



IMPACT OF NUTRITION INTERVENTION FROM MOTHERS ON COMPLEMENTARY DIET FEEDING PRACTICES AND DAILY DIETARY MANAGEMENT FOR CHILDREN UNDER FIVE YEARS

Ajab Singh, Smita Pathak and Brijlata Dubey

Department of Food & Nutrition, Govt. M. H. College of Home Science & Sciences for Women (Auto), Jabalpur (Madhya Pradesh), India.

Abstract

The present attempt was made to investigate the Knowledge attitude and practices (KAP) of mothers about child nutritional care and complementary diet feeding practices of 200 mothers of children below 5 years age. Mothers were selected through purposive random technique from households (HHs) of different localities of Ramnagar village in Purnia district Bihar. The general survey was carried out to collect the demographic information. The KAP (Knowledge, Attitudes, and Practices) status of mothers was Pre-tested. Seven days nutritional intervention was also made after tested and impact was evaluated as post-test in the study. Most of the mothers found to be the poor socio-economic group with about 50% illiteracy. The initiation of complementary feeding was unduly delayed. The complementary foods being given mostly included cow/buffalo milk and family foods (semi-solids). The diets of children were very lesser from micronutrient sources and mainly consisting of cereals, roots, and tubers. Improvement in child care and feeding practices among mothers was seen and level of awareness was increased in all selected aspects as the post-test report. It is suggested to the policymakers and authorities to formulate the awareness programme to the mother as according to actual needs and their convenience. This will be helpful to improve all the wrong practices regarding the child care and feeding, which are prevalent among the mothers and caused malnutrition with high children morbidity.

Key words : KAP, malnutrition, complementary feeding, family food.

Introduction

The problems of malnutrition among under five years children are very high, which can be determined by the use of nutritional surveillance, nutritional care, or appropriate nutritional intervention programmes in a community (Singh, 2013). The state of rapid growth and development children requires special nutritional care. Nutritional requirements for infants is based on the composition and intake of breast milk of well-nourished population combined with the contributions from supplementary foods introduced around 4-5 months of age as mother's milk alone is inadequate after that. The child should be given a diet providing sufficient quantities of calories and protein in gradually increasing amounts without provoking vomiting or diarrhoea. Variety of food should be included in the diet of children to fulfill their micro and macro nutrients needs. All food groups should be introduced in proper amount and proportion to meet

the nutritional adequacy of children as determined by the Indian Council of Medical Research (ICMR) in their recommended dietary allowances (RDA). The primary cause of malnutrition is a faulty and inadequate diet. The level of KAP (Knowledge, Attitudes and Practices) regarding nutrition and health care of children is directly associated with childhood malnutrition. Poor child feeding practices is a primary cause of under-nutrition. Poor feeding practices are often due to lack of information on optimum feeding or/and inadequate time available with caregivers for child feeding. Therefore, the present investigation was made to assess the prevalent KAP among the mothers of children under five years and evaluate the impact of implemented nutrition intervention.

Materials and Methods

Selection of sample and method of sampling

The purposive and simple random sampling technique

was used to select 200 mothers of children below 5 years age from households (HHs) of different localities of Ramnagar village in Purnia district, Bihar, India.

Data collection

Demographic information : An interview schedule was designed to elicit information from mothers of selected children under the following heads:

General information

General information about the respondents and her family structure, level of education, physical work or occupation, health status and activity pattern, religion, caste, age, sex, educational occupational and marital status of the family members etc. were collected through a constructed questionnaire schedule.

The measure of socio-economic status

The revised Prasad's scale was used to assess the socio-economic status of respondents on the basis of per capita family income.

The KAP (Knowledge, Attitudes and Practices) status of mothers : About the children nutritional care and feeding practices, maintenance of food hygiene and sanitation, nutrient conserving cooking practices etc. as Pre-test. The interview schedule was also carried out to obtain this information from mothers of the children. The questionnaire in interview schedule (structured from FAO modified questionnaire for KAP of mothers) was used as Pre and Post test instrument to evaluate the impact of implemented counseling and awareness programme on mothers.

Implementation of nutrition intervention for mother awareness and impact evaluation

Messages for Nutrition Intervention with mothers was formulated according to need and implemented in the interactive schedule on the selected aspects of nutrition care. The Pre-Post-test tool was used to assess the changes in KAP (Knowledge, Attitudes and Practices) status of mothers in impact evaluation as the third phase of the study.

Results and Discussion

The data interpretation and analysis has been revealed the results of the study which are presented and discussed here:

I. A general profile of the subjects

1. Socio-Economic Status (SES) classification (according to per capita income)

Table 1 showed that among the total children respondents, maximum (63%) was belonging V class as

Table 1 : Socio-Economic Status (SES) class of the respondents.

Socio-Economic Status (SES) class	N=200	%
I (Rs. >5571)	—	—
II (Rs. 2786 - 5570)	05	2.5
III (Rs. 1671-2785)	27	13.5
IV (Rs.836 - 1670)	42	21
V (Rs. <836)	126	63

their per capita family income. None of the percentages had to belong the SES class I, because of most of them have to come from low family income group and also had large family size.

2. Educational status of the Mother and father (parents) of children

Table 2 showed the educational status of the parents of children that maximum had only middle school education (21.2 percent). About 18.2% of them had an education level of 1st-5th class, 21.2% were educated up to 6th-10th class, while very few (about 6.0%) had education level of intermediate or above. About 40.0% of the fathers of the children were illiterates and 50.0% mothers found to be illiterates.

Table 2 : Education status of parents of the children respondents.

