PREVALENCE AND COMPARATIVE STUDY OF MALNOURISHED CHILD BELOW 5 YEARS OF RURAL AND URBAN AREAS OF BIHAR

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Abstract
Status of nutrition reflects the status of health of a country. Infant and young child feeding practices are multidimensional and age specific. Inappropriate feeding practices and their consequences are major obstacles to sustainable socioeconomic development and poverty reduction. This study was a step to sort out various prevailing feeding practices and awareness status of the family of child in rural and urban areas of Bihar state among the age group of below 5 Years and their outcome. This study was a hospital based descriptive study carried out in PMCH (OPD and Indoor) Patna Bihar. Total number of participants in our study is 180 in the age group 0-5 years which was further divided into 3 groups according to their age each group (0-6, 6-24, and24-60months), had 60 participants. These groups were further equally divided on the basis of location rural and urban; these Subgroups were further divided into 2 equal subgroups according to sex. In this study variety of food given is 63% and 50% in urban and rural population respectively. It is revealed that population getting variety of food has significantly better outcome in nutritional status rather than population not getting it. This study has revealed that population getting nearly proper consistency and calories are only 53% and 41% in urban and rural areas respectively. Population getting nearly proper consistency and calories has significantly better outcome in nutritional status rather than population not getting it. Prevalent mode of feeding in children below 6 months in non exclusive BREAST feeding is bottle feeding in rural and urban areas. 42% and 50% of urban and rural population BOTTLE feed their children above 6 months respectively bottle feeding significantly affect the outcome i.e. the poor nutritional status as compared to the KATORI spoon feeding.

Keywords: Healthy food, varieties of nutritional food intake, Breast feeding practices.

Introduction
Nutrition is a basic backbone of socio-economic development of a country. It is so important that it has been placed among one of the targets of Millennium Development Goals to eradicate extreme poverty and hunger. Governments will be unsuccessful in their efforts to accelerate economic development, reduce child morbidity and mortality in any significant long-term sense until optimal child growth and development, especially through appropriate feeding practices, are ensured. Nevertheless, inappropriate feeding practices – sub-optimal or no breastfeeding and inadequate complementary feeding – remain the greatest threat to child health and survival globally. India has the highest burden of malnutrition, between 2003 and 2007; the nutritional status of children under five years of age was measured in Demographic and Health Surveys in the same way in 41 developing countries. In particular, they need to know about the recommended period of exclusive and continued breastfeeding; the timing of the introduction of complementary foods; what types of food to give, how much and how often; and how to feed these foods safely.

Mothers should have access to skilled support to help them initiate and sustain appropriate feeding practices, and to prevent difficulties and overcome them when they occur. [1-5].

In May 2012, the World Health Assembly, the decision making body of the World Health Organization (WHO), agreed on a new target: reducing the number of stunted children under the age of 5 by 40 per cent by 2025. India’s efforts to tackle the challenge of malnutrition among children have, in the past, focused primarily on distributing supplementary foods under the Integrated Child Development Services (ICDS) programme. According to the reports the World Bank’s ISSNIP project is being run under the first phase of a multi-phased programme that will play a catalytic role in supporting the restructured strengthen ICDS programme, particularly in the states having low capacity and high rates of under-nutrition. Malnutrition is a global problem so numerous studies had been carried out Worldwide globally to find out the extent of problem, mould policy, and action plan to reduce the magnitude of problem significantly. A large volume of literature is available on this topic nationally and internationally. Most
discussed studies are done by joint effort of several national, international agencies and, NGO e.g. UNICEF, WHO, world bank., India accounts for maximum burden of malnutrition [6-19].

According to the statistics of the ministry of statistics and programme implementation, The report further says that during the period between National Family Health Survey (NFHS) 2 (1998-99) and NFHS 3 (2005-06), a decline has been observed in case of stunted growth and underweight among children under 3 years of age, whereas the percentage of case of acute malnutrition, children too thin for their height, has increased. Malnutrition of all types prevails in children of illiterate mothers and mother’s having education of less than 5 years, while malnutrition cases are highest among children of underweight mothers. The states with more than 50% children under five years of age underweight are Madhya Pradesh (60%), Jharkhand (56.5%) and Bihar (55.9%) [20-22].

