



Research Note :

IMPACT STUDY ON PREVENTION OF MALNUTRITION IN CHILDREN THROUGH AMYLASE RICH WEANING FOOD

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ABSTRACT : The paper contains information on infant feeding and weaning practices in the rural communities of a semi-arid district of Rajasthan. The findings have been drawn from a recent survey of 100 rural mothers. The rural women of this area are found to believe in old deep seated beliefs and customs, which in turn deprive their infants from advantages of colostrum (87% discarded colostrum) and nutritionally rich supplements, which otherwise should be supplemented to them at any cost in order to keep them healthy. The practices of prolonged breast feeding and delayed supplementation to infants are rampant in this area. Mean age at weaning (29.1 months) again not only affects the health status of mothers and their children but also leads to the undernutrition among both. The findings of the study necessitate to evolve an exhaustive educative programme dealing with various aspects of infant feeding and weaning practices, keeping in view their traditions, so that the useful practices can be encouraged and harmful ones be prohibited.

Keywords : *Amylase, malnutrition, weaning food, roasted powder.*

Rajasthan is highly affected by malnutrition with an under 5 mortality rate of 57 and prevalence of SAM (severe acute malnutrition) at 2.9%. Prevalence of mal-nutrition in child in Rajasthan is high due to poor complementary feeding practices. For this reason, one weaning food formulation were prepared using germinated flour with the addition of sugar and milk powder or home prepared dal, *khichadi* etc. to meet up the nutritional requirement for the children of Jaipur (Rajasthan). Globally less than 40% of infants under 6 months of age are exclusively breastfed (WHO, 5). Among 19 (28.8%) illiterate mothers of infants of more than 6 months of age majority of them 14 (73.7%) have not practiced exclusive breast feeding for 6 months and is found to be statistically significant. On demand breast feeding schedule seen in 100%. This is in concurrence with a WHO collaborative study (1981) on rural Indian women where 100% of mothers breast fed their infants on demand. Madhu *et al.* (5) in their study in rural Bangalore found that 84% of mothers breastfed on demand. Among 16 (10.1%) infants receiving artificial feeds 37.5% received at the age of 1 month with 1:1 dilution. In rural Delhi, a study by Taneja *et al.* (4) 34.6% mothers introduced artificial feeding before the age of 4 months and 66.7% because of insufficient breast milk. Complementary feeding was introduced in 46.2% infants. Introduction of complementary feeding at 6 months of age and literacy status of mothers is found to be statistically significant (P=0.02). Sufficient breast milk is the reason seen in 26.4% in a study by Taneja *et al.* (4) 3 and in 5.8% in a study by Agarwal *et*

al. (1) for late introduction of complementary feeding. Infant feeding has an important role in health and morbidity profile among children so, to ignore it is to promote mortality, suffering and personal and national economic disaster.

WEANING FOOD

Weaning is a period of transition for the infant during which its diet changes in terms of consistency and sources. From a liquid milk vasa diet, the child is gradually introduced to semisolid food. The complementary foods available in market are almost out of reach for most of the low income family, present study concerning development of weaning food from available food materials e.g. wheat, will be helpful to reduce the problem of malnutrition and essential nutrient deficiency. Moreover, this ingredients are relatively available, cheap and nutritionally rich In addition germination could make them more digestible and increasing its nutritional value. Considering the entire problems an attempt has been taken to develop complementary weaning food (for children 6 months to 1 year) based on germinated wheat flour.

Collection of food materials

The materials used in this study were locally available wheat, milk powder and sugar which were collected from local market.

Preparation of Amylase Rich Food (ARF) From Germinated Wheat

Take 250g of wheat; Add 2-3 volumes of water soak it for 8 hrs.; Drain excess water; Germinated

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wheat in dark for 24-48 hrs.; Sun dry for 5-8 hrs.; Roast gently in flat pan just to remove water; Grind and power the grains (ARF); Store in airtight bottles/jars; Add 5g (one tea spoon) of ARF, after cooking to every food

Serving Procedure

Drinking water was boiled for 5 minutes and allowed to cool. Then 75ml water was added to 25 g of weaning food in a bowl and stirred until the weaning food become smooth and soft paste.

Selection of the Village: Yadavo-ki-dhani (Samod), P.S. Govindgarh

No. of Farm Families : 138; Total no. of Children : 98; Below 6 months to 12 months: 48

Total no. of Mal-nourished Children (Under weight): Target group

Results - Before treatment: 6 months to 12 months (Average)

Weight (kg)		Height (cm)		Hair Colour		Hb Level	
Present status	Recommended	Present status	Recommended	Present status	Recommended	Present status	Recommended
6.6	7-9	50.5	67.5 to 75.7	Brown and dull	Dark black and shiny	8.5	11.0 to 11.5

Results – after treatment: 6 months to 12 months (Average)

Anthropometric measurement

Weight (kg)		Height (cm)		Hair Colour		Hb Level	
Present status	Recommended	Present status	Recommended	Present status	Recommended	Present status	Recommended
8.2	7-9	60.2	67.5 to 75.7	Dark brown and shiny	Dark black and shiny	9.3	11

(i) Below 6 months to 12 months: 28

Treatment

T₁ : Farm women feed only milk and household products such as Dalia, Khichadi, Meshed potato etc. as a weaning food.

T₂ : Milk and other semi-liquid food such as Khichadi, Dalia, Upma etc. required in daily diet (3times in a day) (Recommended Practices)

T₃ : Amylase Rich Food (ARF) which is prepared by the germinated wheat flour in form of roasted powder, one tea spoon per meal should be added in their diet which will increase viscosity in the meal.

Importance of Weaning Foods

Germination was effective as it improves protein quality reduce anti nutritional factor and water absorption capacity of formulated samples though protein quantity of wheat was enough to meet the child's need. However, most weaning age children in developing countries suffer from energy, deficits, but traditional weaning preparation in developing countries

are often inadequate sources of protein and energy. Comparatively, higher protein content (33.32%) and energy content (426.45%) of the prepared weaning food will have a potential to overcome protein energy mal-nutrition of the infant and babies.

After Treatment Percentage Increased

(Average):

(i) Weight Increased (kg)-24%; (ii) Height (cm)-19.20%; (iii) Hb Level-9.41%

Limitations

The study being clinic based the subjects were from the population attending health centres and hence it may not be a representative of the general population. The infants attending the immunization session along with other members of the family were excluded from the study.

REFERENCES

1. Agarwal A., Verma, S., Faridi MMA and Dayachand (2008). Complementary feeding–Reasons for inappropriateness in timing quantity and consistency. *Indian J. Paediatrics*. **75** : 49-53.
2. Anonymous (2004). National guidelines on Infant and Young Child Feeding. Ministry of Human Resource Development. Department of Woman and Child Development. (Food and Nutrition Board). Government of India.
3. Madhu K., Chowdary S. and Masthi. R. (2009) Breast feeding practices and new born care in rural areas. *Indian J. Community Medicine*.; **34** : 243-246.
4. Taneja D.K., Saha R. P Dabas Gautam V.P., Tripathy Y., Mehra M. A. Study of Infant Feeding Practices and Underlying Factors in a Rural Area of Delhi. *Indian J. Comm. Medicine*. **28** (3) (2003-07; 2003-09)
5. WHO (2009). 10 Facts on Breast Feeding, 2009.



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