Educational level	Fathers, n=200		Mothers, n=200		Total, n=400	
	N=200	Percent	N=200	Percent	N=400	Percent
Intermediate & above	19	9.5	5	2.5	24	6.0
High school	23	11.5	15	7.5	38	9.5
Middle school	50	25.0	35	17.5	85	21.2
Primary school	28	14.0	45	22.5	73	18.2
Illiterate	80	40.0	100	50.0	180	45.0

$\chi^2 = 18.67$ p-value 0.000909 significant at $p < 0.05$

II. Child nutrition practices of mothers

3. Duration of breast feeding

Table 3 revealed that majority of children (44.0%) feds by breast feeding less than one year duration and 41.5 percent children were benefited from this feeding as 12 – 24 months duration. Only 14.5 percent children found to be continued it more than 24 months.

4. Status of semi-solid and solid food (complimentary diet) intake

According to table 4, it was found that 55.5 percent

Table 3 : Duration of breast feeding.

Duration of breast feeding	N = 200	Percent
<12 month	88	44.0
12 – 24 month	83	41.5
>24 month	29	14.5
Not applied	-	-
Total	200	100.0

Table 4 : Status of semi-solid and solid food (Complimentary Diet) intake.

Type of complimentary diet	N = 200	Percent
Baby food (infant horlicks. Soy biscuits etc.)	4	2.0
Home prepared baby food	12	6.0
Artificial milk	73	36.5
Family food (semi-solids)	111	55.5

Table 5 : Mean Dietary intake (balanced diet)of children per day.

Food groups	g/ portion	<2 years age group (n=89)		<5 years age group (n=111)	
		Mean Dietary Intake	RDA	Mean Dietary Intake	RDA
Cereals & millets	30	0.5	0.5 - 1	5	2 - 4
Pulses	30	0.10	0.25 – 0.5	0.25	1
Milk & milk products	100	2	4*	2	5
Roots & tubers	100	1	0.5	2	0.5 - 1
Green leafy vegetables	100	0	0.25	0.25	0.5 - 1
Others vegetables	100	0	0.25	0.5	0.5 - 1
Fruits	100	0.25	1	0.5	1
Sugar	5	1.5	2	3	3 - 4
Fats & oil (visible)	5	0.5	4	2	5

*Quantity indicates top milk for breastfed infants; 200 ml top milk is required.

Source: Dietary Guidelines for Indians- A Manual, NIN, Hyderabad, 2011.

Table 6 : Impact of Nutrition Intervention on mothers (pre and post-test).

Maximum score of selected aspects of nutritional awareness	Pre-test mean score (out of 5 score in each aspect)	Post-test mean score (out of 5 score in each aspect)	Difference
50	13	37	±24

children were using family food, 36.5 using artificial milk 6.0 percent using home-prepared baby food and only 2.0 percent using baby food as complimentary diet. The initiation of complementary feeding was unduly delayed. The complementary foods being given mostly included cow/buffalo milk and family foods (semi-solids).

5. Status of per day dietary intake (Balanced diet)

Table 5 lists the proportion of children consuming specified food daily. The children were reported about their diet mainly consist of cereals, roots and tubers *i.e.* 0.5 among children <2 years age group which meet their

RDA for cereal group and 1 for roots and tubers which was high from RDA. Whereas cereal and roots and tubers consumed among the children <5 years age group was high from their RDA suggested portion size *i.e.* 5 and 2, respectively. Pulses were consumed in very lesser amount among both children groups *i.e.* 0.10 and 0.25, respectively.

Milk intake among children showed negligible (2 portions) in both age groups. Fruits intake was almost nil *i.e.* 0.25 and 0.5, respectively among them. The daily consumption of green leafy vegetables was observed almost nil among children of <2 years age group and very lesser (0.25) among children of <5 years age groups in comparison to their RDA.

6. Impact of Nutrition Intervention on mothers (pre and post-test)

Table 6 revealed that the implemented nutritional

intervention had positive impact on Knowledge attitude and practices (KAP) of mothers. Before intervention the KAP of mothers on the selected aspects were scored only 13 out of maximum marks 50, which increases as 37 score after nutritional intervention with mothers on the selected aspects.

Conclusion

In this community based nutritional intervention study in rural area of Bihar State, it was noted that when researcher taught mothers how to provide complimentary

feeding to their infants (especially use of simple, affordable energy enriched complimentary foods) and other related practices such as diet frequency, hygiene and sanitary aspects related to the feeding etc., then the KAP of mothers have been improved.

References

- Division of Community Studies, National Institute of Nutrition, Indian Council of Medical Research, Hyderabad (2011). *Inform a heal thcare*. **38**(1), 93.
- Harder, T., R. Bergmann, G. K. Allischnigg and A. P. Lagemann (2005). Duration of breast feeding and risk of overweight: a meta-analysis. *Am. J. Epidemiol.*, **162**(5) : 397–403.
- Jyothi Lakshmi, A., Khyrunnisa Begum, G. Saraswathi and Jamuna Prakash (2005). Influence of nutrition and environment on morbidity profile of Indian preschool children, Malaysian. *Journal of Nutrition*, **11** (2) : 121-132.
- Krishnaswamy, Kamala and B. Sesikeran (2011). *Dietary Guidelines for Indians*. 2nd ed. Hydrabad. NIN. pp-28.
- Mittal, A., J. Singh and S. K. Ahluwalia (2007). Effect of maternal factors on nutritional status of 1-5-year-old children in Urban slum population. *Indian J Community Med.*, **32** : 264-7.
- Park, K. (2005). *Park's Textbook of Preventive and Social Medicine*. 18th edition, Banarasidas Bhanot Publishers, Jabalpur, 405.
- World Health Organization (2013). *Essential Nutrition Actions*.