

## Infant and Young Child Feeding Practices in Rural Meerut, Uttar Pradesh, India

Gautam Kumar Gaurav<sup>1</sup>, Arun Kumar<sup>2</sup>, S.K Garg<sup>3</sup>, Ganesh singh<sup>4</sup>  
Chhaya Mittal<sup>5</sup>

Postgraduate Student,<sup>1</sup> Professor,<sup>2</sup> Professor and Head,<sup>3</sup> Associate Professor,<sup>4</sup> Assistant Professor<sup>5</sup>  
Department of Community Medicine, LLRM Medical College, Meerut, Uttar Pradesh, India

Corresponding Author: Gautam Kumar Gaurav

**Abstract:** Infant and Young Child Feeding (IYCF) practices are a set of recommendations to achieve appropriate feeding of new-born and children under two years of age in order to achieve optimal nutrition and health & development outcome of children worldwide. The present study was a community based cross sectional study which was carried out in the rural area of one district of western UP with the help of WHO standardized 30 cluster sampling technique. The sample size was 360 children between age group 6-23 months of age. In all 65.0% children started breastfeeding within 1hr of birth. Only 28.3% children were exclusively breastfed. Maximum (85.6%) children were ever breastfed while 14.4% children were never breastfed. Predominant breastfeeding was 58.1%. Only 30.3% started complimentary feeding at 6 months. Minimum dietary diversity, Minimum meal frequency and Minimum adequate diet was followed in 39.2%, 28.6 % and 24.4% respectively. Efforts should be made at increasing access of pregnant females to antenatal care and educating all females who are attending ANC clinics about timely initiation of breast feeding within 1 hour, adhering to exclusive breastfeeding for the first six months, introduction of complementary foods at 6 months with continued breastfeeding up to the age of two years.

Date of Submission: 06-05-2019

Date of acceptance: 20-05-2019

### I. Introduction

Infant and Young Child Feeding (IYCF) practices are a set of recommendations to achieve appropriate feeding of new-born and children under two years of age in order to achieve optimal nutrition and health & development outcome of children worldwide. IYCF actions are implemented as part of the priority child survival and development programs of UNICEF and WHO, as well as in the plans of many nations<sup>[1]</sup>.

In the past decades, the evidence for essential actions to promote exclusive breastfeeding has been strengthened considerably. More recently, progress has been made in defining standards for complementary feeding. However, the process of translating these standards into specific policies and programmatic actions is less well developed.

The operational areas need to focus on strengthening the capacity of health services to support appropriate infant & young child feeding and strengthening community-based support for infant and young child feeding.<sup>(2)</sup>

### II. Material and Methods

**Study area:** 30 cluster villages from Rural Meerut

**Study population:** 6-23 months of age children

**Study design:** Community -based cross sectional study.

**Study period:** April 2018 to August 2018.

**Study sample:** According to NFHS 4 (2015-16)<sup>3</sup>, the prevalence of exclusive breast feeding is found to be 43.1 % and 55.9% in rural Uttar Pradesh and rural India respectively. Therefore, by taking the prevalence of around 50% at 95% confidence limit with absolute precision of 7.5% and a design effect of 2 sample size came out to be 342. To make the uniformity in all clusters of 12 children from each of the 30 villages a total of 360 children were studied from the population.

**Methodology:** 30x12 Cluster sampling

**Inclusion criteria:** Children between the age group 6 months to 23 months of age residing in the study area for 6 months or more.

Mother / caregiver given consent for the study.

**Exclusion criteria:** Mother / caregivers not consented for the study.

Children having chronic systemic disorders, congenital illness, or who were severely ill or were being fed by parenteral nutrition.

Mother/caregiver not available at the time of visit

**Study tool:** Pre-designed and Pre-tested questionnaires.

**Statistical analysis:** Epi – info software, 3.7.2

**Ethical Approval:** From the ethical committee of the LLRM, Medical College, Meerut

#### **SELECTION OF CLUSTERS:**

1. Block wise and village wise population was obtained for rural population of Meerut from census 2011.
2. All the villages were listed along with their population and cumulative population was calculated for each village.
3. Sampling interval was calculated by dividing total cumulative population by 30.

$$S.I = \frac{\text{Total cumulative population}}{30}$$

4. First random number less than sampling interval was chosen using a currency note which gave the name of first cluster village by looking at the cumulative population.
5. Similarly, all the 30 cluster villages were found out by adding sampling interval to the first random number and so on.

$C_2 = \text{random number} + \text{sampling interval}$

$C_3 = C_2 + \text{sampling interval}$  and so on.

