

# Impact of Infant and Young Child Feeding (IYCF) Counseling on Practices and Knowledge of Mothers in Rural Areas

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**Abstract** IYCF practices have a great impact on the physical and mental development of the child. The objective of this study was the lactating mothers with the children in the age group 0-23 months were studied and delivered IYCF counseling according to their need basis as well as key IYCF messages. Mother's knowledge level was average about IYCF components; 42.4% mothers had proper knowledge about IYCF practice which improved to 48.6% who have at least 80% knowledge about IYCF. 61.0% mothers had knowledge on initiation of breast-feeding within an hour of birth and now 79.1 mother knew the right message while 50.7% of the mothers initiated breast-feeding within an hour after birth remain same before and after the study. Exclusive breast-feeding for 6 months was practiced by the mothers of 60.2% & study leads to 73.5% as of impact of counseling. After counseling on IYCF knowledge increased from 61.6% to 75.2% on complimentary feeding should start at 6 months and 55.4% of the mother wished to continue breast fed for 2 years of infants but finally 65.5% agreed on right age of continuation of breast feeding for children.

**Keywords:** Infant and Young Child Feeding (IYCF), breast feeding, complementary feeding, lactating mother

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## 1. Introduction

The optimal infant and young child feeding practices during the first 2 years of life is of paramount importance as this period is the "critical window" for the promotion of health, good growth, behavioral and cognitive development. Optimal infant and young child feeding practices include initiation of breast-feeding within 1 hour of birth, exclusive breast-feeding for the first 6 months, and continuation of breast-feeding for 2 years or more, along with nutritionally adequate, safe, age appropriate, responsive complementary feeding starting at 6 months. [1] Breast-feeding strengthens emotional security and affection creating a strong bond between the mother and the child, which in turn promotes psychosocial development of a child. To ensure good nutrition status of the infant as well as the mother, maternal nutrition plays a vital role. Breast-feeding is nature's way of nurturing the

child. It provides learning and development opportunities to the infant. Breast milk also leads to increased intelligence quotients and better visual acuity due to the presence of special fatty acids in it. [2]

Approximately, 1.4 million deaths of children under the age of 5 years worldwide can be attributed to suboptimal breast-feeding. Almost 6% of under-five mortality can be prevented by the timely introduction of complementary feeding. [3] It was estimated that about one-fifth of overall under-five mortality can be averted if 90% infants are covered with an inclusive package of interventions to promote, protect, and support the optimal infant young child feeding (IYCF) practices. [3] A large proportion of children become vulnerable to stunting, poor cognitive development, and significantly increased risk of infectious diseases, such as, diarrhea and acute respiratory infection due to the poor complementary feeding practices. [4]

It has been established that because of the best bioavailable iron in breast milk, exclusive breast-feeding prevents anemia and infections particularly the diarrheal

infections in the child. The need of introducing cereal-based foods in the diet of infant after the age of 6 months can be correlated with the fact that enzyme amylase appears in the seventh month of the infant. [5] The mother's risk for excess postpartum bleeding is decreased if breast-feeding is initiated early, which in turn lowers the risk for anemia. Exclusive breast-feeding delays next pregnancy boosts mother's immunity and reduces the insulin needs of diabetic mothers. Breast-feeding also provides protection from breast and ovarian cancers and osteoporosis. [6] This has an enormous impact in a developing country, like India, with a high burden of disease and low access to safe water and sanitation. The recent studies conducted even in developed countries have also emphasized the role of IYCF practices in reducing child mortality. [7] A global strategy for infant- and young child-feeding has been devised by the World Health Organization (WHO) and United Nations Children Fund. Based on these guiding principles, the Government of India, in collaboration with international agencies, has adopted the culturally acceptable IYCF guidelines, which were incorporated in the Integrated Management of Neonatal and Childhood Illness Programme. [8]

These guidelines recognize appropriate infant feeding practices to be crucial for improving nutrition status and decreasing infant mortality in all countries. WHO offers three recommendations for IYCF practices for children aged 6–23 months: continued breast-feeding or feeding with appropriate calcium-rich foods if not breast-fed; feeding solid or semisolid food for a minimum number of times per day according to age and breast-feeding status; and including foods from a minimum number of food groups per day according to breast-feeding status.

