



# Status of Infant and Young Child Feeding Uttarakhand 2006



**Department of Women  
Empowerment and Child  
Development, Uttarakhand**



**Breastfeeding Promotion  
Network of India (BPNI)**

*A Report of the Study from 13 Districts*

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**Dr. Arun Gupta**

# Executive Summary

The survey on infant feeding practices in the state of Uttarakhand was assigned to BPNI by Department of Women Empowerment & Child Development, Uttarakhand during the year 2005-06 as a means to develop a state plan of action to improve infant and young child feeding practices. Assessment being the fundamental first step to improve any given situation, in this case quantitative and qualitative aspects of feeding practices were examined and documented. Prevalent practices and role that others play in determining feeding practices in community were studied which provided us an insight where action is required to improve the situation.

The findings of this survey are documented in the State report and district specific reports. While the State report provides information on quantitative data, district reports take care of all other relevant information on its qualitative aspects as well.

## Infant feeding practices

The survey reveals that timely initiation of breastfeeding within 1 hour was 38% with wide variation in each district ranging from 9% to 79%. Use of prelactael feeding was found to be quite common in almost every other child. 'Gur', water, milk and honey were mostly given.

Exclusive breastfeeding for 6 months was only 21%, which is quite a disappointing finding in respect of quality of nutritional inputs during this critical period and a factor that determines health

outcomes in infancy. Percentage of babies receiving complementary feeding between 6-9 months was found to be very encouraging though there is a need to look at its quality and quantity as percentage of underweight under 3 children happens to be still very high.

## *Qualitative aspect of infant feeding in the community and hospitals*

In each district specific report, it was found that there is consistency in findings of quantitative survey. Details of feeding practices and related factors were also recorded. For example, it showed that prelacteal feeding is very much prevalent in every district, and the belief that stomach of the newly born can't be cleaned without honey/ghutti, led to this practice in some districts. Skilled-counseling on infant feeding was found missing at all levels. In the hospitals, it was found that breastfeeding education was not normally provided to mothers during antenatal visits and 'ten steps of successful breastfeeding' were missing. Health care staff was not much aware about IMS Act.

## Recommended strategies

Findings of the survey would be very useful in developing a state plan of action to improve feeding practices in Uttarakhand. Particularly useful would be specific information that is available from districts for making decentralized plans for each district. Family level interventions are necessary to ensure timely initiation and exclusive breastfeeding, which requires IYCF counseling, must be delivered

as a mandatory “service’ in all child care and health programmes. Home visits/ multiple contacts with periodical monitoring of these services needs to be in place. Having breastfeeding/IYCF support centers managed by fully trained and skilled women counsellors would make a productive strategy in the community. These trained counsellors could take into account local conditions and beliefs while counselling families and help build confidence of

mothers to enhance their milk supply. Implementing Baby Friendly Hospital Initiative (BFHI) can be another useful action in the health facility, both private and public, to change hospital practices and routines to support breastfeeding right at birth and later. On top of all this action at family/community level, there is a serious need for coordination and budgeting at the State level.

# Introduction

This is the report of a state level survey on infant and young child feeding practices conducted in all 13 districts of Uttarakhand. Department of Women Empowerment & Child Development assigned this work to BPNI during the year 2005-06.

This survey done in three phases included assessment of the feeding practices both quantitatively and qualitatively.

1. In the phase I, quantitative data on percentage of women practicing timely initiation of breastfeeding within one hour, exclusive breastfeeding for the first six months, and complementary feeding between 6-9 months was collected. Related practices like prelacteal feeding, bottle-feeding and frequency of breastfeeding was also recorded along with basic demographic indicators. This was accomplished by interviewing mothers of 0 - 9 months old infants.
2. During the phase II, qualitative data (barriers and opportunities for optimal infant feeding practices) was collected through in-depth interviews of mothers, pregnant women, mothers-in-law, health workers and fathers-in-law/husbands.
3. Phase III data collection included infant feeding practices in the hospitals through interviews of the doctors, nurses, storekeepers, chemists and mothers delivered at hospitals.

The state report briefly captures background information, objectives of the study and methodology apart from findings presented in tables, maps and graphics. Based on these findings recommendations for future action are provided in the concluding section.

Qualitative information of phase II and III is given in the district specific reports, which carry the full details of the survey both quantitatively and qualitatively. District specific reports which are made available separately discuss the reasons that help or hinder these practices.

The report would be useful for development of the state plan of action with a district specific component, which was the objective of this survey. Programme managers of child health and development in the government and UN agencies working in the state should find it helpful. It would also be of use to health professionals who are concerned with the health of the mother and the child. Information gathered at local level can be helpful to communication persons to design behavior change strategies that would achieve high rates of optimal infant and young child feeding particularly timely initiation of breastfeeding within one hour and exclusive breastfeeding for the first six months.

# Background

In India, while the infant mortality rate (IMR) has shown decline, there still remains the need to rapidly bring it down further. This will require action to accelerate infant and neonatal survival to achieve even the 10th 5-year plan goal, to reduce IMR to 45 per 1000 live births, which the 11th Plan seeks to reduce it further to 28 by 2012. Problems such as infant and young child under nutrition, poor maternal and adolescent nutrition, gender discrimination, all continue to be the major challenges to achieve this goal. NFHS-3 shows Uttarakhand IMR is 42 per thousand.

Even today, every fourth infant born in India is low birth weight and every second young child is under nourished by the time they are 3 years, reflecting inadequate nutrition inputs during infancy, poor caring practices related to health, hygiene, psychosocial care, and discrimination for girls and women.

Inadequate infant and young child feeding practices contribute to the sharp increase in child under nutrition - almost fourfold between the first few months of life and the completion of two years of age. Recently released UNICEF's report card on nutrition, says that each year 600,000 under-5 child deaths could be averted in India if a handful of

simple health interventions along with correct infant feeding practices were to be universally applied.<sup>1</sup>

It is estimated that worldwide 10.9 million children under five years of age die every year, of which 2.42 million deaths occur in India alone. The Global Strategy on Infant and Young Child Feeding<sup>2</sup>, adopted by World Health Assembly (WHA), recognizes that two-thirds of these deaths occur during the first year and is related to inappropriate infant feeding practices. Out of these under five deaths, 75% occur during infancy according to a document of the 10th 5-year plan on nutrition which means about 1.6 million deaths of infants in India., these are mostly due to preventable sickness like diarrhea, pneumonia and neonatal infections and for all these, three, exclusive breastfeeding for the first six months has been found to be the number one evidence based intervention.

This statement is further strengthened by a research on accelerating child survival published in the Lancet, which clearly establishes that universal breastfeeding (exclusive breastfeeding for the first six months and continued breastfeeding for the next six months) is the single most effective child survival intervention - it reduces under-5 mortality by 13 to 16 percent. Adequate complementary feeding after

<sup>1</sup> UNICEF (2006). Progress for Children. A report Card on nutrition; Number 4, May 2006. UNICEF New York.

<sup>2</sup> WHO (2003), "The Global Strategy for Infant and Young Child feeding.", WHO, Geneva

<sup>3</sup> Jones G, Steketee RW, Black RE, Bhutta ZA, Morris SS and the Bellaagio Child Survival Study. Lancet, 362, July 5, 2003, 65-71

<sup>4</sup> Karen M. Edmond, Charles Zandoh, Maria A. Quigley, Seeba Amenga-Etego, Seth Owusu-Agyei and Betty R. Kirkwood. Delayed Breastfeeding Initiation Increases Risk of Neonatal Mortality. *Pediatrics*, 2006;117;380-386  
<http://www.pediatrics.org/cgi/content/full/117/3/e380>



six months could prevent an additional 6 percent of all such deaths. Extending the coverage of these two optimal infant and young child feeding practices to 90% could prevent 19% of all deaths among children under five<sup>3</sup>.

A recent study from rural Ghana reveals that 22% of neonatal deaths could be averted if all mothers started to breastfeed within an hour of birth.<sup>4</sup> The effect was shown to be independent of exclusive breastfeeding.

Recently released WHO Child Growth Standards are based on the breastfed children, as the norm for growth and development. WHO reiterates that breastfed infants should be the standard for measuring healthy growth. While it is known that children fed on breast milk substitutes gain weight quickly compared with breastfed babies, such bonny babies face many health problems at a later stage.

The rationale behind promotion of optimal infant and young child feeding, especially breastfeeding, is not confined to its singular contribution to improved child survival and healthy growth. Optimal infant feeding also contributes to improved development outcomes and better active learning capacity in young children. The World Bank has produced a comprehensive report on the importance of improved nutrition on the reduction of poverty. Central to the report's recommendations is the firm statement that steps to prevent malnutrition MUST occur during pregnancy and the first 2 years of life.<sup>5</sup>

Scientific evidence is available that breastmilk alone is the ideal nourishment for infants for the first six

months of life, and their 'first immunization'. It contains all the nutrients, antibodies, hormones and antioxidants that an infant needs to thrive - the 'nurture provided by nature'. It protects babies from diarrhoea and acute respiratory infections, stimulates their immune systems and thereby prevents and reduces malnutrition, morbidity and mortality in infants and young children.

Promotion of optimal infant and young child feeding practices is crucial for preventing malnutrition & early growth faltering; reducing infant and neonatal mortality and for promoting integrated early child development. Breastfeeding is a critical entry point for ensuring progressive fulfillment of children's rights to survival, growth and development to full potential, without discrimination.

Breastfeeding also creates a strong bond between the mother and the child, stimulating development of all five senses of the child, providing emotional security and affection, with a lifelong impact on psychosocial development. New research also indicates that it confers cognitive benefits, thereby enhancing brain development and learning readiness. Responsive care and feeding is another way in which infants participate actively in their own development. The benefits of breastfeeding for maternal health, well-being and empowerment including those for birth spacing are also well established.

**National Plan of action for children, 2005 underlines** India's commitment for children manifested in several articles of the constitution dedicated to children. It also spells that the rights of child articulated in the constitution of India and

<sup>5</sup>World Bank. (2006). Repositioning Nutrition as Central to Development: A Strategy for Large-Scale Action . <http://siteresources.worldbank.org/NUTRITION/Resources/281846-1131636806329/NutritionStrategy.pdf>

the CRC should work in synchrony to ensure all rights to all children. Building on these provisions and in recognition to India's commitment to the Millennium Development Goals(MDGs) and the World Fit for Children, the state shall work to progressively extend these guarantees and protections to all children.

India has become one of the first countries in the world to update its legislation to protect, promote and support breastfeeding, in harmony with the new Global Strategy for Infant and Young Child Feeding. The enactment of the *Infant Milk Substitutes, Feeding Bottles and Infant Foods (Regulation of Production, Supply and Distribution) Act, 1992 (as Amended in 2003)* is a major step forward in ensuring the best possible start in life for young children. This Act regulates marketing and supply of infant milk substitutes, feeding bottles and infant foods. It mandates that all mothers be empowered so that their infants receive exclusive breastfeeding for the first six months. Thereafter, they shall receive optimal complementary feeding, along with continued breastfeeding up to two years of age or beyond. However there is a strong need to put the components of IMS Act in our programmes.

The National Guidelines for Infant & Young Child Feeding launched in 2004 and revised, updated in 2006, call for concrete action plans and earmarked resources for improving feeding practices and lists responsibilities of several stake holders.

### **Status of Infant & Young Child Feeding and 10<sup>th</sup> and 11<sup>th</sup> Five-Year Plan Goals for India**

In the major strategies to stated commitments of the tenth plan and now in the 11th plan include recognition of the early childhood below 3 years and

infancy in particular as critical for the development and survival of infants and young children. This period is most crucial and vulnerable period in the life for laying the foundations for the achievement of full human development potential and cumulative life-long learning.

Data from NFHS -2 reflects that in India, 47.0 percent (percentage below -2 SD) children under the age 3 years are underweight.<sup>6</sup> According to the NFHS-2, in India, breastfeeding within one hour was initiated in only 15.8 percent of infants, which reaches 37.1 percent within the first 24-hours; only 55.2 percent of children of 0-3 months and 27.3 percent of 4-6 months were exclusively breastfed. According to the Multiple Indicator Cluster Survey (MICS) 2000 of UNICEF India, the percentage of 'true' exclusively breastfed babies between 0-3 months is even lower (15.6 percent). Initial Data on Infant and Young Child Feeding practices in Uttarakhand is also available from NFHS-3; according to this report, 32.9% infants begin breastfeeding within one hour, 31.2% exclusive breastfeeding for the first six months, and 51.6% received timely complementary feeding.

After the age of six months, introduction of complementary feeding with continued breastfeeding is critical for meeting the protein, energy, and micronutrient needs of the children. However according to NFHS-2, in India, it is delayed in the case of a substantial proportion of children. Only 33.5 percent of children (6-9 months old) who are breastfed consume solid or mushy foods.