Bihar is included in these states. Nutritional status of a child is not only dependent upon availability of resources but it is also dependent upon the prevailing feeding practices and awareness status of the family. As per the World Bank report, several factors are responsible for malnutrition, one of them being the inappropriate feeding and caring practices for children, especially during the first two to three years of age. According to the consolidated revised National Rural Health Mission (NRHM) report 2012-13 for state Bihar, around 80% of children below five years of age in Bihar are malnourished. The National Family Health Survey-III (NFHS-III, 2005-06) reports that 50.1% of children below three years of age in the state are stunted (low height-for-age), 32.6% are wasted (low weight-for-height) and 54.9% are underweight (low weight-for-age) [10-14, 23].

This study was a step to sort out various prevailing feeding and nutritional practices and awareness status of the family of child in rural and urban areas of Bihar state among the age group of below 5 Years and their outcome. This project will support the government's efforts to promote the exclusive breastfeeding, and healthy feeding practices of nutritional foods for infant and children aged less than 5 years.

MATERIALS AND METHOD

MATERIALS

Our study was a hospital based descriptive study carried out in PMCH (OPD and Indoor) Patna Bihar.
1. Prepared Questionnaire.
3. Infantometer.
4. Stadiometer.
5. Electronic Weighing machine.
6. Weight and Height Simplified WHO Chart.

METHOD

Our study type was a cross sectional study and type of sampling done was quota sampling. Total number of participants in our study was 180 in the age group 0-5 years which was further divided into 3 groups according to their age each group had 60 participants. These groups were further equally divided on the basis of location rural and urban; these subgroups were further divided into 2 equal subgroups according to sex.

Table 1: Distribution of the population and their gender wise category among various age groups

<table>
<thead>
<tr>
<th>Months</th>
<th>URBAN</th>
<th>RURAL</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MALE</td>
<td>FEMALE</td>
<td>MALE</td>
</tr>
<tr>
<td>0-6</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>6-24</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>24-60</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

A questionnaire was prepared to know the basic preliminaries (e.g. name, age, sex of the child, address, parental, education socio-economic status) after successfully establishing rapport the information regarding feeding practices, which were gathered after that anthropometric examination. It was done to assess the nutritional status of the child. After examination mother was advised and counseled for appropriate feeding practices. After gathering the observed data, it was tabulated in master chart. After that statistical study was done by presenting data in the form of tables and graphs.

INCLUSIONS AND EXCLUSIONS CRITERIA

INCLUSIONS CRITERIA

- Children below 5 years of age residing in rural and urban areas of Bihar.
- Mother/parents agree to give consent for participation in the study.
- Children coming for immunization /OPD /INDOOR for treatment or accompanying siblings with mother.

EXCLUSIONS CRITERIA

- Children above 5 years of age.
- Children outside bihar/migrated any time outside/inside bihar.
- Critically sick children’s/children from orpanaghes.
- Children suffering from any congenital anomalies/premature/ birth weight<2.25kg
- Children approached with other than parents as they will not be able to give information about children.

RESULT & DISCUSSIONS

POPULATION UNDER STUDY

Total number of participants in our study is 180 in the age group 0-5 years which was further divided into 3 groups according to their age each group (0-6, 6-24, and24-60months), had 60 participants. These groups were further equally divided on the basis of location rural and urban;
these Subgroups were further divided into 2 equal subgroups according to sex.

