude of different age groups of people nutrition education should be incorporated in the general system of education as its components. According to Devdas, 1959 food habits are the most difficult to change and these changes can be affected only during the course of time. Teaching people to improve faulty food practices is not practicable and convincing when done in a typical home and community centre.

Insufficient attention has been paid to the child's growth during the critical period between 4 and 24 months when malnutrition sets in and peaks. Low land of awareness among families and service providers about proper feeding practices directly contributes to the problem. Recent studies reveal that only one-third of children are given complementary foods between the age of 6-9 months, when breast-feeding needs to be supplemented with regular semi-solid/musy food consumption (Pattanaiak, 2004).

A lack of access to good education and correct information is also a cause of malnutrition. Without information strategies and

better and more accessible education programmes the awareness, skill and behaviours needed to combat malnutrition can not be developed. To combat against malnutrition, nutrition education is an indispensable part of any campaign. It will help to bring an end to the problem of malnutrition in the rural, tribal and slum areas, and it can be possible not only by increasing the food production but also by educating the public about good nutrition.

### Materials and Methods

The present study was carried out as a before-after study among rural mothers with infants upto 03 years of age. A total of 190-mothers were enrolled from western area (Malihabad) of district Lucknow. A self prepared questionnaire to evaluate the current knowledge of mothers on maternal nutrition, importance of breast feeding and perceptions/practices regarding desirable feeding practices was used to collect the data.

The questionnaire was administered to the subjects at the time of enrolment and the before-intervention status of current knowledge of mothers on maternal nutrition, importance of breast feeding and perceptions/practices regarding desirable feeding practices was assessed. Following this a common educational intervention and counseling session was organized at the village Panchayat.

After one-month of intervention, the knowledge of mothers on maternal nutrition, importance of breast feeding and perceptions/practices regarding desirable feeding practices was again assessed using the same inventory of questions. As the questionnaire used was not a systematic scale and the questions were independent to each other generally categorical in nature, hence the change in category of response after intervention was assessed using chi-square test. All the data was analyzed using Statistical Package for Social Sciences version 15.0.

### Results and Discussion

Tables 1 to 3 depict the before-intervention and after-intervention status of mothers' knowledge on maternal nutrition, importance of breast feeding and perceptions/practices regarding desirable feeding practices. A statistical evaluation of the results shows a significant change in general for all the items ( $p < 0.001$ ).

Evaluation of knowledge of the mothers regarding functions of foods revealed that apart from a few items under the eight-items inventory developed for this purpose around one-fifth respondents had no correct information available. It also showed a high degree of response towards intervention programme. Though after education the response level improved significantly yet there were some questions still remaining for which the response level was not good thereby indicating the need of reinforcement (Table 1).

Before education none of the respondents had knowledge regarding the immunity and protective properties of breastmilk.

However, after education, a significant ( $p < 0.001$ ) improvement in knowledge of respondents regarding other aspects was seen (Table 2).

Before intervention, majority of respondents did not follow good feeding practices. However, after intervention a significant ( $p < 0.001$ ) improvement in feeding practices was seen. Though for none of the items there was absolute responses hence indicating a need of reinforcement and repeat education (Table 3).

Malviya (1963) observes that ultimate aim of nutrition education is to help the communities, families and individuals to understand the simple principles of nutrition, to enable them select the right kind of foods, to provide adequate diets for all members of the family within the limits of local production and purchasing power, to apply hygienic methods in the handling of food and to preserve surplus food. Care is manifested in the ways a child is fed, nurtured, taught and guided. It is the expression by individuals and families of the domestic and cultural values that guide them.

In this context, Deshmukh (1963) has stated that knowledge of nutrition is of greater importance in developing countries where food is not sufficient and people must get the maximum possible benefit from the limited source of food that is available. She exhorted that massive programmes, human approaches, searches, group organisation and proper development of leadership are necessary to educate the public. Todhunter (1953) stressed that the teaching of nutrients should be directed towards locally prevalent customs but not to impose an entirely new set of practice.

A National Preventive Programme advises expectant mothers to take food with combination of iron and folic acid tablets during the first 100 days of pregnancy and include green leafy vegetables in their daily diets. The problem of health and nutrition are becoming more and more challenging because of inadequacy of available food in the third world. The average Indian diet is not only insufficient in calories but also unbalanced.

Locally available cereals, pulses, fruits and vegetables are inexpensive and these should be taken for protecting the people from illness and to maintain good health and energy. The learners should be taught about the foods that give energy (cereals and grains), foods necessary for body building (millets and pulses) and foods that protect body from illness (vegetables and millets). The learners should know the causes of disease of protein and vitamin deficiency. For example, anaemia can be cured by taking ragi, drumstick leaves, fishes etc., and Vitamin-C deficiency diseases especially bleeding gums and other gum infections are very common. So, green vegetable, tomatoes, lemon, bean and other Vitamin-C rich food can circumvent these problems.