Bangladesh Demographic and Health Survey (BDHS 2014) have provided useful national- and state-level information on the IYCF practices. [9] Available data showed a gross interstate variation. However, the BDHS was not designed to provide district-level data. According to the BDHS-2014 data Fifty-five percent of infants under age 6 months are exclusively breastfed. The Multiple Indicator Cluster Survey 2012-13 reported lower exclusive breastfeeding rates of 56 percent [10]. Overall, 26 percent of breastfed children age 6-23 months are given the recommended four or more food groups, and 63 percent are fed at least the minimum number of times.

According to the Multiple Indicator Cluster Survey 2012-13 (MICS-2012-13) early initiation of breast feeding (within an hour of delivery) is 57.4%, continued breast feeding up to 2 years 87.5%. [10]

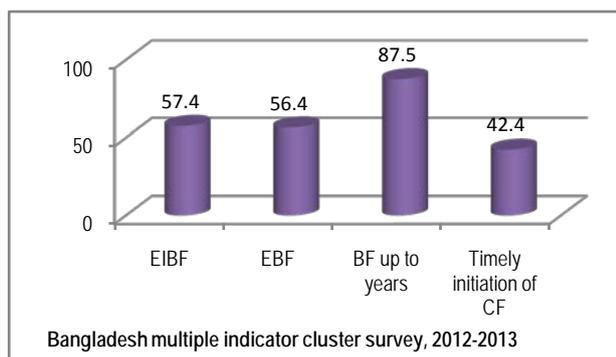


Figure 1. Bangladesh IYCF condition according to MICS 2012-13

With this background, this study was undertaken to assess the IYCF knowledge and practices with special emphasis on IYCF indicators, among children aged less than 2 years among 16 rural areas or villages at Maligasa Union, Pabna district, Bangladesh.

## 2. Common Misconceptions and Myths Found during the Study of Breastfeeding and Complementary Feeding in the Field

During study of counselling of the mother, we found some misconceptions and myths which stop the good IYCF practices for the children like early initiation of breastfeeding (discarding first milk, pre-lacteal feeding), exclusive breastfeeding up to 6 months (extra water during hot, sick mother stop breastfeeding etc.)

- A Baby needs extra water when it is hot.
- Infant formula is better than breast milk.
- Breast milk just goes away. After a few weeks or months, all mothers lose their milk.
- Stress stops mothers from making breast milk.
- The “first milk” after delivery should be discarded.
- A baby should introduce pre-lacteal food like sweet, honey to have sweet voice.
- Baby poo is less dangerous than adult poo.
- If a mother does not eat enough her milk will not be enough.
- If breastfeeding is painful, a mother should stop breastfeeding.
- A mother who is sick should stop breastfeeding her baby.
- A pregnant woman can't continue to breastfeed her older child.

## 3. Common Difficulties Found during the Study of Breastfeeding and Complementary Feeding in the Field

During study of counselling of the mother, we found some common difficulties among the mother which hampered the good IYCF practices for the children like early initiation of breastfeeding (not enough milk immediately after delivery), exclusive breastfeeding up to 6 months (not enough milk, low confidence of the mothers, refusal, death of mother), complementary feeding (too early or late initiation of weaning food, not responsive feeding and frequency of the feeding) and continued breastfeeding up to 2 years (pregnant or sick mother stop breastfeeding, after weaning food mother stop breastfeeding)

### In case of breastfeeding

- **Not enough milk:** Almost all mothers complained that, she does not have enough milk, baby crying excessively and their babies still hungry. That's why they also feed formula milk, or cow milk. Sometimes a baby does not get enough breast milk, because he is not suckling enough, or not suckling effectively. It is rarely because of wrong attachment and position.

- **Refusal of breastfeed:** It's a common reason for stopping breastfeeding; it happened from both side of mother and baby. When mother become pregnant or sick, she refused to give breast milk to the baby, sometimes due the sickness or other reasons baby also refused to continue breastfeeding.
- **Dead of mother:** In all of 177 caregivers in the study, one child's mother is dead during the birth of her child. We had tried to have an wet mother to ensure breastfeeding but couldn't manage wet mother. So, there is no any other option to formula feeding or dilute cow milk feeding to the child before 6 months.