6. After selecting the first cluster, the first house was selected by tossing the pencil. The first house was selected from the direction of pencil tip and visit to next adjacent house till 12 children between 6 months to 23 months of age group completed from each cluster. If last house happens to be having two or more children between 6 months to 23 months, all the children were included in the study.
7. Information regarding breast feeding, complimentary feeding of children 6 months to 23 months of age were collected on pre-designed and pre-tested questionnaires.

#### **Definitions of terms used in the study:**

**Prelacteal feed** - Mothers who gave their child anything to drink before initiation of breastfeeding, is called prelacteal feed. Example-tea, honey, ghutti, animal or powdered milk, water or glucose water.<sup>4</sup>

**Timely initiation of breastfeeding** - The Government of India recommends that initiation of breastfeeding should begin immediately after childbirth, preferably within one hour.<sup>4</sup>

**Exclusive breast feeding:** Exclusive breast feeding is defined as no other food or drink, not even water, except breast milk for 6 months of life, but allows the infant to receive ORS, drops and syrups (Vitamins, minerals and medicines).<sup>5</sup>

#### **The Minimum dietary diversity:**

The minimum dietary diversity was studied as proportion of children 6–23 months of age, who receive food from 4 or more food groups.<sup>6</sup>

The 7 foods groups used for calculation of this indicator are:

Grains, roots and tubers, Legumes and nuts, Dairy products (milk, yogurt, cheese), Flesh foods (meat, fish, poultry and liver/organ meats) Eggs, Vitamin-A rich fruits and vegetables, and Other fruits and vegetables.

#### **Minimum meal frequency:**

Proportion of breastfed and non-breastfed children 6–23 months of age, who receive solid, semi-solid, or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more.<sup>6</sup>

• Minimum is defined as:

— 2 times for breastfed infants 6–8 months

— 3 times for breastfed children 9–23 months

— 4 times for non-breastfed children 6–23 months

— “Meals” include both meals and snacks (other than trivial amounts), and frequency is based on caregiver report.

• Feeding frequency for breastfed children includes only non-liquid feeds. Feeding frequency for non-breastfed children includes both milk feeds and solid/semi-solid feeds.

**Minimum adequate diet:**

Proportion of children 6–23 months of age who receive a minimum acceptable diet (apart from breast milk).<sup>6</sup>  
 The indicator is calculated from the following two fractions:

$$\frac{\begin{array}{c} \text{Breastfed children 6-23 months of age who had} \\ \text{At least the minimum dietary diversity and the} \\ \text{Minimum meal frequency during the previous day} \end{array}}{\text{Breast fed children 6-23 months of age}}$$
  

$$\frac{\begin{array}{c} \text{Non-Breastfed children 6-23 months of age who received at least} \\ \text{2 milk feedings and had At least the minimum dietary diversity not including} \\ \text{the milk feeds and the Minimum meal frequency during the previous day} \end{array}}{\text{Non-Breast fed children 6-23 months of age}}$$

**Complementary feeding:**

Complementary feeding is defined as the process of starting solid foods when breast milk is no longer sufficient to meet the nutritional requirements of infants, and therefore other foods and liquids are needed, along with breast milk. It should be started at six months of age.<sup>7</sup>

**Feeding Recommendations**

Age	Frequency	Amount of food an average child will usually eat at each meal
6-8 months	2–3 meals per day 1–2 snacks may be offered	Start with 2–3 tablespoonfuls increasing gradually to ½ of a 250 ml cup
9-11 months	3–4 meals per day 1–2 snacks may be offered	½ of a 250 ml cup/bowl
12-23 months	3–4 meals per day 1–2 snacks may be offered	¾ to full 250 ml cup/bow

**III. Result**

The present community based cross sectional study was conducted in rural areas of Meerut among 6-23 months of age children with the objective to study the IYCF practices in rural Meerut and to suggest measures for its improvement. The maximum number of children were of age group 12 to 23 month (59.17%). 54.7% children of the study population were male and 45.3% were female. 41.4% children belonged to 1<sup>st</sup> birth order while 32.8% & 25.8% belonged to 2<sup>nd</sup> and 3<sup>rd</sup> or more than 3<sup>rd</sup> order respectively. Majority of children (68.6%) were Hindu by religion, while 30.6% and 0.8 % belonged to Muslim and other religions respectively. Further, it was noticed that, 28.6% belonged to general caste while 43.9% and 27.5% were from other backward and scheduled caste. It is also seen that according to modified BG Prasad classification/Nalwa classification majority (71.7%) of children were from lower middle (41.4%) and lower socioeconomic status (30.3%) followed by middle class (23.6%) and (4.7%) of upper middle and only (0.5%) to upper socio-economic class.

