IAP POLICY ON INFANT FEEDING

Background

Appropriate nutritional practices play a pivotal role in determining optimal health and development of infants. Concerned by the lack of uniform guidelines for appropriate infant feeding practices in the Indian context, the IAP Subspecialty Chapter on Nutrition conducted a Workshop to define a Policy on Infant Feeding *(Appendix)*. Subsequently, these recommendations were endorsed as the official Indian Academy of Pediatrics Policy on Infant Feeding and as National Guidelines on Infant Feeding by the Food and Nutrition Board, Department of Women and Child Development, Ministry of Human Resource Development, Government of India.

Contents of the IAP Policy on Infant Feeding

Ideal infant feeding comprises *exclusive* breastfeeding for 4 to 6 months followed by sequential addition of semi-solid and solid foods to complement (not replace) breastmilk till the child is gradually able to eat normal family food (around one year). The latter period is also referred to as weaning. The term weaning does not denote termination of breastfeeding.

Appropriate feeding is crucial for the healthy growth and development of the infant. However, lack of confidence and widespread ignorance and misconceptions frequently result in improper management of infant feeding. The prominent areas of concern include discarding or minimal feeding of colostrum or delayed initiation of breastfeeding by nearly 80% of mothers, non exclusive breastfeeding by 85-90% in the first four months of life, unnecessary utilization of commercial infant milk foods and animal milks, early termination of breastfeeding and premature or delayed introduction of semi-solids which may be contaminated, low in caloric density and fed less frequently. These inept feeding practices, directly or indirectly, contribute substantially to infectious illnesses, malnutrition and mortality in infants.

The Policy on Infant Feeding aims at promotion of suitable feeding practices to advance child care, growth and development, reduce the prevalence of protein energy malnutrition (PEM), Vitamin A deficiency and infectious diseases, particularly diarrhea, and improve survival. The Policy focuses on the strategy of educating and motivating the families to adopt proper infant feeding methods through the existing health infrastructure and other development programmes for women and children.

A. Appropriate Infant Feeding Practices

I. Breastfeeding

1. Advantages of Breastfeeding

It is a proven scientific fact that all commercial infant milk foods and animal milks are inferior to breastmilk: (i) Maternal milk is nutritious food for infants which is readily available, simple to feed, hygienic, develops emotional bonding and prevents allergic disorders; *(ii)* Breastfeeding protects against several infections including diarrhea and respiratory infections, and saves lives. An exclusively breastfed infant is about 14 times less likely to die from diarrhea, 3 to 4 times less likely to die from respiratory disease and 2 to 3 times less likely to die from other infections than a non breastfed infant; *(iii)* Breastmilk is much more economical than artificial milk or powdered milk food—the average cost of feeding a 6 month old infant for one month on infant formula may even be equal to the average monthly per capita income; *(iv)* "Exclusive" breastfeeding exerts strong contraceptive effect in the first 4-6 months post partum; *(v)* Maternal benefits include earlier termination of post partum bleeding and protective effect against breast and ovarian cancer.

2. Preparation for Breastfeeding During Pregnancy

The expectant mothers, particularly primiparas and those experiencing difficulties with lactation management earlier, should be motivated and prepared to exclusively breastfeed. This should be achieved by educating, through a personal approach, about the benefits and management of breastfeeding. In the last trimester of pregnancy, breast and nipples should be examined and relevant advise given. Expectant mothers should be counseled to eat an extra helping of the family food with some green vegetables. Additional rest of half to one hour and wherever possible, switching to relatively lighter work during the last trimester should be propagated.

3. Starting Breastfeeds

Practically all mothers, including those with mild to moderate chronic malnutrition, can successfully breastfeed. Soon after delivery, the mother should be allowed to keep the newborn with her (rooming-in). After a normal delivery, babies should receive the first breastfeed as soon as possible and preferably within one hour of birth. During this period and later, the normal newborn should not be given any other fluid or food like honey, "ghutti", animal or powdered milk, tea, water, glucose water, *etc.* since these are potentially harmful.

It is essential that the baby gets the first breastmilk called colostrum which is thicker and yellower than later milk and comes only in small amounts in the first few days. Colostrum is all the food and fluid needed at this time—no supplements are necessary, not even water.