#### In case of complementary feeding

- Baby Not Interested in Weaning and not interested to new food
- After start weaning children got frequent dysentery, diarrhea and indigestion problem, sometimes vomit.
- Working mothers don't have enough time to wean
- Some mothers prefer commercial supplementary baby food
- Not enough money to give nutritious or good food for babies
- We feed babies properly everything, but still now he/she is underweight.
- Trouble to Wean Baby from Breastfeeding
- Weaning Baby Spitting Out Food
- Ultimately, Force feeding.
- To overcome all those situation, caregivers or mothers need IYCF counseling; and I have done that in study.

## 4. Importance and Necessity of IYCF Counseling

Accelerating interventions aimed at improving infant and young child feeding (IYCF) at community level is a key priority in the effort to improve survival, growth, and development of children with equity. However, in many communities IYCF practices remain far from optimal. Caregivers often lack the practical support, one-to-one counseling and correct information. Community-based IYCF counseling and support can play an important role in improving these practices: it can ensure access to these services in the poorest and the most vulnerable communities with limited access to health care, and therefore become an important strategy for programming with an equity focus.

In 2010, UNICEF developed a new set of generic tools for programming and capacity development on community based IYCF counseling with high quality graphic illustrations for low-literacy contexts. Aimed for use in diverse country contexts, the package of tools guides local adaptation, design, planning and implementation of community based IYCF counseling and support services at scale. It also contains training tools to equip community workers (CWs), using an interactive and experiential adult learning approach, with relevant knowledge and skills on the recommended breastfeeding and complementary feeding practices for children from 0 up to 24 months, enhance their counseling, problem solving, negotiation

and communication skills, and prepare them to effectively use the related counseling tools and job aids. To date, a large number of countries have adapted the materials to the local context, building capacity and rolling out community based IYCF counseling and communication using the package. [13]

## 5. Study Design

- Select a rural area for survey
- Questionnaire development and field testing
- Select lactating mothers with less than one year children in this rural area
- Collect the information about all the mothers' knowledge by creating a questioner method
- Counsel to the mothers about IYCF according to need and key IYCF messages for 10 months.
- Repeat the step 4 in same questioner format with those mothers
- Compare the first and second result.

## 6. Methods and Materials

It was a convenient sample survey study conducted on April, 2017, at Maligasa Union, Pabna district, Bangladesh. This union caters population of about 25000 in the field practice area by providing primary and promotive health care. Study population comprised of mothers having children of age group 0–23 months. A total of 177 eligible mothers were approached through house-to-house visit to participate in the study by convenient sampling method. They were informed about the purpose of study and informed consent was obtained from the mothers. The data were collected by interview method using a pretested schedule. . Data were analyzed through SPSS software. WHO indicators for assessing infant and child feeding practices were used. A pretested questionnaire mainly based on the standard questionnaire on IYCF practices given by WHO was used for data collection. [11]

Then all mother received IYCF counseling according to the need of mothers such as those who have attachment or position problem, they received counseling and practical demonstration on attachment or position as well as on key IYCF messages. All the mothers went through a simple rapid assessment process which contains 7 questions on breast feeding. Those who have problem identified by simple rapid assessment went to in-depth full assessment to identify where the problem is and what kinds of problems they actually have. Is it attachment problem or position problem, frequency of breast feeding, confidence of the mother on breastfeeding, complementary feeding (density, texture, diversity, frequency and responsive feeding), hygiene problem, re-lactation problem or problem in mother-baby bonding? According the problem mother received her appropriate counselling and in some cases practical demonstration like in attachment, position, complementary feeding (density, diversity, texture & responsive feeding) and in hygiene practice (hand washing, maintain hygiene during preparation, feeding of

complementary feeding). Those mothers who didn't have any problem in breastfeeding of complementary feeding, they received key IYCF messages to continue their good practice for the wellbeing of the children.

These questions provide the information needed to calculate the key indicators of IYCF. As per WHO recommendations, information was collected about the child's diet in the previous 24 hours, which included the type of food items and the number of times they had consumed. Food items were categorized into seven types, that is, cereals, legumes and nuts, dairy products, meat products, egg, vitamin A-rich fruits and vegetables, and other fruits and vegetables. Children less than 24 months were included in the study after obtaining verbal informed consent from the mothers.

### 7. Results and Discussion

Out of the 177 children studied, 50.8% were boys and

49.2% were girls. Table 1 gives the complete information regarding the socio-demographic profile of the population studied.

