

# Nutritional Needs of Infants

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**Abstract**— During the first five month, he birth weight is doubled and tripped at the end of first year. At this time nutrition is indispensable, which should be provided by mother herself to her baby poor infant feeding practices at this stage leads to malnutrition, which is responsible for the high infant mortality.

Infants will shape the future of our country and strengthen the nation .therefore we all must strive to insure for optimal growth and development of the infants and children so that they can effectively contribute towards progress of the nation.

Many factors affects the health and development of an infants .optimal growth and development depend upon loving parenting ,responsive care –giving, appropriate medical care, good nutrition, health, sleep, habits and a safe nurturing environment , parents, caregivers, family members and health care professional all contribute in some way to the development of a healthy infant.

**Keywords**— Nutrition, infants, health.

## I. INTRODUCTION

Good nutrition is essential for the growth and development that occurs during an infant’s first year of life .when developing infants are feed the appropriate types and amounts of foods, their health is promoted. Positive and supportive feeding attitudes and techniques demonstrated by the caregiver help the infants to develop healthy attitudes towards foods.

Recommended dietary intake of nutrients for infants I.C.M.R. (2000)

Group Infant	Calories cal (Kg)	Proteins (gm/kg)	Calcium (gm)	Iron (mg)	Retinal (mg/kg)	B1 (mg/kg)	B12 (mg/kg)	Vitamin (mg)
0-6Months	118	2.00	0.5-0.6	1	400	59	71	20
6-12Months	108	1.7	0.5-0.6	1	300	54	65	20

Infants in the age the age group of 0 to 3 months are mostly breast fed. Lactation mothers of poorer section also secrete enough milk for their baby in the first three months. In our country, breastfeeding is traditionally prolonged and continues for any or two years. A well fed mother secretes about 850ml of milk up to three months.

Protein intake of healthy infants is 2gm/kg baby weight six hundred milk like of breast milk supplies about 7.2gms of protein for the baby. Fat content of breast milk is 3.8 percent and about 24.8gms of fat is supplied by the breast milk, supplies 50 to 60 percent of energy; too mg of calcium builds the skeletal structure of the baby’s body.

Vitamins are essential for the rapid development of the infant. Breast milk supplies 140gmm of vitamin A during the six months of life. This is not enough when the requirements are 400mgm of retinal during 0 to six months and 300kcal gm from 6 to 12 months. They utilize the reserves in the body.

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Vitamin a deficiency is very common in our children .in India there is plenty of sunshine which is a rich source of vitamin d and 200 i.e. of this vitamin d is sufficient to meet the requirement and 20 mgm of vitamin c is recommended for infants. [ICMR2000].

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’Breast milk is best for infants’ is a slogan rightly emphasizing the important of breastfeeding breast milk provides most of the nutrients, which infant require for healthy growth and development. In first few days after birth, mother’s breast produces colostrums, a protein rich food which supplies the body witch valuable antibodies against infraction (Luria, 2006).

Breast milk has just the right amount of fat, sugar, water and protein that is needed for a baby’s growth and development,(Mother and children benefit from breast feeding,2009).Because breast feeding uses an average 500 calories a day, it helps the mother to lose weigh after giving birth (Dewey K.G. et al., 1993 )

## II. STUDIES RELATED TO NUTRITIONAL NEED OF INFANTS

An in-depth study of nutritional knowledge and education of mothers shows that it Effect mothers and child’s health and nutritional status of infant’s health.

Mehta et al., (1972) observed that glucose water given to 5375 per cent babies with the belief it would prevent dehydration before establishment of lactation.

Savage et al., (1984) found that centuries old custom of giving inaugural feeds before regular breast feeding was more religiously followed in urban localities than in rural localities. Honey was the first choice of 71 per cent urban and 49 per cent rural mothers. Even "Ganga Jal" (water of River Ganga) in urban area and cow urine in rural areas were administered to purify the child.

ICMR (1984) in a survey conducted in six major cities of India found that during first 24 hours, the majority of newborns in all the regions received sweetened water and in some places honey was used.

Gopujkar et al., (1984) found that the usual pre-lacteal feeds in Bombay were sweetened water, animal milk and honey.

Ludvigsson F.J. (2002) concluded that pre-lacteal feed had been given to 88/518 infants (17%) formula to 54, tea to 27, honey to 1, other types of drink to 1, and a special diet because of illness to 4. No data were recorded as to the amount of pre-lacteal feed given.

Ludvigsson (2003) conducted that the rate of exclusive breast feeding in Bolivian infants fell rapidly during the first months of life. Avoidance of pre-lacteal feeding and use of colostrums were associated with improved breastfeeding patterns.

Liqian et al., (2007) conducted longitudinal study of infant feeding of Hangzhou, China among 638 mothers while in hospital over all 26% of the infants were given pre-lacteal feeds and mother's education were significantly related to the decision to give a pre-lacteal feed. Mothers who were more educated (received at least 12 years of education) were less likely to give pre-lacteal feeds to their infants.