**Fig. 1:** Distribution of children according to IYCF core indicators

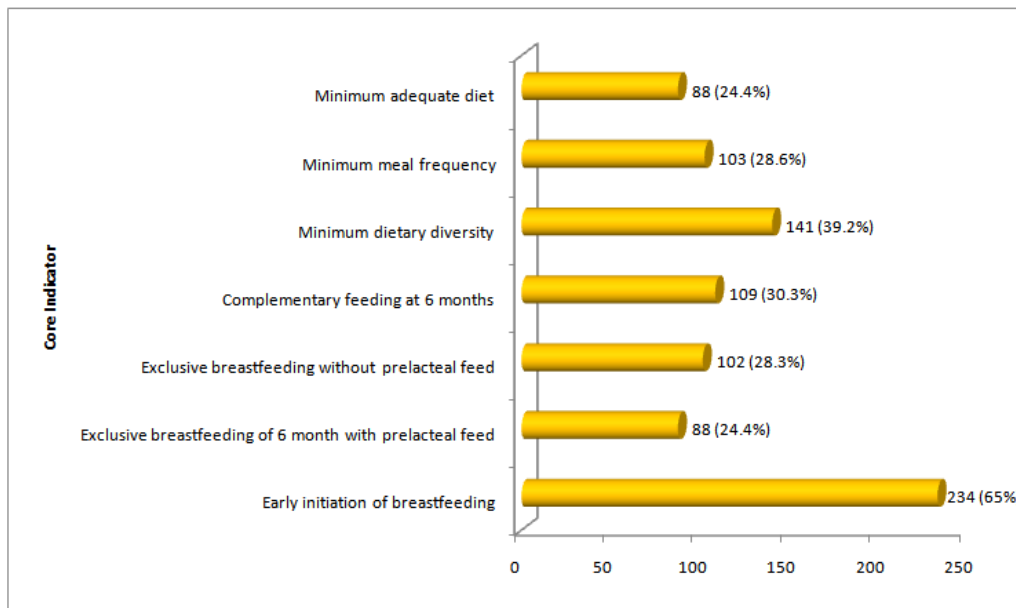


Fig.1 shows that only 65.0% children were initiated breastfeeding within 1 hour of birth. 30.3% received complementary feeding at 6 months and 7.8 children were not started complimentary feeding at the time of survey. Further, it was noticed that 24.4% children received breastfeeding with pre-lacteal feed and only 28.3% received exclusive breastfeeding for 6 months.

Among 7 food group used to find out minimum dietary diversity, 39.2% were given food from four or more group. Minimum meal frequency was followed in 28.6 % while minimum adequate diet was given to 24.4 % children.

**Table 1:** Distribution of children according to Optional Indicators

S. No.	Optional Indicator	Total	Number	Percentage (%)
1	Child ever breastfed*	360	308	85.6
2	Continued breastfeeding till date	360	147	40.8
3	Bottle feeding	360	167	46.4
4	Predominant breastfeeding	360	209	58.1

\*52 children were never breastfed

It can be observed from the Table- 1 that majority (85.6%) of the children were ever breastfed by their mother while 52(14.4%) children were never breast fed. As far as concern regarding continued breastfeeding till date only 40.8% of the children fulfilled the criteria. Predominant breastfeeding was 58.1% among children. 46.4% of children were also given bottle feeding.

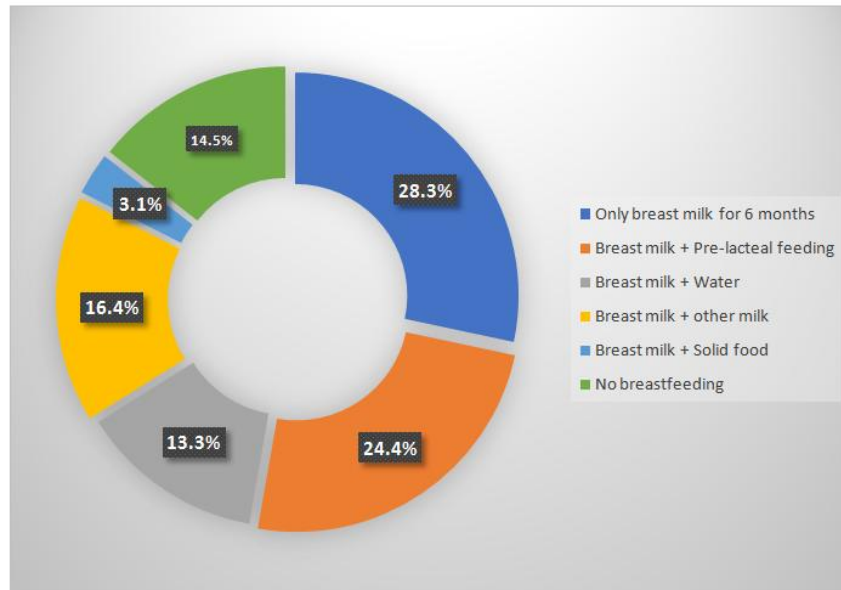
**Table 2:** Distribution of children according to reasons for late initiation/No breastfeeding