The mother, especially with the first birth, may need help in the proper positioning for breastfeeding. Breastfeeds should be given as often as the baby desires and each feed should continue for as long as the infant wants to suckle.

After a cesarean section, breastfeeding should be started as soon as possible and preferably within z4 hours of delivery. The mother will need help to put the baby to the breast for a day or two.

4. Exclusive Breastfeeding

During the first few months and as far as possible, till the age of 4-6 months, *"exclusive" breastfeeding* should be practiced; young infants do not require any additional food or water or any other fluid such as tea, herbal water, glucose water, fruit drinks, *etc.* Breastmilk alone is adequate to meet the hydration requirements even under extremely hot and dry summer conditions of the country.

5. Diet of Lactating Mother

A lactating woman should be advised to eat an extra helping of the family food and regular consumption of green leafy vegetables. There is no need to avoid any specific foods; however, use of excessive caffeine, tobacco, and alcohol, *etc.* should be discouraged.

6. Important Special Situations

6.1. Low Birth Weight Infants

Mother's milk is the best food for the low birth weight babies. The borderline term and growth retarded low birth weight babies can suckle fairly well at the breast and should be fed on demand. However/ low birth weight and other high risk infants who cannot suckle, should be given expressed breastmilk in preference to formula feeds by appropriate techniques such as clean cup and spoon, tubes, "paladai", *etc.* The child should be put directly to the breast as soon as possible.

6.2. Common Illnesses in the Infant

Breastmilk is the most easily digestible food for an ill baby. Feeding human milk is actually beneficial in common infantile ailments including diarrhea and acute respiratory infections. Breastfeeding must, therefore, be ensured during such illnesses. The child may suckle less vigorously or for a shorter time and should receive the feeds at more frequent intervals. However, breastfeeding and for that matter, any type of feeding should not be attempted in critically ill infants.

6.3. Illness in Mother

Most common maternal illnesses do not require discontinuation of breastfeeding. Breastfeeding is recommended even with mastitis, breast abscess and other infectious illnesses including urinary tract infection, tuberculosis, human immunodeficiency virus (AIDS), hepatitis and other viruses. However, physically incapacitating systemic illnesses may prevent or necessitate discontinuation of breastfeeding. Psychosis is a contraindication for breastfeeding on account of abnormal maternal behavior. In such situations, wherever feasible, the breasts should be emptied frequently to maintain lactation.

6.4. Drug Intake in Mother

Drug therapy should be avoided in lactating mothers and when necessary, a safer alternative should be prescribed. Drug intake should preferably be timed during or immediately after breastfeeding. Majority of the commonly used preparations are compatible with safe breastfeeding. Only a few drugs necessitate discontinuation of breastfeeding

like anti cancer and anti thyroid therapy, radioactive preparations, ergot, gold salts, lithium, *etc.*

6.5. Breastfeeding Substitues

If a mother can not for some reason exclusively breastfeed her young infant (below 4 to 6 months age), for example a working mother, her expressed milk should be given to the baby in preference to other animal or formula milks.

Rarely, if it is unavoidable—at least partially—to give non human milk in the first 4 to 6 months of life, undiluted milk normally consumed by the family should be utilized and commercial infant milk foods should be strongly discouraged. In infants, part of excessive fat in buffalo's milk should be removed by separating the cream from milk after boiling and cooling to room temperature. Young infants who are solely on cow's or buffalo's milk need additional plain water supplementation. A clean cup and spoon should be used instead of a bottle with nipple.

II. Addition of Semi-solid and Solid Foods

1. Importance of Appropriate Addition

After 4-6 months of age many mothers do not have enough milk to form the sole source of nutrition for the infant and addition of other foods is, therefore, essential to prevent growth faltering. Delayed introduction of additional foods in an exclusively breastfed infant results in malnutrition. Improper introduction of these foods is fraught with dangers of: *(i)* diarrhea due to infection from unhygienic preparation, and *(ii)* malnutrition related to inadequate calorie intake due to low frequency of feeding and low calorie density of the additional foods.