Table 1. Socio demographic profile of the studied population

Parameter	Categories	Frequency	(%)
Gender	Male	90	50.8
	Female	87	49.2
Age of the kid (in months)	0-5	81	45.8
	6-11	96	54.2
Religion	Muslim	174	98.3
	Hindu	03	1.7
Mother's educational qualification	B.A. or B.Sc or above	10	5.7
	Intermediate	31	17.5
	High School	65	36.7
	Primary School & below	71	40.1

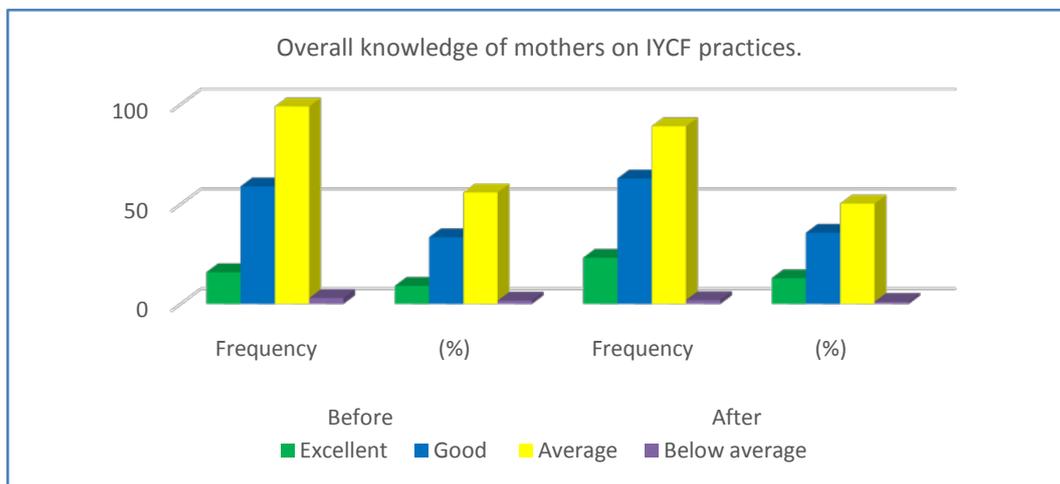


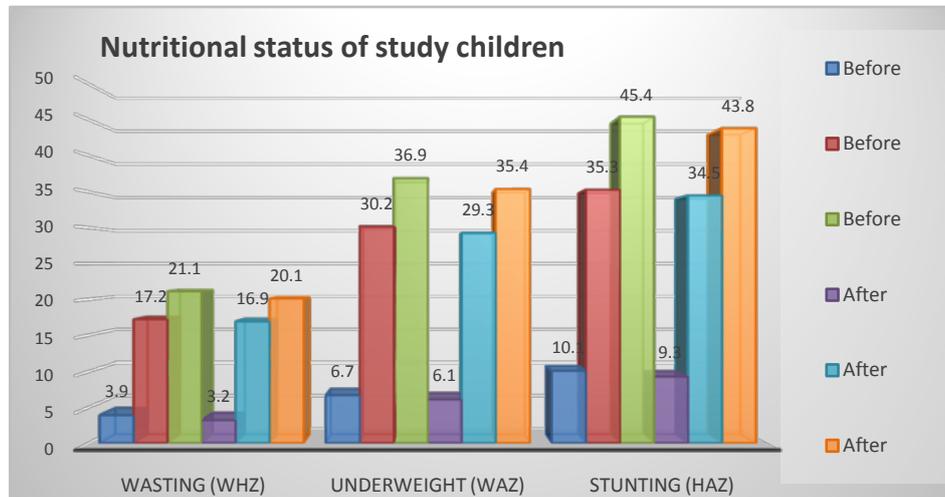
Figure 2. Overall knowledge of mothers on IYCF practices