Reasons	Late initiation		No breastfeeding	
	Number	Percentage (%)	Number	Percentage (%)
Social custom & belief	9	12.2	5	9.6
Breast milk insufficiency	14	18.9	21	40.4
Difficulty for the newborn attachment to breast	2	2.7	7	13.5
Mother or Baby illness	15	20.2	19	36.5
Lack of knowledge	34	45.9	-	-
<b>Total</b>	74	100.0	52	100.0

Table -2 shows that out of 360 children 74 children had late initiation of breast feeding while 52 children were never breastfed. Among 74(20.6%) children who had late initiation of breastfeeding, most common reason was lack of knowledge (45.9%). Other reasons were mother and baby illness (25.4%) followed by breast milk insufficiency (18.9%) and social customs and beliefs (12.2%). The most common reason among social customs and beliefs was pre-lacteal ceremony before initiating breastfeeding. Difficulty of newborn attachment to breast was observed in 2.7% of children as a reason of delayed initiation.

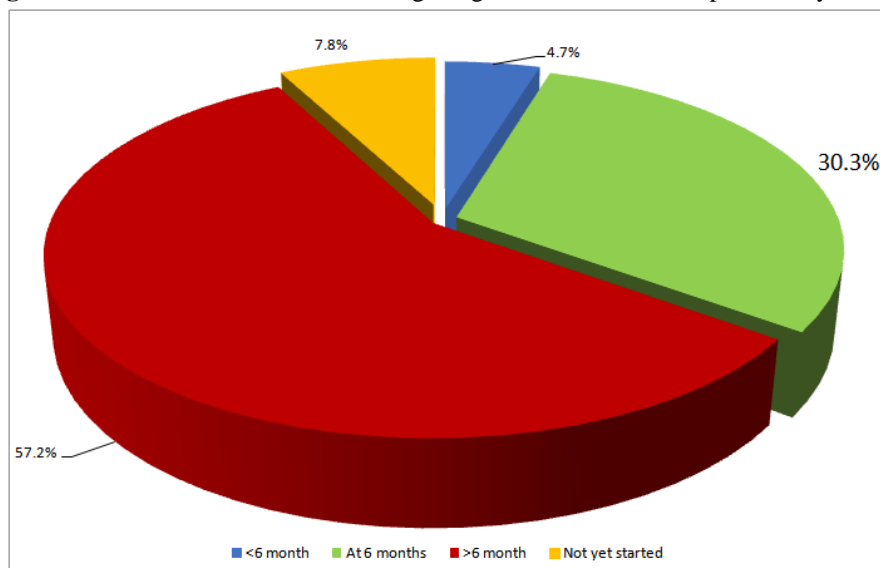
Among 52(14.4%) children who did not receive breastfeeding, the most common reason was breast milk insufficiency (40.4%). Other reasons were mother and baby illness 36.5%, difficulty of newborn attachment to breast (13.5%) and social customs and beliefs with most common custom being masaan practiced in Muslim religion in which the females are asked not to breast feed by religious preachers (9.6%).

**Fig. 2:** Pattern of breastfeeding practices



Pattern of breastfeeding among children can be easily seen with the help of Fig-2. 28.3% of children received exclusive breastfeeding for first 6 months while 24.4 % of children received only breast milk for 6 months with prelacteal feeding followed by Breast milk with other milk (16.4%), breast milk with water (13.3%) and breast milk with solid food (3.1%) to feed their child during the first 6 months. 14.4% of mothers did not breastfeed at all.

**Fig. 3:** Distribution of children according to age of initiation of complementary feeding



From Fig-3. it was seen that complementary feeding was started in almost all (92.2%) the children. More than half (57.2%) of mothers initiated complementary feeding at more than 6 months of age while 30.3% started at 6 months. 4.7% started giving complimentary food before 6 months of age. 7.8% of mothers did not start giving food to their babies till the date of survey.