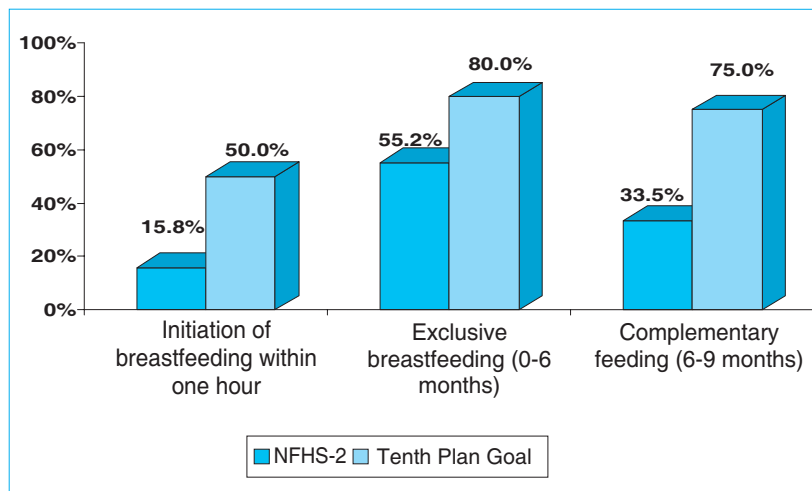
The 10th Five Year Plan for India aims to:

- ⇒ improve the initiation of breastfeeding within one hour from 15.8 percent to 50 percent.

<sup>6</sup>International Institute for Population Sciences (2000), National Family Health Survey (NFHS-2): India (Mumbai: IIPS).

## Recommended Optimal Infant and Young Child Feeding Practices

- ✓ Starting breastfeeding immediately after birth, preferably within one hour.
- ✓ Exclusive breastfeeding for the first six months.
- ✓ Continued breastfeeding for two years or beyond.
- ✓ Introducing appropriate and adequate complementary feeding after 6 months.



Note: NFHS 2 data for exclusive breastfeeding is for the 0-3 months period

**Fig. 1 Infant Feeding Practices: Tenth Plan goals for India**

- ⇒ improve exclusive breastfeeding during 0-6 months from 55.2 percent (at 0-3 months) to 80 percent
- ⇒ improve complementary feeding figures from the current level of 33.5 percent to 75 percent.

Such achievements are possible only with clear and comprehensive plans implemented seriously and in partnership with all those concerned or involved in infant feeding programmes including NGOs (See Fig 1).

### Making it Possible

**The evidence-** The promotion of early and exclusive breastfeeding is a well-recognized acceleration

strategy for child survival. Studies conducted the world over have demonstrated that achieving high rates in exclusive breastfeeding are possible through effective counselling and support interventions.

*Haider et al<sup>7</sup>* from Bangladesh demonstrated the feasibility of increasing exclusive breastfeeding through home-based community peer counsellors who were trained in counselling. The programme achieved 70 percent exclusive breastfeeding in five months.

In the study done in Haryana<sup>8</sup>, it was demonstrated that promotion of exclusive breastfeeding till the age of six months is feasible in a developing country

<sup>7</sup>Haider R, Ashworth A, Kadir I, Huttly SRA. Effect of community-based peer counsellors on exclusive breastfeeding practices in Dhaka, Bangladesh: a randomised controlled trial. *Lancet* 2000; 356: 1643-47

<sup>8</sup> Bhandari N, Rajiv B, Sarmila M Jose M, Robert E B, Bhan M K. Effect of community-based promotion of exclusive breastfeeding on diarrhoeal illness and growth: a cluster randomized control trial. *Lancet* 2003; 361: 1418-1423.

through existing primary health-care services, and reduces the risk of diarrhoea and prevents growth faltering. The study also demonstrated that the incidence of exclusive breastfeeding at 3 months was higher in the intervention group (79 percent) as compared to the control group (48 percent).

An intervention study conducted by BPNI in Bhuj<sup>9</sup> to promote breastfeeding through behaviour change communication strategy, demonstrated that the exclusive breastfeeding rate was 38.3 percent in the intervention group as compared to 1.7 percent in the control group. In another study from Bangladesh evidence was provided of remarkable reductions in infant mortality by 32 percent, with the increase in exclusive breastfeeding rates from 39 percent to 70 percent<sup>10</sup>.

One of the recent studies have shown that with community interventions in Ghana and Madagascar, large scale programs designed to improve breastfeeding practices are feasible and should be a central component of any child survival strategy<sup>11</sup>.

### *Strategies*

From the available evidence it is becoming increasingly clear that it is possible to enhance exclusive breastfeeding rates in any given settings provided women are supported at all levels in the health care system and at community level. They also need to be given due maternity benefits for this purpose. Some of the key strategies that have worked include "breastfeeding education" as service and provided on a one to one basis. All communication campaigns through posters etc are of little use. It is important that action should be directed to achieve the single most important intervention for success i.e. counselling by skillful care provider who has received adequate training. Establishment of lactation clinics or breastfeeding support centers can prove useful strategy. Proper implementation of BFHI (Baby Friendly Hospital initiative) in health facilities (both in public and private) can be another very useful intervention provided it is based on training in skills and assistance and support at first hour of birth to initiate timely breastfeeding both at home or hospital.

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<sup>9</sup> Phatak A, et al. (2004) "Improving Infant & Young Child Feeding Practices in Calamity Struck Areas Using Counseling by Trained Anganwadi Workers"; Journal of Indian Medical Association; (272/2005-06, to be published).

<sup>10</sup> Arifeen S, Black RE et. al. Exclusive breastfeeding reduces acute respiratory infections and diarrhoea deaths among infants in Dhaka slums. Pediatrics, 2001;108: E.67

<sup>11</sup> Quinn V et al. Improving breastfeeding practices on a broad scale at community level: Success stories from Africa and Latin America. J Hum Lact 21(3) 2005

## Objectives of the Study

This study was done in Uttarakhand to assess current infant and young child feeding practices across the state and to capture, in particular, the geographical and socio-cultural differences in breastfeeding practices.

*The study had the following specific objectives:*

⇒ To assess the status of infant and young child feeding practices in Uttarakhand.

⇒ To understand the barriers to optimal infant feeding practices.

⇒ To investigate the knowledge and skills of health care providers and the support provided by them on infant feeding practices in hospitals.

# Study Design, Data Collection and Analysis

The interview schedules for quantitative and guidelines for the qualitative (in-depth interviews & PRA techniques) and fieldwork strategy were prepared and then discussed in the committee of the experts. These were then pre-tested in the field, and in the light of the findings of the pretest, the same were revised and finalized.

## **Quantitative Study: Status of Infant and Young Child Feeding**

After completing the pilot survey in Haridwar District, six teams of the investigators were made, two in one team. The teams were made purely on the basis of random selection.

### *Quantitative assessment with mothers of 0-9 months old children: Steps Adopted*

The study was conducted in both rural and urban areas of Uttarakhand. First, Uttarakhand was divided into two parts, in one part, blocks were listed which were within 10 kilometers from the district headquarters, and in the second part the blocks were listed which were situated at a distance of more than 10 kilometers from the district headquarters.

A block was selected randomly from each part of district. From each of the selected block, a village was selected randomly from the list of villages in the block. This list was procured from the block headquarters by the investigators. Then a cluster of six villages was identified around the randomly selected village. The selected village was included in the cluster of six villages.

In the first selected village of each cluster, one house was selected at random. Then going from house to house, 30 mothers with children aged between 0-3 months were selected for interviews. Similarly, 30 mothers each were selected with children between the ages of 3-6 months as well as between 6-9 months. Thus, a total of 90 mothers were selected for interviews. In case the quota of 90 children in the three age strata was not completed, another adjoining village in the cluster was visited. This exercise was continued till the quota of 30 interviewee mothers (total of 90) in the three categories was completed.

A similar exercise was followed in the case of urban areas. In the block headquarters of the selected block, 6 wards/localities were randomly selected. The process followed was the same as for selecting respondents in the rural areas. Thus, there were 90 mothers interviewed from the urban areas of block headquarters.

The total numbers of interviews of mothers of three strata in the district was 180 (from the cluster of villages in two rural blocks and from the block headquarters).

The research team got the maximum cooperation and help from the ICDS Directorate, Govt. of Uttarakhand; CDPOs, and other concerned officials in the field.

### ***Quantitative assessment with AWWs: Steps Adopted***

As Anganwadi workers (AWWs) have the duty to convey the right messages regarding infant feeding and mother-child health, it is must that this person, coming in direct contact of the mother, should have

right knowledge and awareness regarding this issue. Therefore 12 AWWs per block (24 per district) were also enquired for their knowledge and awareness regarding infant feeding issues.

	<b>Schedule Details</b>	<b>Block-1</b>	<b>Block-2</b>	<b>Total</b>
<b>Quantitative Data</b>	Mother having children - 0-3 month	30	30	60
	Mother having children 3- 6 months	30	30	60
	Mother having children 6-9 months	30	30	60
<b>Anganwadi Workers</b>		12	12	24
<b>Qualitative Data</b>	<b>In-depth interviews</b>			
	• Mother of infant of 0-6 months	4	4	8
	• Pregnant women	4	4	8
	• Mother-in-law	4	4	8
	• Father-in-law/ Husband	4	4	8
	• ANM/Others	4	4	8
	<b>PRA</b>			
	• Mothers of infants of 0-6 month	4	4	8
	• Pregnant women	4	4	8
	• Mothers-in-law	4	4	8
<b>Hospitals</b>	<b>At District Headquarters</b>			
	• Government			1
	• Private			1

### **Qualitative Study: Status of Infant and Young Child Feeding**

The main aim of undertaking the qualitative study was to understand the barriers to optimal breastfeeding practices. The study helped to establish some of the positive factors on which health workers, community workers and communicators can build on the programs to motivate mothers and other stake holders (in the family and community) to promote optimal infant and young child feeding practices.

The qualitative study was based on in-depth interviews. The information gathered from in-depth

interviews is of great help in designing interventions to improve knowledge, attitude and practice related to optimal infant feeding practices.

The following issues were covered by the in-depth interviews:

- Knowledge of appropriate breastfeeding practices, for example, initiation, colostrum feeding, exclusive breastfeeding and introduction of complementary feeding (mothers of infants, pregnant women and mothers-in-law);
- Exact practices adopted for the infants and reasons for adoption of both favourable as well as unfavourable infant feeding practices;

- Visualizing factors which can be used as a starting point to promote healthy feeding practices;
- Identifying factors, which will generate or strengthen community and familial support for mothers to adopt appropriate breastfeeding practices;
- Perception of all key stakeholders at the community level-TBAs, influential women, women's groups or forums etc. which can be targeted for the promotion of optimal infant and young child feeding practices at the community and family level were covered.

#### ***In-depth Interviews: Steps Adopted***

In depth interviews were conducted with 40 respondents per district (20 respondents per block) for qualitative survey. In this way per block following number of respondents were interviewed:

Nursing mother (with infant 0 – 6 months):	4
Pregnant women :	4
Mothers– in – law :	4
Father-in-law/Husband :	4
Community workers :	4

#### ***Participatory Rapid Appraisal (PRA) :Steps Adopted***

This is a way of carrying out a survey that can lead to a high level of participation by local people. It is used to find out about the service needs of a local community by including the community in research, analysis of the issues, and planning for the future.

The main reasons for following a particular infant feeding practice were enlisted. 24 respondents per district (4 respondents per block) were included for

this qualitative survey. In this way per block following number of respondents were interviewed:

- Mothers of infants of 0-6 month
- Pregnant women
- Mothers-in-law

#### ***Infant feeding practices in hospitals***

A systematic monitoring of the Infant feeding practices in hospitals was undertaken to understand the implementation of the 'Ten steps of Successful Breastfeeding'. This study helped to understand the hospital practices in support of optimal breastfeeding, health staffs skill in solving problems of breastfeeding. The data for this study was collected through interviews with doctors in hospital, nurses, store keepers, chemists and mothers delivered at hospitals. For every district 2 hospitals were assessed i.e. 1 government and 1 private.

#### ***The following persons were interviewed:***

1. Doctors in hospital:	1
2. Nurses:	1
3. Store keeper:	1
4. Chemist Shop:	1
5. Mothers delivered at hospitals:	2

#### ***Data Analysis***

All completed schedules for quantitative and qualitative data on infant feeding practices in community and hospitals, were collected at BPNI National Secretariat, New Delhi, where data entry and analysis has been done district-wise and also by putting all districts together to get a feel of the state perspective.



# Findings of the Study

## Background Characteristics of the Respondents

### Socio-demographic Characteristics of Mothers

Though data was collected from 2340 mothers in 13 districts. Table 1 presents the background characteristics of respondents. In this studied population of Uttarakhand state most of the mothers having 0-3 old mothers were in 21-25 years of age group and were educated upto higher

secondary level. Most women were not working outside home and belonging to Hindu religion. In this population about half of the women were belonging to other caste and the majority of the other half were from SC. A few more than half of the women were having male children.

Table 1: Characteristics of the respondents		
Characteristics	N=2340	Percentage
<b>Age</b>		
Up to 20 years	170	7.3
21-25 years	1279	54.7
Above 25 years	891	38.0
<b>Education</b>		
Illiterate	371	15.9
Just literate/No formal education	109	4.7
Up to Primary	317	13.5
Up to Middle	545	23.3
Up to Higher Secondary	689	29.4
Up to Graduation	233	10.0
Post-Graduation & above	76	3.2
<b>Working outside the house</b>		
Yes	480	20.5
No	1860	79.5
<b>Religion</b>		
Hindu	2224	95.0
Muslim	85	3.7
Other	31	1.3
<b>Caste</b>		
SC	714	30.5
ST	70	3.0
OBC	380	16.2
Other	1176	50.3
<b>Sex of Index Child</b>		
Male	1278	54.6
Female	1062	45.4

### Utilization of Health Care Services

In the studied population of Uttarakhand 84% of the women having 0-3 old children had received antenatal check-up. Check up of these mothers was done by ANM/Nurse in 47% of the cases while another 34% of these mothers have received their check-up from a doctor.