Table 2: Prevalence of underweight, stunting and wasting in population under study

<table>
<thead>
<tr>
<th>AGE GROUP</th>
<th>SEX</th>
<th>COMP.</th>
<th>NO.</th>
<th>UNDERWEIGHT</th>
<th>STUNTING</th>
<th>WASTING</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-6</td>
<td>M</td>
<td>Urban</td>
<td>15</td>
<td>8(53%)</td>
<td>7(47%)</td>
<td>5(33%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>15</td>
<td>9(60%)</td>
<td>5(33%)</td>
<td>6(40%)</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>Urban</td>
<td>15</td>
<td>8(53%)</td>
<td>6(40%)</td>
<td>6(40%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>15</td>
<td>9(60%)</td>
<td>7(47%)</td>
<td>7(47%)</td>
</tr>
<tr>
<td>6-24</td>
<td>M</td>
<td>Urban</td>
<td>15</td>
<td>8(53%)</td>
<td>5(33%)</td>
<td>4(27%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>15</td>
<td>9(60%)</td>
<td>7(47%)</td>
<td>6(40%)</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>Urban</td>
<td>15</td>
<td>8(53%)</td>
<td>8(53%)</td>
<td>6(40%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>15</td>
<td>8(53%)</td>
<td>8(53%)</td>
<td>7(47%)</td>
</tr>
<tr>
<td>24-60</td>
<td>M</td>
<td>Urban</td>
<td>15</td>
<td>8(53%)</td>
<td>8(53%)</td>
<td>4(27%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>15</td>
<td>9(60%)</td>
<td>9(60%)</td>
<td>5(33%)</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>Urban</td>
<td>15</td>
<td>8(53%)</td>
<td>7(47%)</td>
<td>6(40%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural</td>
<td>15</td>
<td>9(60%)</td>
<td>8(53%)</td>
<td>7(47%)</td>
</tr>
</tbody>
</table>

Table 2 shows the exact prevalence of underweight, stunting, and wasting in the population under study. Inferences drawn from the observation are:
- Overall prevalence of underweight, stunting and wasting is higher in the rural population.
- Overall prevalence of underweight, stunting and wasting is higher in the female population.
- Most vulnerable population is of the rural females.
- Underweight, stunting and wasting is prevalent in all age groups.

Table 3: Initiation of Breast Feeding after Delivery

<table>
<thead>
<tr>
<th>Population</th>
<th>Immediately</th>
<th>Day1</th>
<th>&gt; Day1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>(24)27%</td>
<td>(15)17%</td>
<td>(51)66%</td>
</tr>
<tr>
<td>Rural</td>
<td>(27)30%</td>
<td>(7)8%</td>
<td>(52)67%</td>
</tr>
</tbody>
</table>

Table 3 and 4 shows that 73% of urban and 70% rural population lost their 1st proper feed that is the breast milk. Maximum population initiates breast after day 1 of life 66% urban population starts breast feeding after day 1.67% rural population starts breast feeding after day1.

Table 4: Prelacteal feed given or not given in rural and urban area

<table>
<thead>
<tr>
<th>PRELACTEAL FEED</th>
<th>GIVEN</th>
<th>NOT GIVEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>URBAN</td>
<td>66(73%)</td>
<td>24(27%)</td>
</tr>
<tr>
<td>RURAL</td>
<td>63(70%)</td>
<td>27(30%)</td>
</tr>
</tbody>
</table>

Table 5: Prevalence of underweight, stunting and wasting in urban and rural population respectively get colostrums or not

<table>
<thead>
<tr>
<th>COLOSTRUMS</th>
<th>GIVEN</th>
<th>NOT GIVEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>URBAN</td>
<td>64(71%)</td>
<td>26(29%)</td>
</tr>
<tr>
<td>RURAL</td>
<td>58(64%)</td>
<td>32(36%)</td>
</tr>
<tr>
<td>UNDERWEIGHT</td>
<td>27(73%)</td>
<td>(19)73%</td>
</tr>
<tr>
<td>STUNTING</td>
<td>25(39%)</td>
<td>(15)58%</td>
</tr>
<tr>
<td>WASTING</td>
<td>21(36%)</td>
<td>(22)69%</td>
</tr>
</tbody>
</table>

Table 5: shows that the 29% and 36% of urban and rural population respectively are deprived from colostrums. Though 71% and 64% urban and rural population respectively get colostrums but only 27% and 30% of urban and rural population respectively give properly as described in table 4.
underweight, stunting and wasting in rural population colostrums not given is 84%, 69%, and 72% respectively. The above table made us to draw inference that both urban and rural population group in which colostrums was given has significantly better outcome than the group in which colostrums was not given.