**Table 3:** Distribution of children according to type of food used for initiation of complimentary feeding:

Type of food	Number	Percentage (%)
Kheer	83	23.1
Khichdi	81	22.5
Dalia	56	15.5
Dal ka Pani	71	19.7
Cerelac	14	3.9
Others (Biscuit, boiled potato, fruit etc.)	27	7.5
Not yet started	28	7.8
<b>Total</b>	<b>360</b>	<b>100.0</b>

Table-3 depicts the distribution of children according to type of food used for initiation of complimentary feeding. Most of the children (80.8%) received Kheer, Khichdi, Dal ka Pani or Dalia being 23.1%, 22.5%, 19.7% and 15.5% respectively for initiation of complementary feeding. Only 11.4% of the children received either Cerelac (3.9%) or other food items (7.5%). It is worthwhile to mention here that 7.8% of the children did not start complementary feeding at the time of survey.

**Fig. 4:** Adequacy of complimentary feeding

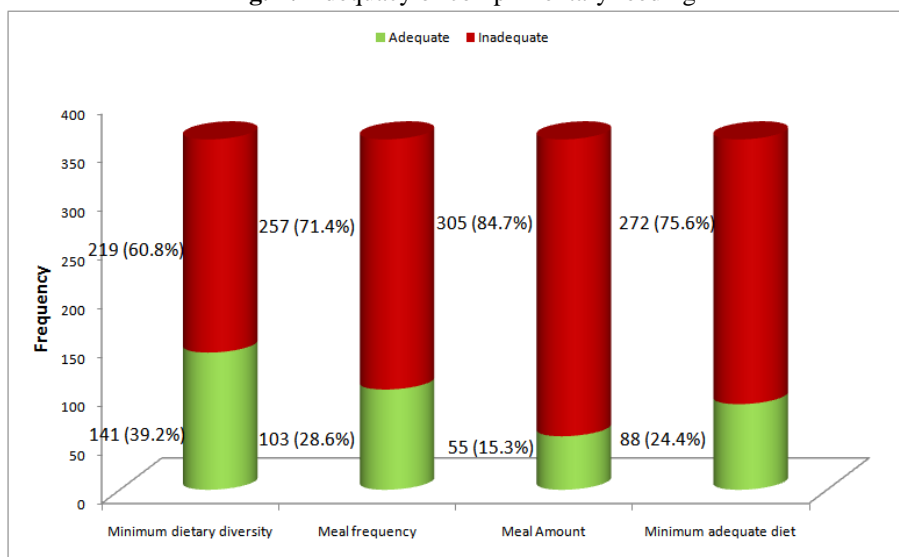


Fig-4 shows the adequacy of complementary feeding among children. Among 7 food group used to find out minimum dietary diversity, 39.2% were given food from four or more group. It may be noticed that the children who had started complimentary feeding it was not adequate in the respect of meal frequency (71.4%) as well as amount of meal in (84.7%). Minimum adequate diet was given to 24.4 % children.

#### IV. Discussion

Among the core indicators for assessing IYCF practices it was found that only 65.0% mothers started breastfeeding within 1 hour of birth which is similar to 61.6% reported by Dongre et al (2010)<sup>8</sup> in Wardha while Gupta et al (2010)<sup>9</sup>, Ravall et al (2011)<sup>10</sup> Vyas et al (2012)<sup>11</sup> and Chaudhary et al (2018)<sup>12</sup> (36.6% , 38.1%, 21.37%, 38.3% respectively) observed that less mothers practiced early initiation of breastfeeding. The increase in early initiation of breast feeding may firstly be due to the sensitization and training of peripheral health workers and public health staff regarding various aspects of breastfeeding and secondly since most of the deliveries conducted in public health facility.

In present study 24.4 % of mother gave pre-lacteal feed to their children which is almost similar to 26.7% and 25.5% observed in other studies by Sinhababu et al (2010)<sup>13</sup> and Chakraborty et al (2015)<sup>14</sup> respectively whereas a very high rate of pre-lacteal feed was observed by Chagan et al (2016)<sup>15</sup> and Vyas et al (2012)<sup>11</sup> reporting 70.0% and 61.8% respectively. Among those who were given pre-lacteal feed, most commonly used was honey/ Ghutti (54.6%) followed by milk other than breast milk (32.9%), plain or sugar

water (9.1%) and tea or others 3.4%. Less pre-lacteal feeding was observed because of increase in the percentage of institutional deliveries and increased awareness of public on early initiation of breastfeeding and exclusive breastfeeding due to information provided by ASHA, ANM, doctor and other supporting staffs at hospital.