Majority (61%) of these were having home deliveries and a 19% of them were also delivered at a Government hospital and 9.8% in private hospitals. Most of these mothers had normal delivery.

Table 2: Utilization of Health Care Services		
Characteristics	N=2340	Percentage
<b>Had antenatal checkup</b>	1958	83.7
<b>Place of delivery</b>		
Home	1438	61.5
PHC	225	9.6
Govt Hospital	447	19.1
Pvt. Hospital	230	9.8
<b>Type of delivery</b>		
Normal	2134	91.2
Caesarian	102	4.3
Forceps	104	4.4
<b>Check up done by</b>		
Doctor	661	33.8
ANM/Nurse	922	47.1
Dai	261	13.3
Other	114	5.8

# Breastfeeding Practices

Breastfeeding practices of the mothers were enquired and the description of the practices followed by these mothers is as follows:

## 1. Initiation of breastfeeding within 1 hour

It is recommended that breastfeeding should be initiated within one hour of birth and nothing should be given to the infant before beginning to breastfeed. As seen from Fig. 2, Initiation of breastfeeding within 1 hr was done in only 38% of

newborns. If we stretch further 41% of them received breastfeeding between 1-4 hrs and in 21% of children it was delayed as more than 4 hrs.

Fig. 3 provides a district wise picture on of the initiation of breastfeeding within one hour of birth. It shows a wide variation in practice in different districts. The data is as provided as a table in the Annex.

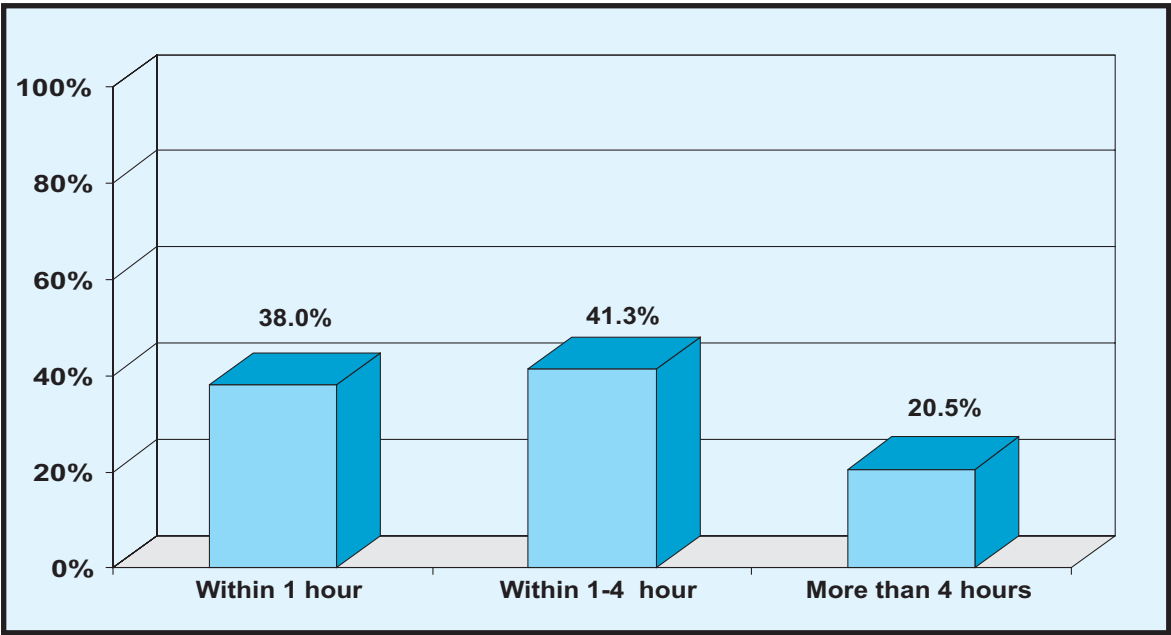


Fig. 2: Initiation of Breastfeeding

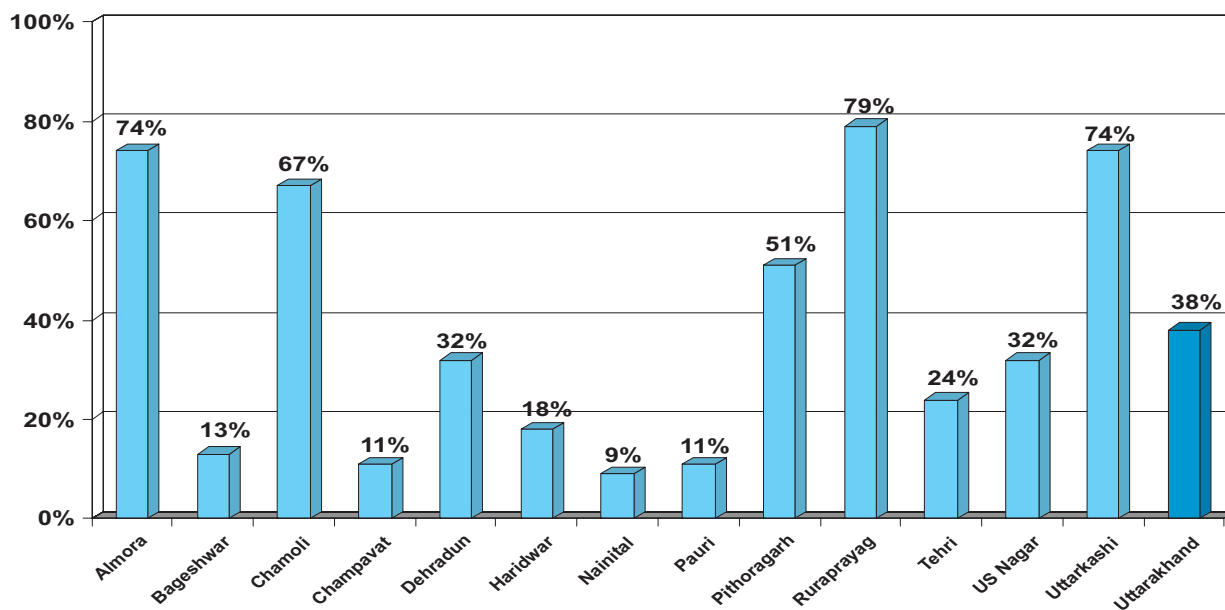


Fig. 3: Districts wise distribution: Initiation of breastfeeding within 1 hour

### Pre-lacteal feeding

Here in this population prelacteal feeding was given in almost half (47%) of the newborn. (Fig. 4)

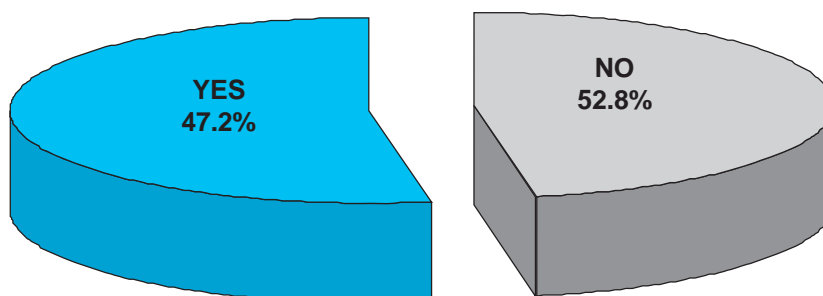
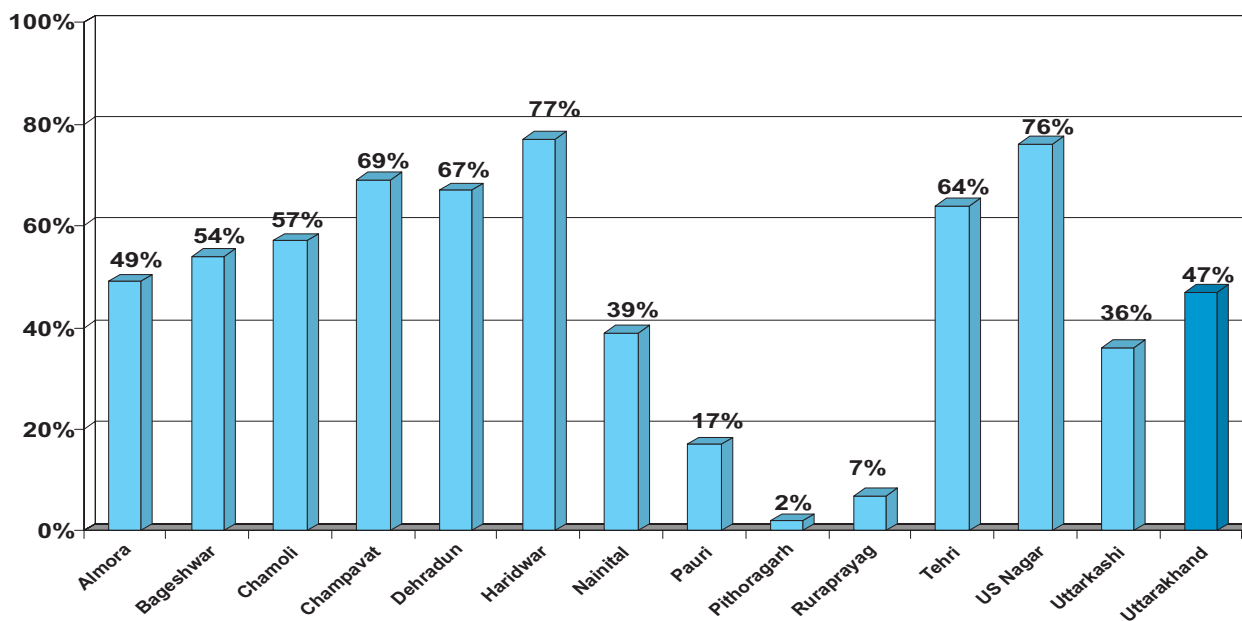


Fig.4: Giving prelacteal feeds

### ***District wise distribution***

Fig. 5 provides a district wise picture on of the prelacteal feeding. The data is also provided as a table in the Annex. Once again a wide variation is seen in the districts.



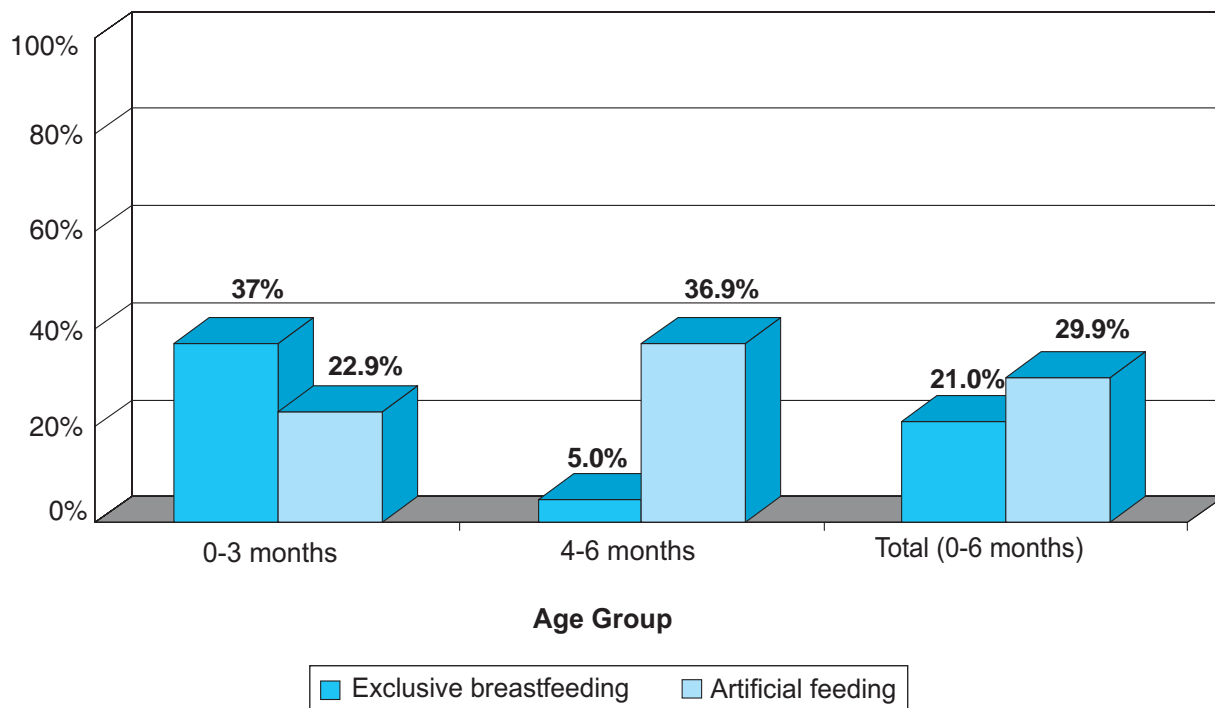
**Fig. 5: District wise distribution: Prelacteal Feed**