The education of parents especially that of the mother, plays an important role. It is an accepted fact that children of both

**Table - 1:** Knowledge of the Mothers on Maternal Nutrition

Details	Mothers Stating (n=190)				$\chi^2$	p
	Before education		After education			
	n	%	n	%		
Spacing the birth of the child is					31.33	<0.001
a) Essential	99	52.1	85	44.7		
b) Not essential	75	39.5	47	24.7		
c) Do not know	16	8.4	58	30.5		
	190					
The pulses and cereals intake of the expectant woman					21.93	<0.001
a) Should be increased	71	37.4	100	52.6		
b) Should not be increased	59	31.1	67	35.3		
c) Do not know	60	31.6	23	12.1		
Desirable birth weight for a newborn					101.18	<0.001
a) 3.0 kg	21	11.4	84	44.2		
b) 2.3 kg	83	44.9	8	4.2		
c) 2.5 kg	81	43.8	98	51.6		
The weight gain of a normal expectant woman should be					123.73	<0.001
a) 10-12 kg	26	13.7	131	68.9		
b) 5-8 kg	80	42.1	39	20.5		
c) 3-5 kg	84	44.2	20	10.5		
In a satisfactory lactation the mother would					152.51	<0.001
a) Maintain weight	24	12.6	143	75.3		
b) Gain weight	95	50.0	32	16.8		
c) Do not know	71	37.4	15	7.9		
Major nutritional deficiency in expectant women is					177.06	<0.001
a) Iron	4	2.1	125	65.8		
b) Infancy	94	49.5	45	23.7		
c) Childhood	92	48.4	20	10.5		
Brain growth of the foetus starts during					120.62	<0.001
a) Intrauterine stage	41	21.6	148	77.9		
b) Infancy	90	47.4	24	12.6		
c) Childhood	59	31.1	18	9.5		
One of the reasons for maternal deaths is					66.284	<0.001
a) Severe anaemia	43	22.6	121	63.7		
b) Late marriage and pregnancy	63	33.2	35	18.4		
c) Do not know	84	44.2	34	17.9		
Low birth weight is mainly due to					49.53	<0.001
a) Poor maternal nutrition	81	42.6	147	77.4		
b) Lack of exercise for the mother	55	28.9	16	8.4		
c) Do not know	54	28.4	27	14.2		
Periodic Health check up is essential for an expectant woman					127.53	<0.001
a) Every month	40	21.1	146	76.8		
b) Once in three months	94	49.5	14	7.4		
c) Initial and final stage	56	29.5	30	15.8		

**Table - 2:** Knowledge of the Mothers regarding importance of Breast Feeding

Perceived Importance	Mothers Stating (n=190)			
	Before education		After education	
	n	%	n	%
Best suitable food	38	20.0	15	7.9
Easy to digest	23	12.1	15	7.9
Economical	22	11.6	22	11.6
Readily available	58	30.5	21	11.1
Forms emotional bonding	59	25.8	21	11.1
Others	0	0	96	50.5

$\chi^2=131.94$ ;  $p<0.001$

**Table - 3:** Desirable Feeding Practices followed by the Mothers

S.No. Perceived Desirable Practices	Mothers Stating (n=190)				$\chi^2$	p
	Before education		After education			
	n	%	n	%		
Not feeding prelacteal food	79	41.6	117	61.6	15.215	<0.001
Feeding colostrum	92	48.4	157	82.6	49.220	<0.001
Time of start of breastfeeding after birth					193.67	<0.001
a) Half an hour	15	7.9	149	78.4		
b) One hour	70	36.8	21	11.1		
c) Three days	105	55.3	20	10.5		
Time of continuation of exclusive breast feeding					99.67	<0.001
a) 4-6 months	96	50.53	82	43.16		
b) 6 months	34	17.89	108	56.84		
c) 12 months	60	31.58	0	0.00		
Age of introduction of complementary feeding					6.926	0.031
a) 14 months	56	29.5	37	19.5		
b) 7 months	80	40.1	103	54.2		
c) 12 months	54	28.4	50	26.3		
Age upto which breastfeeding must be continued					75.11	<0.001
a) 6 months	65	34.21	22	11.58		
b) 12 months	62	32.63	21	11.05		
c) 24 months	63	33.16	147	77.37		
Katori being the most appropriate choice for feeding babies	58	30.5	106	55.8	24.72	<0.001
Use of soap for washing and cleaning purposes					87.96	<0.001
a) Yes	106	55.79	162	85.26		
b) No	84	44.21	10	5.26		
c) Sometimes	0	0.00	18	9.47		
Continuation of breast feeding during sickness	85	44.7	105	55.3	60.83	<0.001
Awareness regarding use of iodized salt	80	42.1	110	57.9	55.66	<0.001
Awareness regarding importance of immunization	83	43.7	190	100	148.94	<0.001

educated parents enjoy better health compared to illiterate parents. It is said that if a father is educated he can only provide bread but if the mother is educated it leads to good health and nutrition care not only of the child but of the whole family. Again, the most important agent of health care would seem to be the mother, because mother and child are social and biological units. The unborn child is entirely dependent on the maternal environment and for several years after birth is dependent on the mother for every kind of care. Thus, for the promotion of healthy child rearing practices education of mother is essential.