Table 2. Summary of the knowledge to key IYCF Practices

Component	Knowledge	Before		After	
		Frequency	(%)	Frequency	(%)
Timely Initiation of Breast Feeding (<1 hour from Birth)	Don't Know	4	2.3	2	1.1
	After 3/4 days	10	5.6	2	1.1
	After 8/10 hours	55	31.1	33	18.7
	Immediately	108	61.0	140	79.1
What is colostrum	Don't Know	38	21.5	23	13.0
	Yellowish secretion after delivery	139	78.5	154	87
Benefits of colostrum for baby (Multiple response)	Don't Know	35	15.0	15	8.5
	Good for health	82	35.2	86	48.6
	Baby's first vaccine	86	36.9	95	53.7
	Increase immunity	30	12.9	58	32.8
Benefits of colostrum for mother & Family (Multiple response)	Don't Know	35	16.1	15	8.5
	No cost for family	98	44.9	119	67.2
	Good for mother's health	85	39.0	99	55.9
Exclusive Breast Feeding up to 6 months	Don't know	14	7.9	3	1.7
	Up to 5 months	38	21.5	21	11.9
	Up to 6 months	104	58.7	134	75.7
	Up to 1 year	21	11.9	19	10.7
Timely Initiation of Complimentary Feeding (at 6months)	Don't know	21	11.9	12	6.8
	4-5 months	34	19.2	19	10.7
	After 6 month	109	61.6	133	75.2
Continued Breast Feeding up to 2 Years	After 9 month	13	7.3	13	7.3
	As long as baby drink	42	23.7	31	17.5
	Up to 2 years	98	55.4	116	65.5
	Up to 1 year	37	20.9	30	17.0

**Table 3. Summary of the compliance to key IYCF Practices**

Component	Compliance	N=177			
		Before		After	
		Frequency	(%)	Frequency	(%)
Timely Initiation of Breast Feeding (<1 hour from Birth)	Within 1 hour	87	49.2	87	49.2
	Within 24 hours	54	30.5	54	30.5
	After 2/3 days	36	20.3	36	20.3
How often you breastfeed your children	8-12 times a day	119	67.2	144	81.4
	6-8 times a day	47	26.6	23	13.0
	When baby cry	11	6.2	10	5.6
Exclusive Breast Feeding (for 6 months)	N=66		N=177		
	Up to 4-5 months	21	31.8	36	20.3
	Up to 6 months	40	60.6	130	73.5
Minimum diet diversity of Complementary feeding (at least 4 food groups)	Up to 1 Years	05	7.6	11	6.2
	Acceptable diet	20	30.3	69	39.0
Age Appropriate Meal Frequency	Not acceptable diet	46	69.7	108	61.0
	Acceptable	42	63.6	132	74.6
	Not acceptable	24	36.4	45	25.4

**Figure 3.** Nutritional status of the children before and after having proper counselling

### 7.1. Infant and Young Child Feeding (IYCF) Knowledge of the Mother before and after Counselling

There were great impacts on the knowledge of study of giving counselling on IYCF to the lactating mother at rural areas. The knowledge's of the mothers on Infant and Young Child Feeding (IYCF) components were average. Most of the mothers had knowledge on best practices of IYCF components lies in average categories and the study changed the situation slightly (42.4% mother had proper knowledge about IYCF practice and after the study they had proper knowledge on IYCF 48.5%. 61.0% of mothers had proper knowledge about timely initiation of breast feeding within one hour of birth and finally we found that 79.1% mother knew the right time and it was from impact of counselling. The percentage of mothers knew that what is colostrum and the benefits of colostrum for the baby, mothers and family before and after study respectively 78.5% & 87.0%. Before the study 58.7% mothers had knowledge about exclusive breast feeding time up to 6 months of child's age and after the study it was 75.7%. The knowledge about the timing of starting complementary feeding for the children of the mothers was quite good. 61.6% of the knew the exact timing of

starting complementary feeding (after 6 months of baby's age) before study and after study it was 75.2%. Overall the study have good impact on the knowledge of the lactating mothers on IYCF.

### 7.2. Infant and Young Child Feeding (IYCF) Practices of the Mother before and after Counselling

An epidemiological evidence of a causal association between early initiation of breast-feeding and reduced infection-specific neonatal mortality has also been documented. [12] The Survey result shows that 50.7% children were initiated breast feeding within one hour of delivery.

