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A comparative study of supplementary food for children upto age of 2 years in Ghaziabad district

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ABSTRACT

The quality of human resources of any country is determined by the quality of its child development. The subject of infant feeding need a great emphasis as it concerns not just the 25 to 30 million babies that are born annually in our country but also the several million mothers who are rearing them. Infant and young child nutrition has been engaging the attention of scientists since long for the very simple reason that growth rate in the life of human being is maximum during the first year of life. Infant feeding practices both the breast feeding as well as complementary feeding have major role in determining the nutritional status of child. This exploration is an attempt to study the supplementary feeding practices of children 0-2 years. In this study breast feeding practices, supplementary/ weaning practices were studied over 300 children belonging to different socioeconomic groups *i.e.* Group I (LIG) n=100; Group II (MIG) n=100 and Group III (HIG) n=100.

Key words : Supplementary food, Children food, Nutrition

Infant and young child nutrition has been engaging the attention of scientists since long for the very simple reason that growth rate in the life of human being is maximum during the first year of life. Infant feeding practices of both the breast feeding as well as complementary feeding have major role in determining the nutritional status of the child. Recent scientific evidences reveal that malnutrition has been responsible, directly or indirectly, for 60% of all deaths among children fewer than 5 years annually. Over 2/3rd of these deaths is often associated with inappropriate feeding practices and occurs during the first year of life.

Appropriate feeding is crucial for the healthy growth and development of the infant. However, lack of confidence, widespread ignorance and misconceptions frequently result in improper management of infant feeding. The prominent areas of concern include early termination of breastfeeding and premature or delay introduction of semi solids which may be contaminated low in calorie density and fed less frequently. These inappropriate feeding practices directly or indirectly, contribute substantially to infectious illness, malnutrition and mortality in infants. (National Guidelines on Infant Feeding, 2004).

Status of under nutrition in young children in Uttar Pradesh:

Uttar Pradesh is the most populous state of India with a population of 166 million (census 2001). More than three quarters (79%) of its population lives rural in areas and below poverty line. Infant mortality rate in Uttar Pradesh is 86.70 per 1000 live birth. The percentage of children under three years of age under weight, stunted and wasted are 51.7%, 55.0% and 11.1%, respectively (NFHS-2, 1998-99). Though the 'age group' analysis confirmed that maximum underweight situation occurred at the age of 12.23 months, the single month analysis revealed that the maximum under nutrition in fact occurs at the age of 8-11 months and plateaus at 12 months itself and at not at 24 months. Thus, under nutrition sets early in life and accelerates during the second half of infancy *i.e.* 8-11 month (DWCD, UP., 1999)

– Every six malnourished child of India lives in U.P.

– U.P. is second in rating of undernourishment in children below 3 years of age.

Out of 20 only one child can get mother's milk within one hour of birth. Along with mother's milk, water is generally given to children, which increases the chances of infection, diahorrea and other diseases.

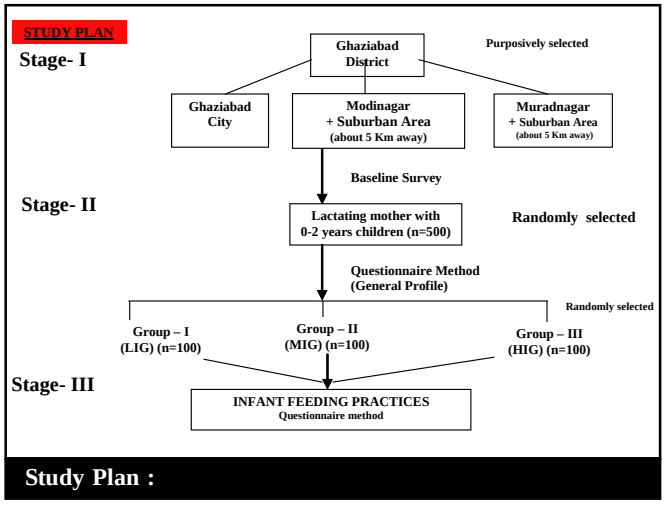
With this background in mind this study was conducted to compare the infant feeding practices (0-2 years) among different socio-economic groups. To be precise the study has been undertaken with the below given objectives to study supplementary foods incorporated to the children up to two years of age, to compare the type of supplementary foods given in different socio-economic group to the children up to 2 years of age and to compare the nutritive value of traditional infant foods and branded commercial infant foods fed to the children.

METHODOLOGY

This exploration is an attempt to study the supplementary feeding practices of children of 0-2 years. In this study breast feeding practices, supplementary/

weaning practices, food group consumption were studied over 300 children belonging to different socio-economic groups *i.e.* Group I (LIG) n=100; Group II (MIG) n=100 and Group III (HIG) n=100.

For this study descriptive or diagnostic research design was used. Questionnaire/interview schedule was used for collecting information.



Study Plan :

RESULTS AND DISCUSSION

– Mean weight at birth among three groups was 2.65 ± 0.43kg; 2.79 ±0.46 kg, 2.83±0.53kg, which was less than WHO-NCHS standards and ICMR standard.

– Mean weight for age and mean height for age of all the three group children were also found to be less than WHO-NCHS standards.

– It was found that mean number of children decrease as income group increase. Mean number of children was more among LIG group *i.e.* 2.37±0.98. Also among LIG group more children (4) family as compared to others was found. Mean number of children among MIG and HIG group was 1.80 ± 0.9 and 1.60 ± 0.81, respectively. Statistically significant difference regarding number of children among LIG and MIG; LIG and HIG was found. Non significant difference was found among MIG and HIG groups.

– 53.33% of the families among all the groups belonged to joint family system. This shows that joint family system roots are available in our society today also.