## **2. Exclusive Breastfeeding for the First six months**

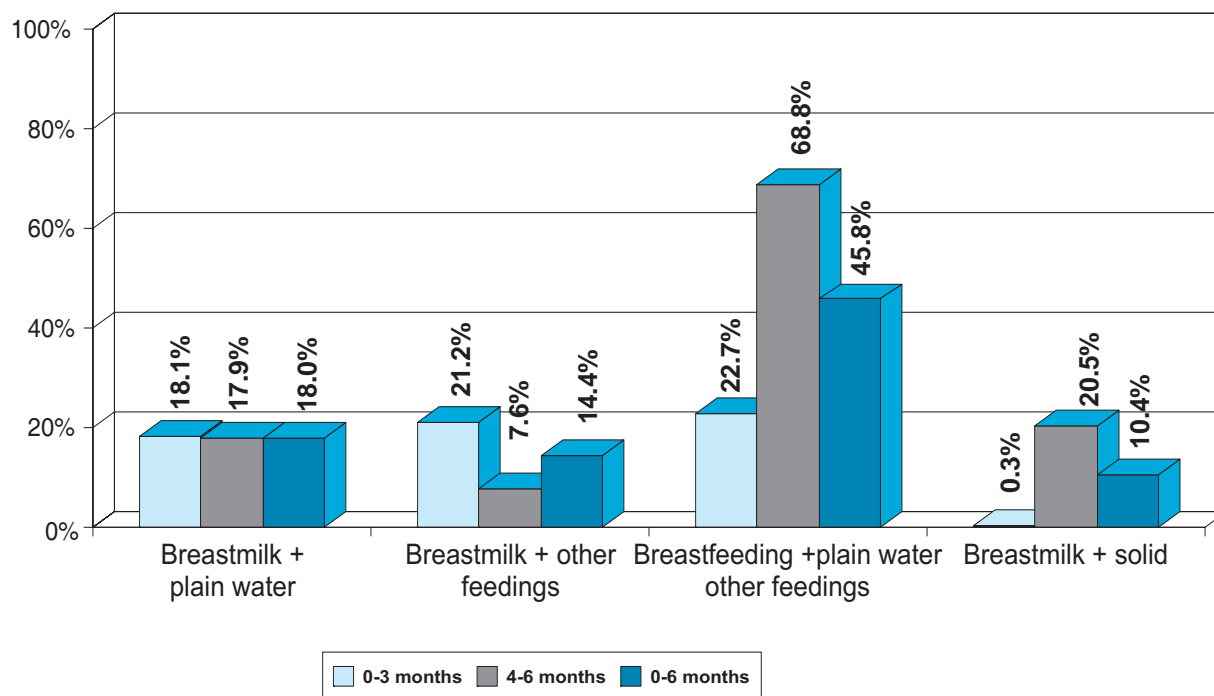
It is recommended that babies should be exclusively breastfed for the first six months. Exclusive breastfeeding means that no other food or drink should be given to the baby for the first six months. Fig. 6 presents exclusive breastfeeding and supplementary feeding practices of the respondents in this study during 0-6 months. It shows that exclusive breastfeeding was only 37% in the 0-3 months age group of children, which got reduced drastically to only 5% in the 4-6 months age group. This whole scenario makes the percentage of

exclusively breastfed children for 0-6 months age group as low as 21%. When the type of supplementary feed was analyzed according to the age group of children it was found that in the 0-3 months age group plain water was the major other feed with breastmilk. However, in 4-6 months age group children other feeds were very well started in 98% of the population. These other feeds consisted of severe type of food and fluids. (Fig. 7)

Fig. 8 shows district-wise patterns of exclusive breastfeeding. This data is also provided as a table in the Annex.



**Fig. 6: Status of exclusive breastfeeding during 0-6 months**



**Fig. 7: Type of supplementary feeding among 0-6 months**

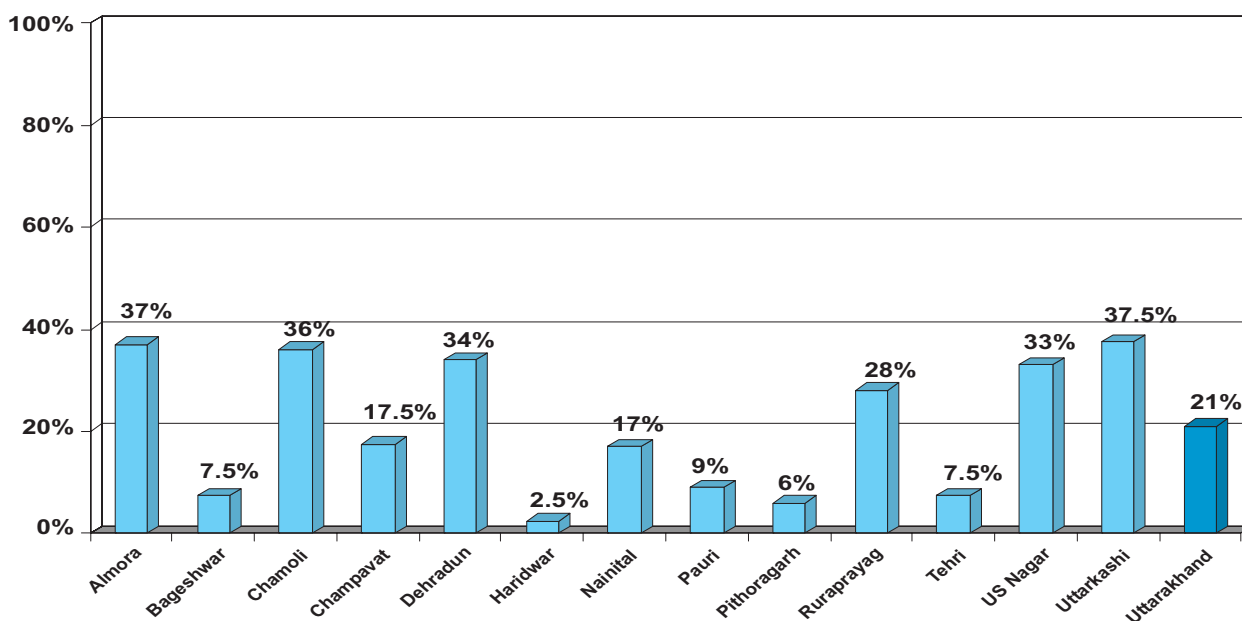


Fig. 5: District wise distribution: Exclusive breastfeeding 0-6 months

### 3. Bottle-feeding

Thirty seven percent of the children received bottle-feeding in Uttarakhand state, thus 63% of the children had never received any bottle. (Fig. 9)

### 4. Continued breastfeeding

It is recommended that breastfeeding should continue for a period of two years or beyond along

with appropriate and adequate complementary feeding. Mothers were enquired for the expected duration of continuation of breastfeeding to their children and 67% of the mothers have responded it to be 18-24 months. 19% and 14% of the rest of the population responded it for more than 24 months and less than 18 months of age. (Fig. 10)

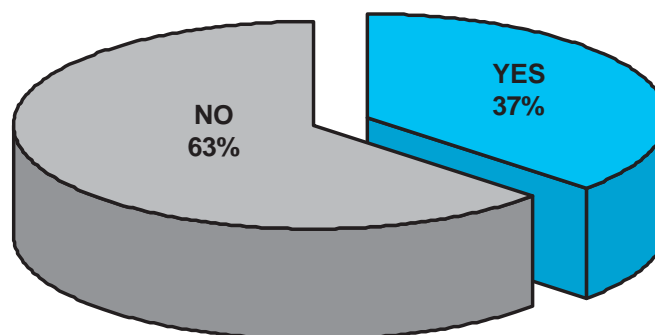


Fig.9: Bottle-feeding rate

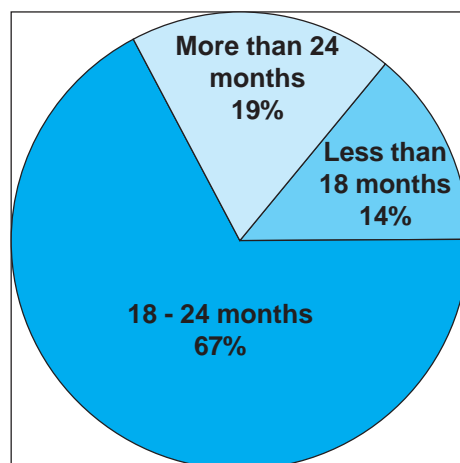


Fig. 10: Women's plan to continued breastfeeding

### 5. Complementary feeding practices: age 6-9 months

It is recommended that after six months of age babies should receive complementary feeding with solid home made indigenous foods along with continued breastfeeding. Almost all (98%) of the children of 6-9 months of age were found receiving mother's milk with water and supplementation of solid and mushy food was found in 93% of these.

However more than a half (61%) were found giving top milk of cow, buffalo or goat and 47% of these

children also found receiving gripe water or ghutti.

Few children in this studied population of Uttarakhand were also found receiving fruit juice and other soft drinks, sweetened water, tea/coffee and powdered/tinned milk and others (Fig. 11), which is a healthy practice.

Fig. 13 shows inter district variation in complementary feeding rates. This data is also provided as a table in the Annex.

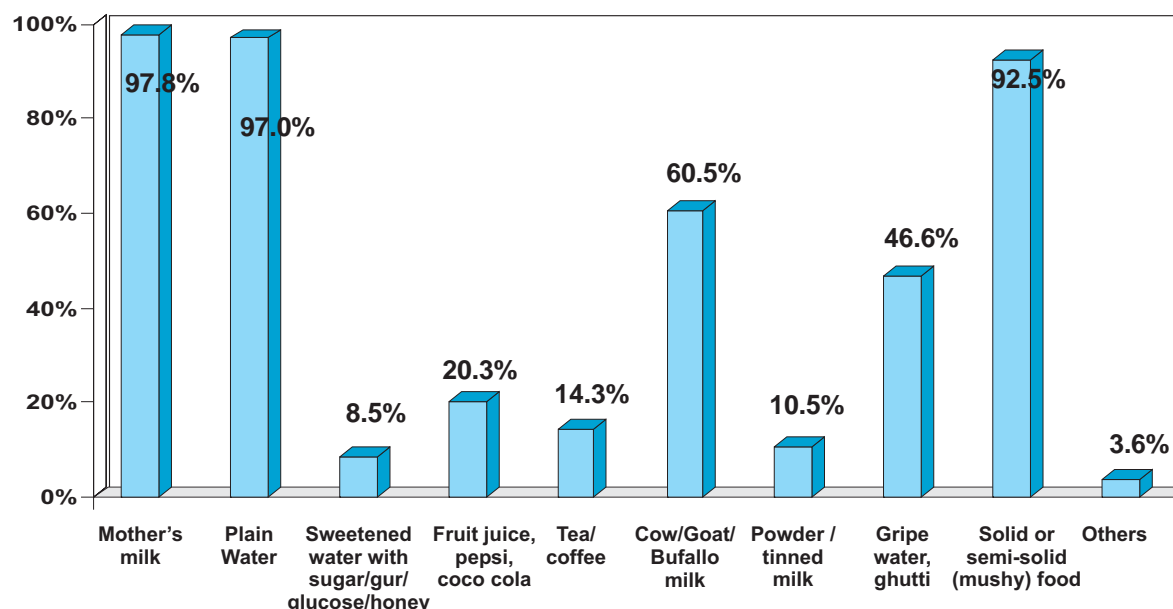
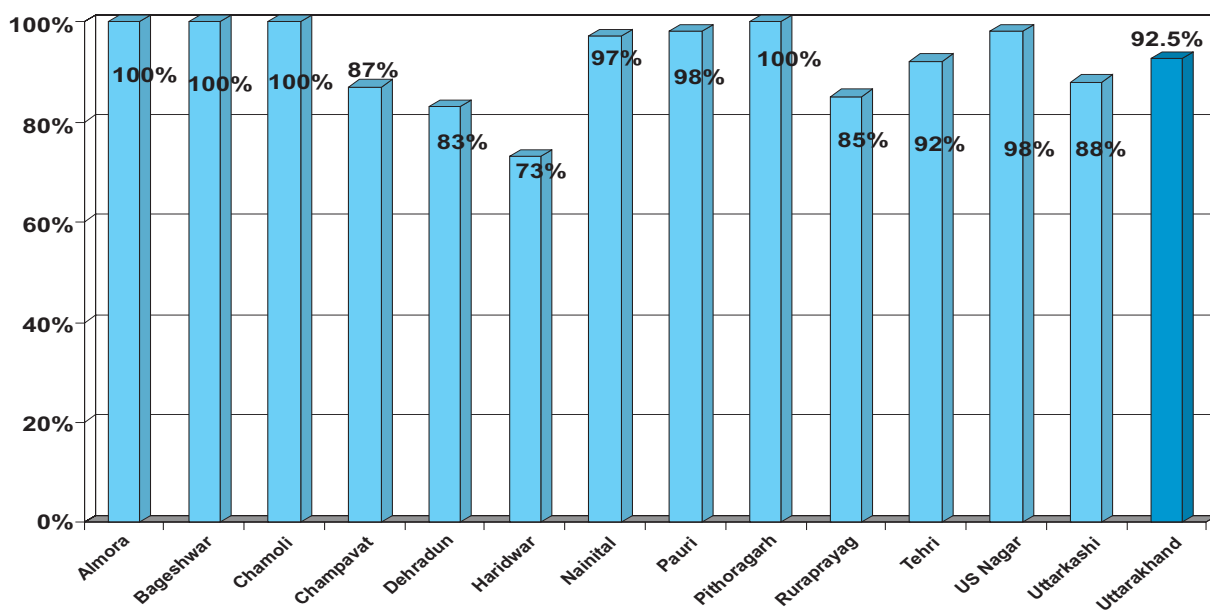


Fig. 11: Type of complementary food during 6-9 months





**Fig. 5: District wise distribution: Complementary Feeding (6-9 months)**

## Conclusions and Recommendations

The study shows that infant and young child feeding practices are far from optimal in Uttarakhand. The district wise specific reports deal with the issues more in detail from the point of programming. It is more than clear from the district reports where the gaps are and what action would be needed to bridge these gaps, may it be knowledge of health workers or mothers, or practices followed by the hospital staff or Anganwadi workers. As we can see that early and exclusive breastfeeding indicators need improvement at a universal scale though complementary feeding is showing some improvement.