2. Timing of Introduction of Semi-solids

Semi-solid foods- to supplement breastmilk should be introduced between four to six months of age and preferably at six months in poor communities. Within this age range, the individual decision should be guided by the growth performance and physiological maturation of the infant. To minimize any interference with the normal course of breastfeeding, semi-solid foods should preferably be given between breastfeeds.

3. *Continuation of Breastfeeding*

At first breastmilk is the baby's main food and the weaning diet is extra. Later, even when more semi-solid food is added, breastmilk still continues to remain an important component of the infant's diet. Breastfeeding should continue for as long as feasible and preferably well into the second year of life.

4. Feeding Guidelines

4.1. Formulate Additional Foods from the Usual Family Diet

The weaning (complementary) diet should be cooked from the usual family foods in a thickened but mashed (softened) form and variety attempted. Use of commercial weaning foods should be avoided, as far as possible.

Family pot feeding—giving the family foods in a mashed form, without or before adding hot spices or extra salt, and providing something extra like oil/fat and green vegetables is best since it is economical, saves time and the infant grows up accustomed to the traditional foods.

4.2. Enhancing Nutritive Value

The nutritive value of these foods should be enhanced by enrichment of the staple cereal with pulses (for proteins), oil/fat/sugar (for Increasing calorie density) and green vegetables (for Vitamins especially A, B and C, and iron). Advantage should be derived from the usual diet pattern of a mixture of cereals and pulses (idli, dosa, pongal, khichri, missi roti, *etc.)* by addition of some oil/fat/sugar and green vegetables. Dilution of weaning diet and use of watery gruel and lentil or vegetable water should be strongly discouraged. Use of animal milk, milk products, fruits, eggs, fish or meat, if culturally acceptable and affordable, can be encouraged. The bulk of the weaning food can be reduced by malting of grains/cereals.

4.3. Frequency, Amount and Consistency of Feeding—Broad Age Related Guidelines

Infants vary grossly in the amount that they require and eat. In general, therefore, mothers should be advised to prepare and offer a mixed nourishing diet based on the usual family foods and leave it to the baby to take as much as is desired. The child's general activity and growth as judged by the family and the health worker and confirmed by weighing as often as possible depending on the facilities, is good evidence of adequate food intake. However, the following broad feeding guidelines can be offered.

4.3.1. Four to Six Months

Between the age of 4-6 months one can start with cereal based porridge (suji, wheat flour, ground rice, ragi, millet, *etc.)* enriched with oil/fat and/or animal milk (if possible) or mashed fruits like banana (or other seasonal fruits like papaya, mango, *etc.).* One or two teaspoonfuls are enough to start with and the quantity and frequency should be gradually increased. The baby at the end of this phase should be consuming about 50 to 60 g of food (half a cup) per day.

4.3.2. Six to Nine Months

From 6-9 months of age the baby should be used to feeding from the family pot (mashed rice with dal, khichri, a little chappati softened in dal or milk, dahi, mashed vegetables, fruits, *etc*. enriched with some oil/fat and green vegetables). They need four to five weaning meals a day, in addition to regular breastfeeding.

4.3.3. Nine to Twelve Months

Near about 9 months, babies can start chewing on soft food. The food at this time does not need to be mashed but, if required, can be chopped or pounded. A variety of household foods should be given four to five times a day and the quantity gradually increased. By about one year, young children should be eating foods cooked for the family but at least four to five times a day. A child of one to two years needs about half the food that the mother eats.

5. *Preparation and Storage of Weaning Foods*

Careful hygienic preparation and storage of weaning foods is crucial to prevent contamination. The hands should be thoroughly washed with soap and water before preparation and