– Finding revealed that significant difference existed between LIG Vs MIG and LIG Vs HIG group regarding number of family members. As a whole, MIG group had less number of family members *i.e.* 5.68± 2.75 as compared to 7.44 ± 3.27 and 5.80 ± 3.19 among LIG and HIG groups, respectively.

– When income was compared with number of family members among all the groups, negative correlation and significant difference was observed among all the three groups. This suggests that as the number of family members increases, income is not increasing and *vice versa*.

Breast feeding:

– Study showed that only 16.3% mothers were on job before child birth and 34.69% of them left their job after child birth owing to various reasons. 58.82% mothers among all the three groups left job to take care of their children 29.4% to take rest, and all were from HIG group. 11.76% left due to increase of work load.

– It was seen that 60% mothers of all the three groups depended on grandparents for the care of children in their absence. Use of staff/servants and crèche was more among HIG group, followed by MIG group.

– It was satisfactory that 100% of mothers among all the groups breastfed their children. 98.3% mothers thought that breastfeeding was essential. Only 1.7% from HIG group did not think breastfeeding is important.

– 49.66% mothers of the entire three group started breast feeding few hours just after birth followed by 34.66% who gave within 1 day. This revealed that majority of the mothers fed colostrum to their children.

– Most of mothers (44.33%) in the study breast fed for 6 months to1 year.

37% of LIG mothers breastfed their children more than 1 year and 18% and 16% of MIG and HIG mothers, respectively only breastfeed there children for 2-3 months only.

The disturbing finding was that a good proportion of mothers did not exclusive breastfed their infant for even up to 4 months. Working status may be one reason for this.

– 26.66% mothers started top milk at age of 1-3 months and 27.33 at 4-6 months. Mean age of starting top milk was 6.99 months, 4.85 months and 5.15 months, respectively among LIG, MIG and HIG group. Data showed that early initiation of top milk was more among MIG group. Reasons of doing this was non satisfactory availability of breast milk (80%); supplementation (24.33%). Other reasons were proper growth (4.3%) and poor health (1.3%).

– 91% mothers used cow milk as top milk.

Weanning/supplementary feeding:

– Mean age starting weaning was 6.17±0.79 months; 5.09±0.57; 5.29±0.66 among LIG, MIG and HIG group, respectively.

– First home made preparation given to most of the children among all the three groups was Dal water

(35.3%) followed by suji kheer (26.3%), Khichri (10.3%) and Dalia (11%).

– It was gratifying that 49% mothers of all groups, 30% of LIG, 50% of MIG, 67% of HIG sought advice about feeding from Doctor/ Dietitians.40.3% relied on elders and 10.6% on other sources.

– Only 35.3% mothers, more from HIG group (64%) followed by MIG (34%) and (8%) LIG group preferred commercial weaning food. Brand preferred more was cereal, followed by Nestum.

– Food generally avoided to children were fried food (38.33%), spicy food (17%) and various hard food (11%) as mother thought them to cause digestive problems and were generally not liked by their children.

– Nutrients supplements were given more among HIG group. 67% mothers of LIG group did not give any supplementation.

Nutrient density provided by traditional weaning foods (100 g) was less than that provided by commercial weaning foods available in market (Table 1). For older children, it could be usually possible to achieve an adequate energy–protein requirement by increasing the daily intake but for small children however the volume of traditional diet might be too large to allow the child to ingest all the foods necessary to cover his or her nutrient needs.

Thus, a need was felt to create awareness among the mothers regarding the importance of complementary foods and wholesome infant feeding practices. This is a call for action. Effective steps are needed to improve the nutrition of children (0-2 years). Nutrition education of mothers with collaboration with health professional government and NGO's can play an important role in preventing various types of nutritional problems at this age.

Recommendation:

From the analysis of the results of the present study following recommendation can be given:

– Efforts should be made for the parents to create awareness of the relationship of Nutrition to health and development of nutrition to health and development as foundation is laid at this age of child. This can be done at the time of childbirth by health professionals and at further visits of mothers.

– Traditional foods are nutritious and are prepared from locally available food. If available and affordable commercial weaning foods are also beneficial and should be included in the diet, as they contain all nutrients in balanced amounts.

– If only traditional foods are included in diet of children, then various improved technologies (as described in Booklet) should be used to increase the nutrients amounts.

– Nutrition education should be an important component of health services to deal with childhood diseases/problems.

Table 1 : Nutritive values of various commercial weaning food and traditional weaning food

Nutrients	Commercial weaning food (100g)			Traditional W.F. (100 g dry weight)			
	Lactogen	Cerlec	Nestum	Dal water	Khichri	Dalia	Suji porridge
Calorie (Kcal)	503	413	375	292.6	324.6	193.3	186.2
Protein (g)	12	15	7	17.33	12.87	6.16	5.29
Calcium (mg)	530	480	240	62.1	38.8	131.45	124.4
Vit-A (µg)	45.0	42.5	33.3	134.8	89.4	69	53
Vit-B_1 (mg)	.35	.8	.55	.34	.09	.38	.21
Vit-C (mg)	50	50	65	6.1	2.88	2	2
Iron (mg)	6	5	14.5	2.85	2.90	1.53	.53
Fat (g)	25.2	9	.6	10.88	10.90	4.47	5.5
Riboflavin (mg)	.75	.6	.36	.15	.14	.14	.1
Niacin (mg)	5	4	8	1.76	2.5	1.37	.32
Carbohydrate (g)	57	67.9	85.6	42.65	54.8	22.14	24.94
Mineral Ash (mg)	2.8	3.2	1.2	2.55	1.82	1.18	1.15

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