From the experience available in this area so far, it has been observed that improvements in timely breastfeeding within one hour are possible with communication campaigns and allaying fears and removing taboos with new information to the community. But exclusive breastfeeding improvements occur only with good skilled counselling not like the delivery of any other child health intervention like a vaccine. In Haryana study by the group headed by Dr Bhan, (Bhandari et al 2005) it was also shown that action on infant and young child feeding also led to improved uptake of other child health interventions and their impact. They had used a 3 -day training of workers as key input in the project.

To be successful in breastfeeding, apart from nutrition support and care women need what is known as “breastfeeding education” and timely counselling as a service, and assistance at the time

of birth and later. Mothers need answers to their questions, practical help, and support from all around them. More often mothers start using top milks because they have a universal feeling of “*not enough milk*” for their babies, which is a perception and needs to be corrected through building mothers confidence. What would be required is the policy decision to declare ‘breastfeeding education’ as a mandatory service. It needs a behavior change to improve breastfeeding practices.

Another factor is that many women have to go out to work, it makes them chose artificial feeding, particularly women belonging to poor socioeconomic strata want to engage in economic activity very early after birth. To succeed in exclusive breastfeeding they must stay close to the baby and this requires maternity benefits.

To improve complementary feeding in the state it would be wise to focus on quality of feeding that is not focussed on liquid foods or milk rather with solid foods to complement breastfeeding. People should be reached with this IEC campaign with a context of what complementary feeding means in addition to mother’s milk. This understanding is important so as the foods given do not displace mother’s milk which is huge source of energy as well as other essential minerals.

The study by BPNI and NFHS-3, show very different results as far as complementary feeding is concerned, it could be taken as a weakness in data collection in BPNI study , data collection may have

been rather near to the towns or cities where one can expect more people going for complementary feeding during 6-9 months. Initiation of breastfeeding and exclusive breastfeeding data results are almost similar in both these studies.

Whatever the findings of both studies, a comprehensive plan is called for as a must to address changes in hospital norms, training of health providers, pre and post-partum counselling, establishment of breastfeeding support centres, community talks, and mass media campaign. Some actions are suggested at 3 levels here.

1. At Policy Level
2. At Health Care Services
3. At Family Level

### **1. At Policy level**

- i. Create a “Budget head” for breastfeeding support in all programmes like ICDS, NRHM and RCH as we do for immunization.
- ii. Appoint a State nodal person on IYCF for coordination and monitoring.
- iii. Mainstream IYCF counselling as a mandatory “service delivery” in all child health and development programmes and it should be monitored.
- iv. Incorporate early initiation of breastfeeding, exclusive breastfeeding for first six month and complementary feeding at six months with continued breastfeeding up to two years as criteria/indicators in the MPRs with a view to monitor the same in monthly development reviews. Include IYCF counselling (during pregnancy and after) as progress indicator.
- iv. To effectively implement the IMS Act, notify state nodal officers and CDPOs to act as Block resource persons and be trained by NIPCCD through State resource persons. CDPOs should regularly educate public and the ICDS

functionaries on provisions of the IMS Act and how to monitor and report it

- v. Support poor mothers with cash benefits to engage at home and stay with their babies for the first six months similar to Tamil Nadu Child Birth Assistance scheme as they provide Rs 1000 per month for six months.

### **2. At Health Care Services**

- i. Establish breastfeeding support centers managed by trained women IYCF counselling specialists who have received at least 7 day training input in breastfeeding, complementary feeding and HIV and Infant Feeding.
- ii. Initiate BFHI (Baby friendly Hospital Initiative) in both public and private health facilities.
- iii. Intensify IEC activities on IYCF counseling with a clear context of child development and survival, as well as an aim to bring a behavior change in people’s practices, to ensure early initiation and exclusive breastfeeding, through print and electronic media, ensuring accuracy and in line with IMS Act.
- iv. Involve state partners without any conflicts of interest.

### **3. At Family level**

- i. Ensure that counselling on IYCF is provided to ALL families especially the elderly women in the community, as routine service through multiple contacts/home visits and one to one counselling.
- ii. Customs /taboos like prelacteal feeding and introduction of water before 6 months should be addressed strongly with adequate knowledge about sufficiency of breastfeeding for first 6 months through IEC.
- iii. Ensure counselling of families to support the mother for exclusive breastfeeding of child for 6 months.



# Annexes



### Finding of Quantitative Status of Breastfeeding in Uttarakhand

Districts	Initiation of breastfeeding within 1 hour	Exclusive breastfeeding (0-6 months)	Complementary Feeding (6-9 months)
Almora	74%	37%	100%
Bageshwar	13%	7.5%	100%
Chamoli	67%	36%	100%
Champvat	11%	17.5%	87%
Dehradun	32%	34%	83%
Haridwar	18%	2.5%	73%
Nainital	9%	17%	97%
Pauri Garahwal	11%	9%	98%
Pithoragarh	51%	6%	100%
Rudraprayag	79%	28%	85%
Tehri Garahwal	24%	7.5%	92%
US Nagar	32%	33%	98%
Uttarkashi	74%	37.5%	88%
<b>Uttarakhand</b>	<b>38%</b>	<b>21%</b>	<b>92.5%</b>

## Definitions of Infant Feeding Behaviours

*'Exclusive Breastfeeding, Predominant, Breastfeeding, Bottlefeeding and Complementary Feeding*

Category of infant feeding	Requires that the infant receives	Allows the infant to receive	Does not allow the infant to receive
Exclusive breastfeeding	Breastmilk (including milk expressed or from wet-nurse)	Drops, syrups (vitamins, minerals, medicines)	Any thing else
Predominant breastfeeding	Breastmilk (including milk expressed or from wet-nurse) as the predominant source of nourishment	Liquids (water, and water-based drinks, fruit juice, ORS), ritual fluids and drops or syrups (vitamins, minerals, medicines)	Anything else (in particular, non-human milk, food-based fluids)
Breastfeeding	Breastmilk	Any food or liquid including non-human milk	
Bottlefeeding	Any liquid or semi-solid food from a bottle with nipple/teat	Any food or liquid including non-human milk. Also allows	
Complementary feeding	Breastmilk and solid or semi-solid foods	breastmilk by bottle Any food or liquid including non-human milk	

Source: WHO Global Data Bank on Breast-feeding. Breastfeeding: the best start in life. WHO Nutrition Unit, 1996



**Quantitative Survey on Infant and Young Child Feeding**  
**Interview schedule for mothers used for finding quantitative status of**  
**infant and young child feeding**  
 (Baby upto 12 months - 24 months)

**Section 1**

1.1 राज्य उत्तरांचल

1.2 जिला \_\_\_\_\_

1.3 ब्लॉक \_\_\_\_\_

1.4 गाँव/वार्ड \_\_\_\_\_

1.6 माँ की आयु \_\_\_\_\_

1.7 माँ की शिक्षा \_\_\_\_\_

- |                      |  |
|----------------------|--|
| 1. अशिक्षित          | 2. पढ़ना लिखना आता है, पर स्कूल नहीं गयी |
| 3. प्राथमिक कक्षा तक | 4. आठवीं तक                              |
| 5. हायर सैकेण्डरी तक |  |
| 6. बी. ए. तक/ स्नातक | 7. बी. ए. से अधिक /स्नात्कोत्तर और अधिक  |

1.3.1 ब्लॉक की हैडक्वार्टर से दूरी

1. दस किलोमीटर से कम
2. दस किलोमीटर से अधिक
3. ब्लॉक हैडक्वार्टर

1.8 क्या माँ घर के बाहर काम करने जाती है । 1. हाँ 2. नहीं

1.8.1 यदि हाँ तो क्या व्यवसाय है \_\_\_\_\_

1.9 धर्म : 1. हिन्दु 2. मुस्लिम 3. ईसाई 4. सिक्ख 5. अन्य (स्पष्ट करें) \_\_\_\_\_

1.10 जाति: 1. S.C. 2. S.T. 3. O.B.C. 4. अन्य (स्पष्ट करें) \_\_\_\_\_

1.11. आपके कितने बच्चे हैं: कुल \_\_\_\_\_, लड़के \_\_\_\_\_, लड़कियाँ \_\_\_\_\_

1.12 आपके सबसे छोटे बच्चे का नाम \_\_\_\_\_

1.13 उसकी (नाम लेकर) आयु (महीनों में) \_\_\_\_\_  
 (स्वास्थ्य कार्ड से आयु का सही पता लगायें)

1.14 बच्चे का लिंग 1. लड़का 2. लड़की

## Section 2

2.1 इस बच्चे के जन्म से पूर्व गर्भावस्था के समय क्या आपने अपने स्वस्थ की जांच कराई ?

1. हाँ 2. नहीं

2.1.1 यदि हाँ

a) किससे जांच करवाई

1. डाक्टर 2. ए.एन.एम./नर्स 3. दाई 4. अन्य (लिखें) \_\_\_\_\_

b) गर्भावस्था के दौरान आपको स्तनपान के बारे में कोई जानकारी दी गयी ?

1. हाँ 2. नहीं

2.2 (बच्चे का नाम) इस बच्चे का जन्म कहाँ हुआ ?

1. घर पर 2. पी.एच.सी/सी.एच.सी 3. सरकारी अस्पताल 4. प्राइवेट अस्पताल  
5. अन्य (लिखें) \_\_\_\_\_

2.3 जचकी का प्रकार ? 1. सामान्य 2. शल्य 3. फॉरसिप

## Section 3

3.1 बच्चे के जन्म के कितने समय बाद आपने स्तनपान शुरू किया?

1. 0 से 1 घंटे 2. 1 से 4 घंटे 3. पांच से बारह घंटे  
4. 13 से 24 घंटे 5. 24 घंटे के बाद

3.2 स्तनपान शुरू करने से पहले बच्चे को क्या कुछ और पिलाया या दिया ?

1. हाँ 2. नहीं

3.2.1 यदि हां, तो क्या दिया गया ? (एक से अधिक उत्तर हो सकते हैं)

1. पानी 2. उपरी दूध 3. पाउडर या /डिब्बे का दूध  
4. चीनी का पानी 5. चाय/ काफी 6. घुट्टी  
7. शहद 8. ग्लूकोस 9. गुड़  
10. अन्य (लिखें) \_\_\_\_\_

3.2.2 यदि प्रश्न नं 3.2 में नहीं हो तो किसके कहने पर इस बच्चे को (नाम लेकर) स्तनपान शुरू करने से पहले कुछ नहीं पिलाया या दिया।

1. डाक्टर 2. ए.एन.एम./ आगनवाडी वर्कर्स/नर्स 3. सास

4. दाई 5. पति 6. अन्य (लिखें) \_\_\_\_\_

3.3 कल आपने बच्चे को दिन के समय कितनी बार स्तनपान कराया ? \_\_\_\_\_

3.4 बच्चे को पिछली रात कितनी बार स्तनपान कराया? \_\_\_\_\_

3.5 आप कितने महीने तक अपने बच्चे को स्तनपान कराना चाहेंगी ? \_\_\_\_\_

4. आपके बच्चे (नाम लेकर) ने (पिछले 24 घन्टे में) निम्नलिखित में से किस को पीया या खाया था? (निम्नलिखित प्रत्येक के बारे में पूछें?)

विषय	हां	नहीं
मां का दूध	1	2
सादा पानी	1	2
मीठा पानी (चीनी/ गुड़ / ग्लूकोज/ शहद वाला	1	2
फलों का रस (जूस) पैप्सी, कोकाकोला, आदि।	1	2
चाय/ काफी	1	2
गाय / बकरी / भैंस का दूध	1	2
पाउडर / डब्बे का दूध	1	2
ग्राईप वाटर या जन्म धुट्टी, आदि	1	2
मिश्रित आहार या पूरक आहार	1	2
कुछ और दिया (लिखें) _____	1	2

इस बच्चे को (नाम लेकर) जन्म से अब तक निम्नलिखित में से क्या क्या पिलाया या खिलाया है (निम्नलिखित में से प्रत्येक के बारे में पूछें)

विषय	शुरू करने की आयु महीनों में	हां	नहीं	नियमित	कभी – कभी
मां का दूध		1	2	1	2
सादा पानी		1	2	1	2
मीठा पानी (चीनी/ गुड़ / ग्लूकोज/ शहद वाला		1	2	1	2
फलों का रस (जूस) पैप्सी, कोकाकोला, आदि।		1	2	1	2
चाय/ काफी		1	2	1	2
गाय / बकरी / भैंस का दूध		1	2	1	2
पाउडर / डब्बे का दूध		1	2	1	2
ग्राइप वाटर या जन्म धुट्टी, आदि		1	2	1	2
मिश्रित आहार या पूरक आहार		1	2	1	2
कुछ और दिया (लिखें) _____		1	2	1	2

6. क्या इस बच्चे ने (बच्चे का नाम) जन्म से अब तक निपल वाली बोतल में कुछ पीया?  
1. हां      2. नहीं
7. इस बच्चे (नाम लेकर) ने किस आयु में ठोस (महीनों में) मिश्रित/ पूरक आहार (सोलिड/ सेमी सोलिड (महीनों में) मैशी) नियमित रूप से लेना शुरू किया ? \_\_\_\_\_
8. यदि बच्चा (नाम लेकर) ठोस मिश्रित पूरक आहार लेता है, तो कृपया बताएँ कि उसने 24 घन्टे में कितनी बार आहार लिया ? \_\_\_\_\_

# **NATIONAL GUIDELINES ON INFANT AND YOUNG CHILD FEEDING 2006**

Ministry of Women and Child Development (Food and Nutrition Board),  
Government of India

## **Correct Norms for Infant and Young Child Feeding**

- **Initiation of breastfeeding immediately after birth**, preferably within one hour.
- **Exclusive breastfeeding for the first six months** i.e., the infants receives only breastmilk and nothing else, no other milk. Food, drink or water.
- **Appropriate and adequate complementary feeding** from six months of age while continuing breastfeeding.
- **Continued breastfeeding upto the age of two years or beyond.**

# **NATIONAL GUIDELINES ON INFANT AND YOUNG CHILD FEEDING**

## **Introduction**

Infant and young child nutrition has been engaging the attention of scientists and planners since long for the very simple reason that growth rate in the life of human beings is maximum during the first year of life and infant feeding practices comprising of both the breastfeeding as well as complementary feeding have major role in determining the nutritional status of the child. The link between malnutrition and infant feeding has been well established. Recent scientific evidence reveals that malnutrition has been responsible, directly or indirectly, for 60% of all deaths among children under five years annually. Over 2/3 of these deaths are often associated with inappropriate feeding practices and occur during the first year of life. Only 35% of infants world-wide are exclusively breastfed during the first four months of life and complementary feeding begins either too early or too late with foods which are often nutritionally inadequate and unsafe. Poor feeding practices in infancy and early childhood, resulting in malnutrition, contribute to impaired cognitive and social development, poor school performance and reduced productivity in later life. Poor feeding practices are, therefore, a major threat to social and economic development as they are among the most serious obstacles to attaining and maintaining health of this important age group.