TABLE I—*Operational Guidelines for Promotional Activities*

Contact point	Promotional activity
Antenatal check ups Maternal tetanus toxoid administration	Inform benefits and motivate for exclusive breastfeeding, particulalry primipara & those experiencing difficulty earlier Examination of breasts and nipples in third trimester Advise adequate food and rest Encourage feeding of colostrum; discourage prelacteal feeds
Delivery	Ensure first breastfeed of colostrum within one hour of birth Demonstrate art of breastfeeding & correct positioning especially for first child Practice rooming-in Prevent intake of other fluid/food Advise exclusive breastfeeds for first 4-6 months
Primary immunizations for DPT and OPV (1st, 2nd and 3rd doses)	Confirm exclusive breastfeeding Sort out practical problems in lactation management *Third dose*-Advise timing of addition of semi-solids within scope of usual family foods; provide broad age related guidelines; stress on energy density of additional foods, consistency, feeding frequency and hygienic preparation
Between 4-6 months of age of infant—just prior to introduction of semi—solids (*If feasible*)*	Advise timing of addition of semi-solid foods within scope of usual family foods Stress hygiene and energy density of weaning foods Provide broad age related guidelines for amount and frequency of semi-solid feeds Ensure continued breastfeedin
Measles immunization	Confirm satisfactory progress of the addition of semi-solids Sort out practical problems Stress hygiene, energy density and ensure broad age related guidelines for amount and frequency of feeds Confirm breastfeeding and advise continuation till 1-2 years age
Common illnesses	Ensure food intake (especially breastmilk) as far as possible Perform age related promotional activity for adoption of appropriate infant feding practices Stress hygiene Advise extra food after illness

* In case there is a contact at this age or if it is feasible.

feeding, and the cooking place and utensils must be clean. The foods should be preferably fresh, cooked or boiled well and if feasible, prepared immediately before they are to be eaten. If food has been kept for over two hours, it is desirable to reheat it thoroughly until it boils before consumption.

6. Feeding During and After Common Illnesses

Feeding should continue during common ailments like diarrhea, respiratory infections, *etc.* unless the medical condition of the child contradicts it. Restriction or dilution of food should be discouraged. Despite anorexia, the infant can be coaxed to eat small quantities but more frequently (every 2-3 hours). After illness, the child should be provided more than the usual diet to regain the weight lost.

B. Operational Guidelines for Promotion of Proper Infant Feeding

I. Through Child Survival and Safe Motherhood (CSSM) and Other Developmental Programmes for Women and Children

The Policy should form an integral part of the Child Survival and Safe Motherhood Programme (CSSM) of primary health care *(Table I).* In addition, it should be effectively operationalized through the managers and functionaries of the ongoing Programmes primarily related to Women and Child Development such as Integrated Child Development Services (ICDS), Urban Basic Services for the Poor (UBSP), Development of Women and Children in Rural Areas (DWCRA) and Programmes implemented by the Non-Government Organizations (NGO's). The managers and functionaires of these Programmes should be practically oriented to the correct principles of infant feeding and this subject should form an essential part of the nursing and undergraduate medical curriculum. All health care providers should actively educate and motivate the mothers and other relatives for adoption of appropriate infant feeding methods. The medical and paramedical personnel of the Departments of Pediatrics and Obstetrics and Gynecology should perform the central role for institutional deliveries. In addition, services of other community level workers and involvement of formal and non formal education, media and voluntary organizations is recommended to be utilized for the effective implementation of the Policy.

In this context, due attention should be given to "The Infant Milk Substitutes, Feeding Bottles and Infant Foods (Regulation of Production, Supply and Distribution) Act of Parliament, 1992 and it's contents adhered to.

II. Institutional Promotion of Appropriate Breastfeeding

In order to actively protect, promote and support breastfeeding, every facility providing maternity services and care for newborn infants should practice the following ten steps:

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.
2. Train all health care staff in skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within an hour of birth.
5. Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants.

6. Give newborn infants no food or drink other than breastmilk, unless medically indicated.
7. Practice rooming in—allow mothers and infants to remain together -24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

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APPENDIX-*Members of the Workshop on Policy on Infant Feeding*

The following members of the Indian Academy of Pediatrics (IAP) comprised the "Expert Group on Policy on Infant Feeding" under the auspices of the IAP Sub-Speciality Chapter on Nutrition. They contributed to the finalization of the document by either attending the "Workshop on Policy on Infant Feeding" in Hotel Ashok, New Delhi on February 9,1994 at 4 pm, or in absentia Ct) by communicating their comments on the draft document circulated a month prior to the meeting. The recommendations of this Expert Group were subsequently endorsed as the official IAP Policy on Infant Feeding at the IAP Executive Board meeting in July, 1994.

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