Sule et al., 2009 evaluated the impact of nutritional education on knowledge, attitude and practices (KAP) of mothers concerning infants and young children feeding and their children's nutritional status in two semi-urban communities of south-west Nigeria. They found that nutritional education of mothers only had positive impact on their level of KAP on infant and young children feeding. In another study Yin et al., 2009 investigated the knowledge, attitude and practice (KAP) of young children's mothers on infant feeding and to evaluate the effects of nutritional education in the rural areas of China and concluded that Providing nutritional and health education to the infant's mothers should be helpful for improving infant's feeding pattern and ensuring the adequate growth and development of infants.

There is need for increased awareness and sensitization campaign on a child rights through media for reaching out to people. Media must play vital role in the promotion of child rights and must interact positively to highlight violations of children's right. Media must also play key role in educating parents and children and make them aware of importance of education.

While highlighting the empowerment of people with regard to their nutritional knowledge the method of teaching/empowering, at the same time, is of utmost importance. In imparting this knowledge the teacher/ animator/ demonstrator should play the role of a facilitator instead of a teacher that would lead to more learning than mere teaching. This is the best way where the people can be more engaged to figure out their problems. So the objective of education is to create an awareness in the people, to generate interest in them and ultimately motivate them to adopt the health practices in their own lives.

One of the most important components of child health and welfare services is health education which if given to the family, especially to the expectant mother, can help not only in the eradication of disease but also in keeping the child healthy. It can not be denied that infection, nutritional disorders, large family size, low socio-economic status and lack of awareness of health facilities are some of the main problems which are linked to the larger issues of low productivity and unemployment. In order to keep a child healthy — physically, mentally, socially and emotionally, concern for it should start from the adolescent periods of the girls.

The main objective of nutrition education is to create awareness regarding the health requirements for promotion of growth and development of the body and mind. Every individual specially mothers of the children, lactating mothers, pregnant women, school children and others should know what type of food they should take according to the availability at their local area and economy of the family, so that their body and mind will function normally and combat against infectious diseases.

Keeping in view the above issues, the present study was undertaken with an aim to study the current knowledge of mothers on maternal nutrition, importance of breast feeding and perceptions/practices regarding desirable feeding practices and to carry out a nutritional education-counselling intervention to improve the same among rural women.

### Conclusion

The poor nutritional status of children and subsequently the poor awareness regarding the knowledge, attitude and practices of mothers related to nutritional needs of the children, it seems that the compromised nutritional institution is not only because of the availability of resources to the socioeconomically weaker sections of the rural population under study but also owing to lack of utilization of the resources available to them. The intervention study in the present study proved to be a positive step ahead, which eventually will have a positive impact on the nutritional status of the children. Owing to certain limitations the impact of enhanced awareness level on the nutritional status of children could not be studied, hence a study to see the impact of enhanced awareness level on the nutritional status of the region is recommended, of course, with re-intervention and reinforcement as the auxiliary tools.

### References

- Pattanaik, A.: Nutrition Education. APH Publishing Corporation, New Delhi. Chap. 6, pp 27 (2004).
- Devdas, R. P.: Every Homemaker a Nutritionist, Extension, 4: 7 (1959).
- Malviya, K. D.: Nutrition Education for Field Worker, All India Orientation Training Seminar in Applied nutrition at Kakshi-ka Talab, Ministry of Com. Devt. And Cooperation, Govt. of India, 92-95 (1963).
- Deshmukh, D.: Education and Training in Nutrition in Developing Countries, Technical Commission Papers, FAO, Rome, 1 (1963).
- Todhunter, E.N.: Everyday Nutrition for School Children, University of Alabama, 14 (1953).
- National Family Health Survey India: National Institute of Population Sciences (2005-06).
- Verma, B.L., Kumar, A. and Shrivastava, R.N.: Nutritional profile of children in rural community. *Indian J. of Public Health*, 24: 140-149 (1980).
- Benjamin, A.I. and Zachariah, P.: Nutritional status and feeding practices in under-3 years old children in the rural community in Ludhiana, Punjab. *Health and Population- Perspectives and Issues*, 16: 3-21 (1993).
- Pratinidhi AK, Tambe MP. Nutritional status of ICSD children in Pune city. *Indian J. of Community Health*, 3: 73-79 (1997).

Sule, S.S., Onayade, A.A., Abiona, T.C., Fatusi, A.O., Ojofeitimi, E.O., Esimai, O.A. and Ijadunola, K.T.: Impact of nutritional education on nutritional status of under-five children in two rural communities of south-west Nigeria. *Niger Postgrad Med J.* **16**: 115-125 (2009).

Yin, S.A., Li, N., Yan, Z.Y., Pan, L., Lai, J.Q. and Zhao, X.F.: Effects of nutritional education on improvement of nutritional knowledge of infant's mothers in rural area in China. *Zhonghua Yu Fang Yi Xue Za Zhi*, **43**: 103-7 (2009).

ONLINE  
CORP