Dakshayani B. (2008) reported that sixty per cent of the mothers did not use pre-lacteal feeds. Many women reported that their pre-lacteal feeds were given as cleansing agents. These pre-lacteal feeds interfere with the suckling stimulation and prolactin production, but also often these feeds are the source of infection to the newborns.

Narayanan et al., (1974) and Katiyar et al., (1981) reported that 90 per cent of mothers in rural and urban localities discarded colostrums. Similar results were found by

As per ICMR Report (1984) a great majority of mothers in Poona and Gandhigram areas manually extracted the colostrum and discarded it while in contradiction to it, a majority of mothers fed colostrum to their infants in Hyderabad and Coimbatore. In Delhi area mothers belonging to Muslim and Christian communities avoided colostrum the mothers discarded colostrum with the belief that it was bad for child's health.

Hasan J, (1991) reported that Almost all mothers (200 infants mothers) believed ghutti cleanses the intestine and that colostrum is harmful. They discarded the colostrum.

Earland et al., (1977) found that where employed mothers introduced foods earlier and relied more on commercial baby foods with significantly more spending per week at the time of the survey it was concluded that maternal employment does

influence infant feeding practices.

Gopujkar et al., (1984) the scientific report of Nutrition foundation of India has compiled data on breast feeding from three metropolitan cities of Calcutta, Bombay and Madras showing that even at the end of the first year, than 90 per cent of infants in Calcutta 85 percent in Bombay and 70 per cent at Madras were still receiving breast milk.

Bella (1997) was carried out a cross sectional study on 285 female students (18-29 years old) from the science and arts faculties of the Damman College for girls in Eastern Province, Saudi Arabia. It was concluded that the attitude of young Saudi.

### III. DISCUSSION

For proper growth and development, an infant must obtain and adequate amount of essential nutrients by consuming appropriate quantities and types of foods. During infancy nutritional requirements per pound of body weight are proportionally higher than at any other times in the life cycle because it is a period of rapid growth. Although here are many nutrients known to be need by human requirements have been estimated for only a limited number of these.

At no other time in the life the food is as important as in the first year after birth. The kind, amount and sanitation of food as well as the manner of feeding require particular attention, which pays dividend in the forms of healthy happy baby.

Infants in the age ground of 0 to 3 months are mostly breastfed. Lactating mothers of poorer section also secrete enough milk for their baby in the first three months. In our country, breast feeding is traditionally prolonged and continues for one or two years. A well fed mother secretes about 850 ml of milk up to three months.

Breast feeding is the feeding of an infant or young child with breast milk directly rather than using infant formula bottle or other container. Babies have a sucking reflex that enables them to suck and swallow milk.

"Breast milk is best for infants" is a slogan rightly emphasizing the importance of breast feeding. Breast milk provides most of the nutrients, which infant require for healthy growth and development. In first few days after birth, mother's breast produces colostrum, a protein rich food which supplies the baby with valuable antibodies against infection (Laroya, 2006).

Breast milk has just the right amount of fat, sugar, water and protein that is needed for a baby's growth and development. Mothers and Children benefit from breastfeeding, (2009). Because breast feeding uses an average 500 calories a day, it helps the Mother to lose weight after giving birth (Dewey K.G. et al., 1993).

### IV. CONCLUSION

Nutritional requirements of individuals vary in respect to genetic and metabolic difference. For all infants however, the basic goal includes satisfactory growth and avoidance of deficiency status. Good nutrition contributes to the prevention of acute and chronic illness and to the development of physical and mental potential and should provide reserves for

stress.

Experts recommend that infant must be breastfed within one hour of birth, exclusively breastfed for the first 6 months, and then breastfed until the age of two years along with age-appropriate, nutritionally adequate and safe complementary food. [Kramer M.(2002), Baker R. (2003), Agostonic (2003). Awater.M. (2009)]

Breast feeding promotes health for both mother and infant and help to prevent disease (Riordan J.M.1997), Bartick M 2010, and Falco M.2010.

Artificial feeding is associated with more mortality from diarrhea in infants in both developing and developed countries. [Hortons et al. 1996]

The WHO recommends exclusive breast feeding for the first six months of life, after which "infants should receive nutritionally adequate and safe complementary foods while breast feeding continues up to two years of age or beyond (WHO 2004 & WHO 2007).

The American Academy of Pediatrics recommends exclusive breast feeding for the first six months of life. Furthermore, breast feeding should be continued for at least the first year of life and beyond for as long as mutually desired by mother and child [AAP 2004].

According to ICMR 2000 "One of the most highly effective preventive measures a mother can take to protect the health of her infant is to breastfeed.

During breast feeding, approximately 0.25-0.5 grams per day secretory, IgA antibodies pass to the baby via the milk (Breast feeding promotion, 2007). This is one of the most important features of colostrum, the breast milk created for newborns [Jackson et al. 2006). The main target for these antibodies are probably microorganism in the baby's intestine. There is some uptake IgA to the rest of the body. (Vukavic T (1983). But this amount is relatively small (Weaver LT et al. 1991) Also breast milk contains several anti-infective factors such as bile salt stimulated lipase (Protecting against amoebic infections) and lactoferrin, Which binds to iron and inhibit the growth of intestinal bacteria [kunz et al 1991).

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