Exclusive breast-feeding was done by 60.2% of 66 children over 6 months of age and after the study we found that 73.5% mother ensured the exclusive breast up to 6 months of age. This was far better than the figures reported by BDHS-2014 data, at national level (55%). [9]

Minimum dietary diversity (MDD) indicator is the proportion of children of 6–23 months of age who receive foods from four or more food groups from a total of seven food groups, such as, dairy products, legumes and nuts, flesh foods, eggs, vitamin A-rich fruits and vegetables,

cereals and tubers, and other fruits and vegetables. [11] This indicator reveals whether the child is receiving a complete and balanced diet or not. Before the study MDD was observed in only 30.3% children between 6 and 23 months age group and after the study it increased to 39.0%.

Minimum Meal Frequency (MMF) indicator is the proportion of breast-fed and non-breast-fed children aged 6–23 months who receive solid, semisolid, or soft foods (but also including milk feeds for non-breast-fed children) the minimum number of times or more. [11] For breast-fed children, the minimum number of times varies with age (two times if 6–8 months and three times if 9–23 months). For non-breast-fed children, the minimum number of times does not vary by age (four times for all children aged 6–23 months). MMF was observed in the majority (6.6%) of children aged 6–23 months before the study. After study it increased to 74.6%.

### 7.3. Nutritional Status of Children before and after Counselling to the Mothers

The nutritional status of children slightly changed from previous condition to current condition. We can't definitely say that the condition improved from counselling but may it associated with the counselling. The wasting rate (weight for height Z-score) reduced from 21.1% to 20.1%. Similarly the underweight 9 weight for age Z-score) and stunting (height for age Z-score) also reduced from 36.9% to 35.4% and from 45.4% to 43.8% respectively.

## 8. Recommendation

The IYCF practices are strongly influenced by what people know, think and believe and also affected by social circumstances and economic factors. Effective communication for behavioral change is necessary for ensuring optimal infant and young child feeding. Awareness regarding IYCF practices and their benefits in Maternal and Child Health (MCH) is poor leading to poor compliance. It is important to educate mothers during the antenatal visits. The situation can be improved by training of grass root health workers on IYCF policies of WHO and MoHFW, Govt. of Bangladesh, stressing on the benefits of appropriate feeding practices by the hospitals, Health & Family Welfare Centre (H&FWC), Union Health Sub Centre (USC) and Community Clinic and making these services universally available along with intensive IEC (Information, Education & Communication) efforts to generate demand for these services. Most of the world's religions place particular emphasis on the total care of the child. In the context of the overwhelming evidence, the involvement of religious teachings in the promotion of breastfeeding is quite debatable. It is well established that religious ideologies influence the human mind and a person's way of living.

Health professionals traditionally encourage mothers and the parents to breastfeed by giving information on benefits of breastfeeding for the infant and the mother herself. The behavior of women can be easily modified through religious teachings in a positive way. Breastfeeding may be affected by religious ideologies

using the doctrine in religious texts. Counseling the mothers by reinforcing the cultural and religious practices supporting breastfeeding can help enormously. Use of local religious teachings can bring positive changes in the implementation of health programs [14]. In addition, public nutrition education that promotes infant and young child feeding as defined by WHO, taking into account social-cultural factors is needed and recommended.

#### Basic recommendations for IYCF programs are below:

- Integrate skilled breastfeeding counselling in interventions that target pregnant and breastfeeding women and children 0-24 months. [15].
- Target mothers of all new-borns with support for [15].
  - i. Early initiation of breastfeeding
  - ii. Exclusive breastfeeding children up to 6 months
  - iii. Continued breastfeeding up to 2 years.
- Protect, promote and support exclusive breastfeeding in infants less than 6 months of age and continued breastfeeding in children 6 months – 2 years and beyond [16].
- Every effort should be made to keep breastfeeding mothers and their children together, to re-establish breastfeeding amongst mothers who have stopped, and to identify alternative ways to breastfeed infants whose biological mothers are unavailable. [17].

#### Recommended 10 keys interventions to ensure IYCF practices are: [18]

- Routinely communicated, written breastfeeding policy
- Train all health care staff in skills needed to implement this policy.
- Inform all pregnant women about benefits and management of BF.
- Help mothers initiate breastfeeding within ½ hour of birth.
- Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants.
- Give new-born infants no food or drink other than breast milk, unless medically indicated. (EXCLUSIVE breastfeeding)
- Practice rooming-in
- Encourage breastfeeding on demand.
- Give no artificial teats or pacifiers to breastfeeding infants.
- Foster the establishment of breastfeeding support groups and refer mothers to them on discharge.

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