In the present study, 28.3% mothers practiced exclusive breastfeeding for first 6 months which is very close to 27.6% reported by Chakraborty et al (2015)<sup>14</sup>(27.6%) but more than Vyas et al (2012)<sup>11</sup>and Singhal et al (2012)<sup>16</sup>reporting 5.13 % and 5.3% respectively. while less than 49.0% and 71.0% in studies of Das et al (2018)<sup>17</sup>and Chinnasami et al (2015)<sup>18</sup>respectively. It was also found to be less than 43.1 % reported in NFHS-4<sup>3</sup> for rural U.P.

In the present study initiation of complimentary feeding at 6 months was done in 30.3% children which is close to results of Singhal et al (2012)<sup>42</sup> NFHS – 4<sup>3</sup>report for U.P and Das et al (2018)<sup>17</sup>being (29.8%, 32.6% and 33.3% respectively.

Among 7 food group used to find out minimum dietary diversity, 39.2% children were given food from four or more group in the present study. Variable results were obtained by different worker. In some studies less children were found to receive food from 4 or more groups such as Khan et al (2012)<sup>19</sup>Das et al (2018)<sup>17</sup>, Chaudhary et al (2018)<sup>12</sup> and Arzu et al (2018)<sup>20</sup> reporting 32.6%, 30.0, 15.7 and 37.7% respectively while Singhal et al (2012)<sup>16</sup>reported dietary diversity among 79.6% children in urban Meerut. The reason may be less knowledge and awareness about adequate complimentary feeding habits such as dietary diversity, meal frequency and adequate amount to be given to achieve adequate weight gain after 6 months in rural areas. Low socioeconomic status, over indulgence of mother in daily work activities and low birth spacing could also be the reasons for inadequate complementary feeding practices

In the present study minimum meal frequency was followed in 28.6 % children which was less than 89.3%, 70.0 % and 72.5% reported by Satija et al (2015)<sup>21</sup>Das et al (2018)<sup>17</sup> and Arzu et al (2018)<sup>20</sup> respectively. Singhal et al (2012)<sup>16</sup>reported 43.4% minimum meal frequency in urban Meerut. The less minimum meal frequency in present study may be due to the predominance of animal milk as the main feed for the infants after 6 months.

In the present study minimum adequate diet was given to 24.4% children which is less than 36.8% and 37.7 % reported by Das et al (2018)<sup>17</sup> and Singhal et al (2012)<sup>16</sup>respectively. while it is more than the findings of NFHS – 4, report (2015-2016)<sup>3</sup>for rural U.P and Khan et al (2012)<sup>19</sup>being 5.3% and 19.7% respectively.

In the present study 46.4% of mother used bottle to feed their child in comparison to 26.5%, 28.1% and 29.7% by Khan et al (2012)<sup>19</sup> Das et al (2013)<sup>22</sup> and Das et al (2018)<sup>17</sup> respectively. Majority (85.6%) of the children were ever breastfed by their mother while 14.4% were never breastfed. 40.8% of the children continued breastfeeding till date. Predominant breast feeding was 58.1% among children. These children were given only pre lacteal feeds due to some rituals or gave water in addition to breastfeeding during the first six months.

In the present study 20.6% children were initiated breast feeding late, the most common reason was lack of knowledge (45.9%) which was more than 20.7% as reported by Satija et al (2015)<sup>21</sup> Breast milk insufficiency was found another important reason (18.9%) while this was more common a reason in 28.4% reported by Singhal et al (2012)<sup>16</sup>. Other reasons were mother and baby illness 25.4% as compared to 41.2 % reported by Singhal et al (2012)<sup>16</sup>.

Regarding other breast-feeding practices, 16.4% children were given breast milk with other milk followed by 13.3% breast milk with water and 3.1% breast milk with solid food during the first 6 months in the present study which may be due to less awareness on benefits of exclusive breastfeeding as well as hazards of non-exclusive breastfeeding among rural women. Over indulgence in daily routine activities and belief that breast milk is not sufficient for the child may be a reason for giving animal milk in many cases.

In the present study 14.4% mothers did not breast feed their children; the most common reason was breast milk insufficiency (40.4%). Other reasons were mother and baby illness 36.5%, difficulty of new born to attach to breast (13.5%) and social customs and beliefs (9.6%), most common custom being masaan practiced in Muslim religion in which the females are asked not to breast feed by religious preachers.

Regarding complimentary feeding practices, more than half (57.2%) of mothers initiated complementary feeding at more than 6 months of age and 7.8% of mothers did not start giving food to their babies till the date of survey in the present study. Ignorance and lack of awareness on timely initiation of complementary feeding and hazards of delayed initiation on overall growth of the baby may be a reason. Many families also depended solely on animal milk feed till 1 year of age which could be the reason for delayed complementary feeding initiation.