Optimal Infant and Young Child Feeding practices - especially early initiation and exclusive breastfeeding for the first six months of life - help ensure young children the best possible start to life. Breastfeeding is nature's way of nurturing the child, creating a strong bond between the mother and the child. It provides development and learning opportunities to the infant, stimulating all five senses of the child – sight, smell, hearing, taste, touch. Breastfeeding fosters emotional security and affection, with a lifelong impact on psychosocial development. Special fatty acids in breast milk lead to increased intelligence quotients (IQs) and better visual acuity. A breastfed baby is likely to have an IQ of around 8 points higher than a non-breastfed baby.

Breastfeeding is not only important for young child survival, health, nutrition, the development of the baby's trust and sense of security – but it also enhances brain development and learning readiness as well.

The sound practice of breastfeeding suffered a set back because of aggressive media campaign of the multinational companies producing baby milk powder and infant foods. The WHO in late 70s recognised the seriousness of the declining trend in breastfeeding and introduced an International Code for Protection and Promotion of Breastfeeding in 1981. The Indian Government adopted a National Code for Protection and Promotion of Breastfeeding in 1983. The Infant Milk Substitutes, Feeding Bottles and Infant Foods (Regulation of Production, Supply and Distribution) Act 1992, is being implemented by the Department of Women and Child Development since 1993.

As per the scientific evidence available at that time, an age range of 4-6 months for exclusive breastfeeding of young infants was included in the international as well as national code. The age range was misused by the multinational companies which started promoting their products from the third month onwards. The early introduction of complementary foods was resulting in infections and malnutrition.

The National Nutrition Policy adopted by the Government of India under the aegis of the Department of Women and Child Development in 1993 laid due emphasis on nutrition and health education of mothers on infant and young child feeding and efforts to trigger appropriate behavioural changes among the mothers were considered as direct interventions for reducing malnutrition in children.

The Government of India has always been promoting at the national and international fora exclusive breastfeeding for the first six months and introduction of complementary foods thereafter with continued breastfeeding upto two years which is consistent with the Indian tradition of prolonged breastfeeding and introduction of complementary foods from six months of age through an *annaprashan* ceremony.

Various research studies since early 90s have brought out the beneficial effects of exclusive breastfeeding for the first six months on the growth, development and nutrition and health status of the infant and also for the mother. It was revealed that exclusive breastfeeding not only prevented infections particularly the diarrhoeal infections in the child but also helped in preventing anaemia in child as breast milk has the best bioavailable iron. The appearance of enzyme amylase in the seventh month of the infant was suggestive of desirability of introducing cereal based foods in the diet of infant after the age of six months.

Early initiation of breastfeeding lowers the mother's risk for excess post-partum bleeding and anaemia. Exclusive breastfeeding boosts mother's immune system, delays next pregnancy and reduces the insulin needs of diabetic mothers. Breastfeeding can help protect a mother from breast and ovarian cancers and osteoporosis (brittle bones).

While the scientific community was making efforts to adopt six months as the duration of the exclusive breastfeeding, the commercial influence particularly from the West was resisting this move at international fora namely Codex Committee on Nutrition and Foods for Special Dietary Uses, Codex Alimentarius Commission and the World Health Assembly. However, with the persistent efforts of the Department of Women and Child Development with active cooperation of the Department of Health, a landmark decision was taken in the World Health Assembly in May 2001 and Resolution 54.2 made a global recommendation for promoting exclusive breastfeeding for the first six months, introduction of complementary foods thereafter with continued breastfeeding upto the age of two years and beyond. Further, a new Resolution on Infant and Young Child Nutrition (WHA 55.25) was adopted by the 55<sup>th</sup> World Health Assembly in May 2002. The resolution endorses a Global Strategy on Infant and Young Child Feeding. The 55<sup>th</sup> World Health Assembly recognises that inappropriate feeding practices and their consequences are major obstacles to sustainable socio-economic

development and poverty reduction. It also states that Governments will be unsuccessful in their efforts to accelerate economic development in any significant long term sense until optimal child growth and development, specially through appropriate feeding practices, are ensured.

The global strategy gives due weightage to mother and child dyad and advocates that improved infant and young child feeding begins with ensuring the health and nutritional status of women, in their own right, throughout all stages of life.

The persistent efforts of the Department of Women and Child Development helped in enacting the Infant Milk Substitutes, Feeding Bottles and Infant Foods (Regulation of Production, Supply and Distribution) Amendment Act, 2003 which came into action from 1<sup>st</sup> January 2004. The important amendments in the act relate to extending the age of exclusive breastfeeding from 4-6 months to 6 months and bringing infant foods at par with infant milk substitutes in so far as advertising, promotion and other regulations are concerned. India now has one of the strongest legislation to protect breastfeeding from commercial influence.

### **Tenth Five Year Plan Goals**

The Planning Commission recognizing the importance of appropriate infant and young child feeding practices has for the first time included goals for breastfeeding and complementary feeding in the National Nutrition Goals for the Tenth Five Year Plan.

The Tenth Plan has set specific nutrition goals to be achieved by 2007. The major goals are:

1. Intensify nutrition and health education to improve infant and child feeding and caring practices so as to:
  - bring down the prevalence of under-weight children under three years from the current level of 47 per cent to 40 per cent;
  - reduce prevalence of severe Undernutrition in children in the 0-6 years age group by 50 per cent;
2. Enhance Early Initiation of Breastfeeding (colostrum feeding) from the current level of 15.8 per cent to 50 per cent;
3. Enhance the Exclusive Breastfeeding rate for the first six months from the current rate of 55.2 per cent (for 0-3 months) to 80 per cent; and
4. Enhance the Complementary Feeding rate at six months from the current level of 33.5 per cent to 75 per cent.



## **Objectives of National Guidelines on Infant and Young Child Feeding (NGIYCF)**

The new norms of Infant and Young Child Feeding i.e., exclusive breastfeeding for the first six months (replacing the 4-6 months age range of earlier guidelines), introduction of complementary foods at six months while continuing breastfeeding upto the age of two years or beyond are not known to all the professionals, instructors from training institutions and the field functionaries in different parts of the country and for want of this critical information, many still continue to advocate the old norms. It has, therefore, been decided to bring out the National Guidelines on Infant and Young Child Feeding, which will replace the earlier National Guidelines on Infant Feeding brought out by the Food and Nutrition Board, Department of Women and Child Development, Ministry of Human Resource Development, Government of India in 1994 and all other instructional manuals on the subject.

The objectives of the National Guidelines on Infant and Young Child Feeding, , therefore, are:

- to advocate the cause of infant and young child nutrition and its improvement through optimal feeding practices nationwide,
- to disseminate widely the correct norms of breastfeeding and complementary feeding from policy making level to the public at large in different parts of the country in regional languages,
- to help plan efforts for raising awareness and increasing commitment of the concerned sectors of the Government, national organisations and professional groups for achieving optimal feeding practices for infants and young children,
- to achieve the national goals for Infant and Young Child Feeding practices set by the Planning Commission for the Tenth Five Year Plan so as to achieve reduction in malnutrition levels in children.

### **A. APPROPRIATE INFANT AND YOUNG CHILD FEEDING PRACTICES**

**"Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants; it is also an integral part of the reproductive process with important implications for the health of mothers. As a global public health recommendation, infants should be exclusively breastfed for the first six months of life to achieve optimal growth, development and health. Thereafter, to meet their evolving nutritional requirements, infants should receive nutritionally adequate and safe complementary foods while breastfeeding continues for upto two years of age or beyond" – WHO, 2002.**

### **Breastfeeding**

## Nutritional superiority of breast milk

Modern science and technology has not been able to produce a better food for young infants than mother's milk. Breastfeeding is the best way to satisfy the nutritional and psychological needs of the baby.

The exceptional nutritional quality of human milk has been recognised for a long time. Mother's milk is designed for easy digestion and assimilation. Protein in mother's milk is in a more soluble form which is easily digested and absorbed by the baby. Same is the case with regard to fat and calcium in human milk which are also easily absorbable. The milk sugar – lactose in mother's milk provides ready energy. In addition, a part of it is converted into lactic acid in the intestines which destroys harmful bacteria present there and helps in absorption of calcium and other minerals. The amount of vitamins such as thiamine, vitamin A and vitamin C found in mother's milk depends on the diet of the mother. Under normal conditions, breast milk provides reasonable amounts of these vitamins.

The human milk has inherent anti-infective properties which no other milk has. This protective function of human milk is particularly important in developing countries where there is much exposure to infection. Some of the advantages of breastfeeding are:

- Breast milk is the best natural food for babies.
- Breast milk is always clean.
- Breast milk protects the baby from diseases.
- Breast milk makes the child more intelligent.
- Breast milk is available 24 hours a day and requires no special preparation.
- Breast milk is nature's gift to the infant and does not need to be purchased.
- Breastfeeding makes a special relationship between mother and baby.
- Breastfeeding helps parents to space their children.
- Breastfeeding helps a mother to shed extra weight gained during pregnancy.

## Early Initiation of Breastfeeding

Early initiation of breastfeeding is extremely important for establishing successful lactation as well as for providing 'Colostrum' (mother's first milk) to the baby. Ideally, **the baby should receive the first breastfeed as soon as possible and preferably within half an hour of birth.** The new born baby is very active during the first half an hour and if the baby is kept with the mother and effort is made to breastfeed, the infant learns sucking very fast. This early suckling by the infant starts the process of milk formation in the mother and helps in early secretion of breast milk. In case of caesarean deliveries, new born infants can be started with breastfeeding within 4-6 hours with support to the mother. Newborn babies should be kept close to their mothers to provide warmth and ensure frequent feeding. This also helps in early secretion of breast milk and better milk flow.

It is essential that the baby gets the first breast-milk called colostrum which is thicker and yellowish 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.

During this period and later, the newborn should not be given any other fluid or food like honey, ghutti, animal or powdered milk, tea, water or glucose water, since these are potentially harmful.

The mother, especially with the first birth, may need help in 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.

### **Value of Colostrum**

The milk secreted after the child birth for the first few days is called 'Colostrum'. It is yellowish in colour and sticky. It is highly nutritious and contains anti-infective substances. It is very rich in vitamin A. Colostrum has more protein, sometimes upto 10%. It has less fat and the carbohydrate lactose than the mature milk. Feeding colostrum to the baby helps in building stores of nutrients and anti-infective substances (antibodies) in the baby's body. The anti-infective substances protect the baby from infectious diseases such as diarrhoea, to which the child might be exposed during the first few weeks after birth. Colostrum is basically the first immunisation a child receives from the mother. Some mothers consider this first milk as something dirty and indigestible. Difference in colour and consistency could be possible reasons for such beliefs.

Delayed initiation of breastfeeding is a common practice in the country and this deprives the new borns from the concentrated source of anti-infective properties, vitamin A and protein available in colostrum. In some communities breastfeeding is started as late as the fifth day for various superstitions and ignorance. In India only 15.8% of the new borns are started with breastfeeding within one hour of birth and only 37.1% within a day of birth.

Late initiation of breastfeeding not only deprives the child of the valuable colostrum, but becomes a reason for introduction of pre-lacteal feeds like glucose water, honey, ghutti, animal or powder milk which are potentially harmful and invariably contribute to diarrhoea in the new born. Late initiation of breastfeeding also causes engorgement of breasts which further hampers establishment of successful lactation.

Educating the mothers and the communities about the value of colostrum would help in ensuring that colostrum is not wasted but fed to the child.

### **Exclusive breastfeeding**

Exclusive breastfeeding means that babies are given only breast milk and nothing else – no other milk, food, drinks and not even water. During the first six months **exclusive breastfeeding** should be practiced. Breast milk provides best and complete nourishment to the baby during the first six months. The babies who are exclusively breastfed do not require anything else namely additional food or fluid, herbal water, glucose water, fruit drinks or water during the first six months. Breast milk alone is adequate to meet the hydration requirements even under the extremely hot and dry summer conditions prevailing in the country.

It is important to ensure exclusive breastfeeding of all babies as it saves babies from diarrhoea and pneumonia. It also helps in reducing specially the ear infections and risk of attacks of asthma and allergies.

Addition of even a single feed of the animal or powder milk, any other food or even water has two disadvantages, firstly it depresses lactation as child will suck less and hence less breast milk will be produced, and secondly addition of any other food or water increases the chances of infections particularly the diarrhoea. Recent WHO studies estimate that death rate in babies can go down four times if they are exclusively breastfed for the first six months.

Exclusive breastfeeding provides babies with the best start in life. It makes them smarter with higher intelligence and helps in optimal development. Exclusive breastfeeding is, therefore, extremely important to prevent infections like diarrhoea and acute respiratory infections in early infancy and thus reduce infant mortality. **It must be remembered that benefits of breastfeeding are reduced if it is not exclusive breastfeeding.**

### **Counselling for breastfeeding during pregnancy**

Practically all mothers, including those with mild to moderate chronic malnutrition, can successfully breastfeed.

Expectant mothers, particularly primiparas, and those who have experienced difficulties with lactation management, should be motivated and prepared for early initiation of breastfeeding and exclusive breastfeeding. This should be achieved by educating them, through a personal approach, about the benefits and management of breastfeeding. In the last trimester of pregnancy, breasts and nipples should be examined and relevant advice given.

Antenatal checkups and maternal tetanus toxoid immunisation contact points should be utilised for promoting early initiation of breastfeeding, feeding of colostrum, exclusive breastfeeding and discouraging prelactal feeds. Advice regarding diet, rest and iron & folic acid supplementation should also be given.

Some tips on nutrition of pregnant women and lactating mothers are given in Annexures I and II.

## **COMPLEMENTARY FEEDING**

### **Importance of Complementary Feeding**

Complementary feeding is extremely essential from six months of age, while continuing breastfeeding, to meet the growing needs of the growing baby. Infants grow at a very rapid rate. The rate of growth at this stage is incomparable to that in later period of life. An infant weighing around 3kg at birth doubles its weight by six months and by one year the weight triples and the body length increases to one and a half times than at birth. Most of the organs of the body grow rapidly, both structurally and functionally during the early years of life and then later on, the growth slows down. Most of the growth in the nervous system and brain is complete in the first two years of life. In order to achieve optimum growth and development, there is an increased demand for a regular supply of raw material in the form of better nutrition.

Breast milk is an excellent food and meets all nutritional requirements of the baby for the first six months. However, after six months of age, breast milk alone is not enough to make an infant grow well, other foods are also needed. This is because the infant is growing in size and its activities are also increasing. As a result the nutritional needs of the infant increase significantly at this age.

**Complementary feeding should be started at six months of age.** The purpose of complementary feeding is to complement the breast milk and make certain that the young child continues to have enough energy, protein and other nutrients to grow normally. It is important that breastfeeding is continued upto the age of two years or beyond as it provides useful amounts of energy, good quality protein and other nutrients.

Adequate complementary feeding from six months of age while continuing breastfeeding is extremely important for sustaining growth and development of the infant.

Active feeding styles for complementary feeding are also important. Appropriate feeding styles can provide significant learning opportunities through responsive caregiver interaction, enhancing brain development in the most crucial first three years.

### **First food for the baby**

The staple cereal of the family should be used to make the first food for an infant. Porridge can be made with *suji* (semolina), broken wheat, *atta* (wheat flour) ground rice, *ragi*, millet etc, by using a little water or milk, if available. Roasted flour of any cereal can be mixed with boiled water, sugar and a little fat to make the first complementary food for the baby and could be started on the day the child becomes six months old. Adding sugar or jaggery and ghee or oil is important as it increases the energy value of the food. In the beginning the porridge could be made a little thinner but as the child grows older the consistency has to be thicker. A thick porridge is more

nutritious than a thin one. In case a family can not prepare the porridge for the infant separately, pieces of half *chapati* could be soaked in half a cup of milk or boiled water, mashed properly and fed to the baby after adding sugar and fat. Soaked and mashed chapatti could be passed through a sieve so as to get a soft semi-solid food for the infant.

Fruits like banana, papaya, *chikoo*, mango etc could be given at this age in a mashed form. Infants could also be given reconstituted instant infant foods (preparation of which is discussed a little later) at this age.

### **Traditional foods for infants**

Once the child is eating the cereal porridge well, mixed foods including cooked cereal, pulse and vegetable(s) could be given to the child. Most traditional foods given to infants in different parts of the country are examples of mixed foods like *khichidi*, *dalia*, *suji kheer*, *upma*, *idli*, *dokhla*, *bhaat-bhaji* etc. Sometimes traditional foods are given after a little modification so as to make the food more suitable for the child. For instance, mashed *idli* with a little oil and sugar is a good complementary food for the infant. Similarly *bhaat* can be made more nutritious by adding some cooked *dal* or vegetable to it. *Khichidi* can be made more nutritious by adding one or two vegetables in it while cooking.

### **Modified family food**

In most families there is a cereal preparation in the form of *roti* or rice and a pulse or a vegetable preparation. For preparing a complementary food for the infant from the foods cooked for the family, a small amount of *dal* or vegetable preparation should be separated before adding spices to it. Pieces of chapati could be soaked in half a *katori* of *dal* and some vegetable, if available. The mixed food could be mashed well and fed to the baby after adding a little oil. If necessary the mixture could be passed through a sieve to get a semi-solid paste. Thus, rice or wheat preparation could be mixed with pulse and/or vegetable to make a nutritious complementary food for the infant. Modifying family's food is one of the most effective ways of ensuring complementary feeding of infants.

### **Instant Infant Foods**

Infant food mixes can be made at home from foodgrains available in the household. These mixes can be stored atleast for a month and enable frequent feeding of infants. These are *sattu* like preparations which is quite familiar in the Indian community. One can take three parts of any cereal (rice/wheat) or millet (*ragi*, *bajra* *jowar*), one part of any pulse (*moong/channa/arhar*) and half part of groundnuts or white *til*, if available. The food items should be roasted separately, ground, mixed properly and stored in airtight containers. For feeding, take two tablespoons of this infant food mix, add boiled hot water or milk, sugar or jaggery and oil/ghee and mix well. Cooked and mashed carrot, pumpkin or green leafy vegetables could be added to the porridge, if available. The infant can be fed with this food whenever freshly cooked

food is not available in the family. The infant food mix could also be made into preparations like *halwa*, *burfi*, *upma*, *dalia* etc, and given to the child.

### **Protective foods**

Besides modified family food and reconstituted infant food mixes, protective foods like milk, curd, lassi, egg, fish and fruits and vegetables are also important to help in the healthy growth of the infants. Green leafy vegetables, carrots, pumpkin and seasonal fruits like papaya, mango, *chikoo*, banana etc., are important to ensure good vitamin A and iron status of the child.

Baby needs all foods from six months namely cereals, pulses, vegetables particularly green leafy vegetables, fruits, milk and milk products, egg, meat and fish if non-vegetarian, oil/ghee, sugar and iodised salt in addition to breastfeeding. A diversified diet of the infant alongwith breastfeeding will also improve the micronutrients' status of the child.

### **Energy Density of Infant Foods**

Low energy density of complementary foods given to young children and low frequency of feeding result in inadequate calorie intake and thus the malnutrition. Most of the foods are bulky and a child cannot eat more at a time. Hence it is important to give small energy dense feeds at frequent intervals to the child with a view to ensure adequate energy intake by the child.

Energy density of foods given to infants and young children can be increased in four different ways:

- i) By adding a teaspoonful of oil or ghee in every feed. Fat is a concentrated source of energy and substantially increases energy content of food without increasing the bulk. The false belief in the community that a young child cannot digest fat has to be dispelled with by informing that a young infant digests fat present in breast milk and all other foods like cereals and pulses and that there is no reason to feel that a child can not digest visible fat when added to food.
- ii) By adding sugar or jaggery to the child's food. Children need more energy and hence adequate amounts of sugar or jaggery should be added to child's food.
- iii) By giving malted foods. Malting reduces viscosity of the foods and hence child can eat more at a time. Malting is germinating whole grain cereal or pulse, drying it after germination and grinding. Infant Food Mixes prepared after malting the cereal or pulse will provide more energy to the child. Flours of malted food when mixed with other foods help in reducing the viscosity of that food. Amylase Rich Flour (ARF) is the scientific name given to flours of malted foods and must be utilised in infant foods.
- iv) By feeding thick mixtures. Thin gruels do not provide enough energy. A young infant particularly during 6-9 months requires thick but smooth

mixtures as hard pieces in the semi-solid food may cause difficulty if swallowed. The semi-solid foods for young infants can be passed through a sieve by pressing with a ladle to ensure that the mixed food is smooth and uniform without any big pieces or lumps.

### **Frequency of feeding**

Infants and young children need to be fed 5-6 times a day in addition to breastfeeding. It must be remembered that inadequate feeding of infants and young children during the first two years is the main cause of malnutrition.

### **CONTINUED BREASTFEEDING**

Breastfeeding must be continued upto the age of two years or beyond. Continuing breastfeeding while giving adequate complementary foods to the baby provides all the benefits of breastfeeding to the baby. In other words, the child gets energy, high quality protein, vitamin A, anti-infective properties and other nutrients besides achieving emotional satisfaction from the breastfeeding much needed for optimum development of the child. Breastfeeding especially at night ensures sustained lactation.

In the beginning when the complementary foods are introduced after six months of age, the complementary food should be fed when the infant is hungry. As the child starts taking complementary foods well, the child should be given breastfeeding first and then the complementary food. This will ensure adequate lactation.

### **Active feeding**

Adopting caring attitude while feeding the baby like talking to the child, playing with the child stimulates appetite and development. One-two year old child should be given food on a separate plate and encouraged to eat on its own. Eating at the same time and at the same place also helps in improving appetite and avoids distractions.

### **Growth Monitoring and Promotion (GMP)**

Weighing the child regularly and plotting the weight on the health card is an important tool to monitor the growth of the baby. Infants and young children should be weighed every month in the presence of their mothers and the growth status of the child should be explained to the mother. The growth chart kept in a plastic jacket could be entrusted to the mother. If the child is having malnutrition, the mothers should be advised to provide additional food to the child every day. Malnourished children should be followed up at home and mothers encouraged to come and ask questions regarding the feeding and care of the child.

### **Ensuring safety of complementary foods**



Careful hygienic preparation and storage of complementary foods is crucial to prevent contamination. Personal hygiene plays an important role in feeding infants. If cleanliness is not observed, complementary feeding may do more harm than good to the child by introducing infections to the infant. It is, therefore, important that all foods prepared for young infants are handled in a way that they are free from any germs. Some of the considerations while preparing foods for infants are as under:

- ✓ Hands should be washed with soap and water before handling the food as germs that cannot be seen in dirty hands can be passed on to the food.
- ✓ Utensils used should be scrubbed, washed well, dried and kept covered.
- ✓ Cooking kills most germs. The foods prepared for infants should be cooked properly so as to destroy harmful bacteria present, if any.
- ✓ After cooking, handle the food as little as possible and keep it in a covered container protected from dust and flies.
- ✓ Cooked foods should not be kept for more than one to two hours in hot climate unless there is a facility to store them at refrigeration temperature.
- ✓ The hands of both mother and child should be washed before feeding the child.

### **Utilising the available nutrition and health services**

There are a number of nutrition and health services available for young children in almost all places. The people in the community should be informed about various services which are available for children in the village, at the sub-centre, at the Primary Health Centre, under Reproductive and Child Health (RCH) Programme, Integrated child Development Services (ICDS) Scheme etc. Every effort should be made to encourage the community members to make use of these facilities so as to promote child health.

### **Feeding during and after illness**

During the weaning period, i.e., from six months to two years of age, young children often suffer from infections like diarrhoea, measles, cold, cough etc. If their diet had been adequate, their symptoms are usually less severe than those in an undernourished child. A sick child needs more nourishment so that he could fight infections without using up nutrient reserves of his body. However, a child may lose appetite and may refuse to eat, but the child needs adequate nutrition to get better from illness.

Appropriate feeding during and after illness is important to avoid weight loss and other nutrient deficiencies. The cycle of infection and malnutrition can be broken if appropriate feeding of infant is ensured. Breastfed babies have lesser illness and are better nourished. A breastfed baby should be given breastfeeding more frequently during illness. For infants older than six months, both breastfeeding and complementary feeding should continue during illness. Restriction or dilution of food should be discouraged. Time and care must be taken to help an ill child eat enough food. The infant can be encouraged to eat small quantities of food but more frequently and by offering foods the child likes to eat.

Make sure that children with measles, diarrhoea and respiratory infections eat plenty of vitamin A rich foods. A massive dose of vitamin A could also be given to such children in consultation with the medical officer.

After the illness when the child is recovering, a nutritious diet with sufficient energy, protein and other nutrients is necessary to enable him to catch up growth and replacement of nutrient stores. The nutrient intake of child after illness can be easily increased by increasing one or two meals in the daily diet for a period of about a month or so.