When most common food used for initiation of complimentary food was assessed it was observed that while most of the children (80.8%) received sujiki kheer, khichdi, dal ka pani or Dalia only 11.4% of the children received either cerelac (3.9%) or other food items (7.5%) while Singhal et al (2012)<sup>23</sup> reported cerelac as the most common (40.0%) food used for initiation in urban Meerut.

In the present study it was noticed that the children who had started complimentary feeding it was not adequate in the respect of meal frequency (71.4%) as well as amount of meal (84.7%). The inadequate amount at each feed may be because mother or the family members did not feed a measured quantity of food to their children; instead, children were fed a few spoonful while they were eating or were given a piece of roti or biscuit to hold and left to eat by themselves and mainly fed by only animal milk.

### **V. Conclusion and Recommendations**

The findings of the study reveal that the current IYCF practices are poor and further awareness and change in attitude among the family and the community as well as training of the manpower to bring about a behavior change is required to improve IYCF indicators in children under two years of age.

- ❖ Efforts should be made at increasing access of pregnant females to antenatal care and educating all females who are attending ANC clinics about timely initiation of breast feeding within 1 hour, adhering to exclusive breastfeeding for the first six months, introduction of complementary foods at 6 months with continued breastfeeding up to the age of two years.
- ❖ Every person responsible for child rearing like husband, mother in law, sister in law, grandparents etc. must also be sensitized on IYCF as well as on child rearing practices so that the community becomes baby friendly for breastfeeding and complementary feeding practices.
- ❖ Peripheral health workers should be sensitized that educating pregnant female regarding IYCF practices is as important as giving institutional care. So, the gap in their knowledge and practice of giving health education should be fulfilled.
- ❖ Special sensitization and health education methods such as Behavioral change communication, nukkadnataks, and focused group discussion can be arranged in the communities by public health departments frequently and also on special occasions such as breastfeeding week to create awareness among masses.
- ❖ Knowledge regarding minimum dietary diversity, minimum meal frequency and adequate meal amount is quite deficient even in the health care providers and hence that needs to be made aware so that it can be conveyed properly to the community.

### **References**

- [1]. Ministry of Health and Family Welfare (2013) Guidelines for enhancing optimal infant and young child feeding practices. Government of India, New Delhi, pp. 1-58.
- [2]. World Health Organization. Global Strategy for Infant and Young Child Feeding. Geneva: World Health Organization;2003.[http://www.who.int/nutrition/publications/gi\\_infant\\_feeding\\_text\\_eng.pdf](http://www.who.int/nutrition/publications/gi_infant_feeding_text_eng.pdf). Last Accessed on June 2018.
- [3]. National Family Health Survey (NFHS) IV (2015–2016)". International Institute for Population Sciences, Ministry of Health and Family Welfare, Government of India. 2016 assessed on 2/8/2018
- [4]. IIPS (2007): NFHS-3 (2005-2006); Vol 1 Chapter 10 nutrition and anemia Govt of India.
- [5]. Exclusive breast feeding [http://www.who.int/nutrition/topics/exclusive\\_breastfeeding/en/](http://www.who.int/nutrition/topics/exclusive_breastfeeding/en/)
- [6]. Dr. J.P. Singh, Dr. PeeyushKariwal, Dr. S.B. Gupta, Dr. V.P. Shrotriya, Dr. P.N. Singh Utilization of antenatal care services in a rural area of Bareilly [ijhbr.com/pdf/4\\_2014\\_120-126.pdf](http://ijhbr.com/pdf/4_2014_120-126.pdf)
- [7]. WHO: Infant and young child feeding student's handbook WHO (Department of nutrition for health and development); 38:1-3.
- [8]. Dongre A R, Deshmukh P R, Rawool A P and Garg B S; Where and how breastfeeding promotion initiatives should focus its attention? A study from rural Wardha; Ind. Jour Comm. Med. 35(2), 2010:226-229.
- [9]. Gupta P, Srivastava V K, Kumar V, Jain S, Masood J, Ahmad N and Srivastava J P; Newborn care practices in urban slums of Lucknow city, UP; Ind. Jour Comm. Med. 35(1),2010:82-85. (<http://www.ijcm.org.in/article.asp?issn=09700218;year=2010;volume=35;issue=1;spage=82;epage=85;aulast=Gupta>)
- [10]. Ravall D, Jankar D V and Singh M P: A study of breast feeding practices among infants living in slums of Bhavnagar city, Gujarat, India; health line, 2 (2), 2011:78-83.
- [11]. Vyas Shaili, Sharma Parul, Kandpal S D, Semwal Jayanti, Srivastava Anurag, Nautiyal Vipul: A community based study on breastfeeding practices in a rural area of uttarakhand
- [12]. National Journal of Community Medicine Vol 3 Issue 2 April-June 2012
- [13]. Shalu R Chaudhary, Samarth Govil, Mrudula K Lala, Hardik B Yagnik Infant and young child feeding index and its association with nutritional status: A cross-sectional study of urban slums of Ahmedabad <http://www.jfcmonline.com> on Sunday, September 2, 2018, IP: 139.167.131.44]
- [14]. Sinhababu A, Mukhopadhyay D K, Panja T K, Saren A B, Mandal N K and Biswas A B: Infant-and Young Child-feeding Practices in Bankura District, West Bengal, Ind. Jour Health Popul. Nutr. 28(3), 2010:294–299.
- [15]. Sasthi Narayan Chakraborty, SunetraKaviraj Roy, Md AbdurRahaman, Gautam Ghose A community-based study on pattern of breast feeding of under 6 months aged children in slums of an Eastern Industrial City of India. e-ISSN: 2279-0853, p-ISSN: 2279-0861. Volume 14, Issue 6 Ver. II (Jun. 2015), PP 61-64 [www.iosrjournals.org](http://www.iosrjournals.org)
- [16]. Dr. Farida Karim Chagan, Dr. Sidra Malik Fayyaz, Dr. IramSaddiqa Aamir breast feeding outcome; effect of prelacteal feeding: a cross-sectional survey professional med j 2016;23(6): 715-720.
- [17]. Prerna Singhal, S.K. Garg, H. Chopra, Seema Jain, S.K. Bajpai, Arun Kumar Status of Infant and Young Child Feeding Practices with Special Emphasis on Breast Feeding in an Urban Area of Meerut IOSR Journal of Dental and Medical Sciences (IOSR-JDMS) e-ISSN: 2279-0853, p-ISSN: 2279-0861. Volume 7, Issue 4 (May. - Jun. 2013), PP 07-11 [www.iosrjournals.org](http://www.iosrjournals.org)
- [18]. Sukes Das, Nivedita Das, Malay Mundle and Palash Das A study on Infant and Young Child Feeding (IYCF) practices among mothers attending a Tertiary Health Care Institution, Kolkata Al Ameen J Med Sci 2018; 11(3): 172-177



- [19]. Balaji Chinnasami, Subash Sundar, Jagathis Kumar, KanimozhiSadasivam and SekarPasupath Knowledge, Attitude and Practices of Mothers Regarding Breastfeeding in a South Indian Hospital Biomedical & Pharmacology Journal DOI: <http://dx.doi.org/10.13005/bpj/926>
- [20]. Amir Maroof Khan, Priscilla Kayina, Paras Agrawal, Anita Gupta, AnjurTupil Kannan A study on infant and young child feeding practices among mothers attending an urban health center in East Delhi Indian Journal of Public Health, Volume 56, Issue 4, October-December, 2012
- [21]. TaslimaArzu, Ariful Kabir Sujan, Farha Matin Juliana, Sabir Hossai Study of IYCF Indicators on Practices and Knowledge of Mothers in Rural Areas of Bangladesh American Journal of Public Health Research, 2018, Vol. 6, No. 3, 130-133 <http://pubs.sciepub.com/ajphr/6/3/1>
- [22]. Mahesh Satija, Sarit Sharma, Anurag Chaudhary, Pushapindra Kaushal, Sangeeta Girdhar Infant and young child feeding practices in a rural area of North India Asian Journal of Medical Sciences | Nov-Dec 2015 | Vol 6 | Issue 6
- [23]. Das N, Chattopadhyay D, Chakraborty S, Dasgupta A, Infant and Young Child Feeding Perceptions and Practices among Mothers in a Rural Area of West Bengal, India Annals of Medical and Health Sciences Research | Jul-Sep 2013 | Vol 3 | Issue 3
- [24]. Perna Singhal, S.K. Garg, H. Chopra, Seema Jain, S.K. Bajpai, Arun Kumar Status of Infant and Young Child Feeding Practices with Special Emphasis on Breast Feeding in an Urban Area of Meerut. Thesis for M.D (S.P.M) 2012

Gautam Kumar Gaurav. "Infant and Young Child Feeding Practices in Rural Meerut U.P." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 18, no. 05, 2019, pp 32-40.