## **FEEDING IN EXCEPTIONALLY DIFFICULT CIRCUMSTANCES**

### **Malnourished infants**

Infants and young children who are malnourished are most often found in environments where improving the quality and quantity of food intake is particularly problematic. To prevent a recurrence and to overcome the effects of chronic malnutrition, these children need extra attention both during the early rehabilitation phase and over the longer term. Continued frequent breastfeeding and, when necessary, relactation are important preventive steps since malnutrition often has its origin in inadequate or disrupted breastfeeding.

Nutritionally adequate and safe complementary foods may be particularly difficult to obtain and dietary supplements may be required for these children. Mothers of malnourished children could be invited in a camp and provided with a fortnight's ration of roasted cereal-pulse mixes with instructions. The children could be followed up every fortnight for growth monitoring, health check up and supply of instant food ration for a period of three months. When malnourished children improve with appropriate feeding, they themselves would become educational tools for others.

### **Preterm or Low Birth Weight Infants**

Breast milk is particularly important for preterm infants and babies with low birth weight (newborn with less than 2.5kg weight) as they are at increased risk of infection, long term ill health and death.

Keep preterm or low birth weight baby warm. Practice Kangaroo care. Kangaroo care is a care given to a preterm baby in which baby is kept between the mother's breast for skin to skin contact as long as possible as it simulates intrauterine environment and growth. This helps the baby in two ways, (i) the child gets the warmth of the mother's body, and (ii) the baby can suck the milk from the mother's breasts as and when required. Such babies may need to suck more often for shorter duration. If the baby is not able to suck, expressed breast milk may be fed with katori or tube.

The unique composition of preterm milk with its high concentration of protective substances makes it particularly suited for preterm babies. Preterm baby should be fed every two hourly during the day and night.

## **Feeding During Emergencies**

Infants and young children are among the most vulnerable victims of natural or human induced emergencies. Interrupted breastfeeding and inappropriate complementary feeding heighten the risk of malnutrition, illness and mortality. Uncontrolled distribution of breast milk substitutes, for example in refugee settings, can lead to early and unnecessary cessation of breastfeeding.

Although breastfeeding is the safest and often the ONLY reliable choice for young infants, one is likely to overlook the basics like breastfeeding for those who need it the most, in the rapid response that is needed to provide relief during emergencies. There is surplus availability of milk powder which is invariably donated liberally. Protecting, promoting and supporting breastfeeding in disaster areas with due focus on the following is essential to ensure child survival, nutrition and health:

- Emphasis should be on protecting, promoting and supporting breastfeeding and ensuring timely, safe and appropriate complementary feeding.
- Pregnant and lactating women should receive priority in food distribution and should be provided extra food in addition to general ration.
- Complementary feeding of infants aged six months to two years should receive priority.
- Donated food should be appropriate for the age of the child.
- Immediate nutritional and care needs of orphans and unaccompanied children should be taken care of.
- Efforts should be made to reduce ill effects of artificial feeding by ensuring adequate and sustainable supplies of breast milk substitutes, proper preparation of artificial feeds, supply of safe drinking water, appropriate sanitation, adequate cooking utensils and fuel.

## **Feeding in Maternal HIV**

The HIV pandemic and the risk of mother to child transmission of HIV through breastfeeding pose unique challenges to the promotion of breastfeeding, even among unaffected families. The absolute risk of HIV transmission through breastfeeding for more than one year – globally between 10% and 20% - needs to be balanced against the increased risk of mortality and morbidity when infants are not breastfed.

Risk factors during breastfeeding that increase transmission includes breast pathology like sore nipples or even sub clinical mastitis, which are preventable problems through good breastfeeding and lactation management support to mothers.

All HIV infected mothers should receive counselling, which should include provision of general information about meeting their own nutritional requirements, and

about the risks and benefits of various feeding options, and specific guidance in selecting the option most likely to be suitable for their situation. The manifold advantages of breastfeeding even with some risk of HIV transmission should be explained to the HIV positive mothers.

If artificial feeding is NOT affordable, feasible, acceptable, safe and sustainable (AFASS), then only exclusive breastfeeding must be recommended during the first six months of life. These guidelines imply that till one can ensure all these 5 AFASS factors, it would not be safe to provide artificial feeding in HIV positive mothers.

The dangers of mixed feeding of infants should be explained to the HIV infected mothers. Sometimes mothers may chose to artificially feed the baby, but under some social pressures they also breastfeed the child. An artificially fed baby is at less risk than the baby who receives mixed feeding i.e., both breastfeeding and artificial feeding. The aim of the counselling for feeding infants in maternal HIV should, therefore, be to avoid mixed feeding. All breastfeeding mothers should be supported for exclusive breastfeeding upto six months. If the woman chooses not to breastfeed, she should be provided support for artificial feeding to make it safe.

To achieve appropriate infant feeding practices in HIV positive mothers, capacity building of counselors and health workers, including doctors and nursing staff, is mandatory to ensure either '**exclusive breastfeeding**' or '**exclusive artificial feeding**' as chosen by the mother.

## **B. OPERATIONAL GUIDELINES FOR PROMOTION OF APPROPRIATE INFANT AND YOUNG CHILD FEEDING**

### **Obligations and Responsibilities**

Central and State Governments, national and international organisations and other concerned parties share responsibility for improving the feeding of infants and young children so as to bring down the prevalence of malnutrition in children, and for mobilising required resources – human, financial and organizational. The primary obligation of Governments is to recognise the importance of improving infant and young child feeding (IYCF) at the highest policy making level and integrate IYCF concerns in existing policies and programmes. An effective national coordination is required to ensure full collaboration of all concerned Government agencies, national and international organisations and other concerned parties. Regional and local Governments also have an important role to play in implementing the national guidelines on infant and young child feeding.

The Departments of Women and Child Development, and Health and Family Welfare have a special responsibility to contribute to optimal infant and young child nutrition. National Guidelines on Infant and Young Child Feeding should form an integral part of nation-wide Integrated Child development Services (ICDS) and the Reproductive and Child Health (RCH) Programme. These need to be effectively operationalised through the programme managers and field functionaries of these on

going programmes. The managers and functionaries of these programmes need to be practically oriented to the correct norms of IYCF. These guidelines should form an essential part of the nursing and undergraduate medical curricula. The medical and para-medical personnel of the Departments of Paediatrics, Obstetrics and Gynecology and Preventive and Social Medicine should actively educate and motivate the mothers and other relatives for adoption of appropriate IYCF practices. In addition, the services of other community level workers and involvement of formal and non-formal education, the media and voluntary organisations is recommended to be utilised for effective implementation of these guidelines.

In this context, due attention needs to be given to the monitoring of the implementation of the Infant Milk Substitutes, Feeding Bottles and Infant Foods (Regulation of Production, Supply and Distribution) Act 1992 and its subsequent amendment(s).

## **INSTITUTIONAL PROMOTION**

### **Nutrition and Health professional bodies**

Nutrition and Health professional bodies, which include Home Science (Food and Nutrition) and medical faculties, schools of public health, public and private institutions for training nutrition and health workers (including midwives, nurses, nutritionists and dietitians), and professional associations, should have the following main responsibilities towards their students or membership:

- Ensuring that basic education and training cover lactation physiology, exclusive and continued breastfeeding, complementary feeding, feeding in difficult circumstances, meeting the nutritional needs of infants who have to be fed on breast-milk substitutes, and the legislation and other measures adopted;
- Training in how to provide skilled support for exclusive and continued breastfeeding and appropriate complementary feeding in all neonatal, paediatric, reproductive health, nutritional and community health services;
- Promoting achievement and maintenance of 'baby friendly' status by maternity hospitals, wards and clinics, consistent with the 'Ten steps to successful breastfeeding' and the principle of not accepting free or low cost supplies of breast-milk substitutes, feeding bottles and teats.

### **Nongovernmental organisations**

The aims and objectives of a wide variety of nongovernmental organisations operating locally, nationally and internationally include promoting the adequate food and nutrition needs of young children and families. For example, charitable and religious organisations, consumer associations, mother-to-mother support groups, family clubs, and child-care facilities all have multiple opportunities to contribute to the implementation of National Guidelines on Infant and Young Child Feeding, for example:

- Providing their members accurate, up-to-date information about infant and young child feeding;
- Integrating skilled support for infant and young child feeding in community based interventions and ensuring effective linkages with the nutrition and health care system;
- Contributing to the creation of mother and child friendly communities and workplaces that routinely support appropriate infant and young child feeding;
- Working for full implementation of the principles and aim of the IMS Act;
- Community based support, including that provided by other mothers, peer breastfeeding counsellors and certified lactation consultants, can effectively enable women to feed their children appropriately. Most communities have self-help traditions that could readily serve as a base for building or expanding suitable support systems to help families in this regard.

### **Commercial enterprises**

Manufacturers and distributors of industrially processed foods intended for infants and young children also have a constructive role to play in achieving the aim of these guidelines. They are responsible for monitoring their marketing practices according to the principles and aim of the IMS Act and the National Guidelines on Infant and Young Child Feeding.

### **Other Groups**

Many other components of society have potentially influential roles in promoting good feeding practices. These elements include:

- *Education authorities*, which help to shape the attitudes of children and adolescents about infant and young child feeding –accurate information should be provided through schools and other educational channels to promote greater awareness and positive perceptions;
- *Mass media*, which influence popular attitudes towards parenting, child care and infant feeding should portray these in accordance with the National Guidelines on Infant and Young Child Feeding. It should help create a climate of nutritional awareness in the country by launching special programmes on Infant and Young Child Nutrition on AIR and Doordarshan;
- *Child-care facilities*, which permit working mothers to care for their infants and young children, should support and facilitate continued breastfeeding and breast-milk feeding.

### **International organisations**

International organisations, including global and regional lending institutions, should place infant and young child feeding high on the global public health agenda in recognition of its central significance for realizing the rights of children and women; they should serve as advocates for increased human, financial and institutional

resources for the universal implementation of these guidelines; and, to the extent possible, they should provide additional resources for this purpose.

Specific contributions of international organisations to facilitate the work of governments include the following:

- Developing norms and standards.
- Supporting national capacity building.
- sensitizing and training policy makers;
- improving women and child development and health workers skills in support of optimal infant and young child feeding;
- revising related pre-service curricula for doctors, nurses, midwives, nutritionists, dietitians, auxiliary health workers and other groups as necessary;
- planning and monitoring the Baby-friendly Hospital Initiative and expanding it beyond the maternity care setting;
- supporting social mobilization activities, for example using the mass media to promote appropriate infant feeding practices and educating media representatives;
- supporting research on marketing practices and the International Code.

**These National Guidelines on Infant and Young Child Feeding provide governments and society's other main agents with both a valuable opportunity and a practical instrument for rededicating themselves, individually and collectively, to protecting, promoting and supporting safe and adequate feeding for infants and young children.**

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## **Nutrition of Pregnant Women**

A pregnant woman needs:

- An adequate nutritious diet
- Adequate rest during last trimester
- Iron and Folic Acid tablets throughout the pregnancy
- Immunization

### Diet

- ❑ Increase food intake.
- ❑ Whole gram, pulses and legumes, sprouted pulses, leafy vegetables, jaggery, dates, groundnuts, gingelly seeds are foods of plant origin having good iron content. Include more of these in the daily diet.
- ❑ Include green leafy vegetables in daily diet right from the beginning as all foliage provide "folic acid" much needed during early months.
- ❑ Consume one seasonal fruit daily.
- ❑ Milk, curd, butter milk, egg, meat, fish are helpful.
- ❑ Iodised salt should be consumed as pregnant women requires sufficient iodine for brain development of the child in the womb.
- ❑ Take plenty of fluids/water.
- ❑ Take small and frequent meals.

### Rest

- ❑ Heavy work should be avoided throughout the pregnancy
- ❑ Rest (in lying down position) during third trimester is important to enable adequate flow of nutrients from mother to the child
- ❑ A woman should gain 10-12kg weight during pregnancy

### Iron and Folic Acid tablets

- ❑ IFA tablets should be consumed throughout the pregnancy
- ❑ Iron tablets may cause black stools which are harmless
- ❑ Iron and folic acid tablets prevent anaemia and helps a women to deliver a normal healthy baby
- ❑ The folic acid deficiency can cause "Neural tube defects" in the new borns

### Immunisation

- ❑ Immunisation of the pregnant woman with tetanus toxoid (TT) given between the 5<sup>th</sup> and 8<sup>th</sup> months of pregnancy in two doses at an interval of 4 weeks is essential.



### **Nutrition of Lactating Mothers**

- ❖ A lactating mother requires to eat more than what she was eating during pregnancy.
- ❖ A lactating mother requires 550 calories extra per day to meet the needs of production of mother's milk for the new born baby.
- ❖ A good nutritious diet prepared from low cost locally available foods, family support and care, and a pleasant atmosphere in the family helps improve lactation and ensures health of both the mother and the baby.

#### Diet

- ❑ Include more of cereal, pulse and green leafy vegetable in daily diet.
- ❑ Take vegetables and one seasonal fruit a day.
- ❑ Take milk, butter milk, fluids and a lot of water.
- ❑ Egg, meat, fish are beneficial.
- ❑ Energy dense foods like ghee/oil and sugar are necessary to meet the increased energy needs. Traditional preparations like panjiri, laddoo are useful.

#### Rest

- ❑ Breastfeed in a relaxed state. Any type of mental tension decreases milk secretion

#### IFA tablets

- ❑ Take iron and folic acid tablets for first six months of lactation