Table 6: Variety of food given or not given in children’s above 6 months of age in urban and rural population

<table>
<thead>
<tr>
<th>VARIETY OF FOOD</th>
<th>POPULATION</th>
<th>GIVEN</th>
<th>NOT GIVEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>URBAN</td>
<td>38(63%)</td>
<td>22(37%)</td>
<td></td>
</tr>
<tr>
<td>RURAL</td>
<td>30(50%)</td>
<td>30(50%)</td>
<td></td>
</tr>
</tbody>
</table>

INTAKE OF VARIETY OF FOOD

Table 7: Prevalence of underweight, stunting and wasting on variety of food given or not given in children’s above 6 months of age in urban and rural population

<table>
<thead>
<tr>
<th>OUTCOME</th>
<th>AREA</th>
<th>VARIETY GIVEN</th>
<th>VARIETY NOT GIVEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNDERWEIGHT</td>
<td>URBAN</td>
<td>39%(15)</td>
<td>73%(16)</td>
</tr>
<tr>
<td></td>
<td>RURAL</td>
<td>37%(11)</td>
<td>77%(23)</td>
</tr>
<tr>
<td>STUNTING</td>
<td>URBAN</td>
<td>32%(12)</td>
<td>73%(16)</td>
</tr>
<tr>
<td></td>
<td>RURAL</td>
<td>30%(9)</td>
<td>73%(22)</td>
</tr>
<tr>
<td>WASTING</td>
<td>URBAN</td>
<td>18%(7)</td>
<td>59%(13)</td>
</tr>
<tr>
<td></td>
<td>RURAL</td>
<td>33%(10)</td>
<td>60%(18)</td>
</tr>
</tbody>
</table>

Table 7 shows the Prevalence of underweight, stunting and wasting in urban population variety of food given is, 39%, 32%, and 28% respectively. Prevalence of underweight, stunting and wasting in urban population variety of food not given is 73%, 73%, and 59% respectively. Prevalence of underweight, stunting and wasting in rural population variety of food given is 37%, 30%, and 38% respectively. Prevalence of underweight, stunting and wasting in rural population variety of food not given is 77%, 73%, and 60% respectively. The above table made us to draw inference that both urban and rural population group in which variety of food was given has significantly better outcome than the group in which variety of food was not given.

TIME OF WEANING AND THEIR OUTCOME

Table 8: Time of weaning in months

<table>
<thead>
<tr>
<th>Time of weaning in months</th>
<th>&lt;6</th>
<th>6</th>
<th>&gt;6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>45(60%)</td>
<td>19(25%)</td>
<td>11(15%)</td>
</tr>
<tr>
<td>Rural</td>
<td>50(62%)</td>
<td>14(18%)</td>
<td>16(20%)</td>
</tr>
</tbody>
</table>

Table 8 shows that greater than 50% of both urban and rural population weans before completion of 6 months. 15 and 10 subjects were below 6 years and continued breast feeding in urban and rural region respectively so they were excluded from the study. In rural population time of weaning before 6 months was greater than urban. Nearly 15% of urban population weaned after 6 months of age and 20% of rural population weaned after 6 months of age. Only 25% of urban population and 18% was appropriately weaned for age.

Figure 3: Prevalence of underweight, stunting and wasting in urban population, time of weaning and their outcome

Figure 3 shows the prevalence of underweight, stunting and wasting in urban population wean before completion of 6 months is 67% 58% and 47% respectively. Prevalence of underweight, stunting and wasting in urban population weaned at 6 months is 11%, 0%, and 11% respectively. Prevalence of underweight, stunting and wasting in urban population weaned after 6 months is 64%, 64%, and 27% respectively. Prevalence of underweight, stunting and wasting in rural population wean before completion of 6 months is 68% 56% and 60% respectively. Prevalence of underweight, stunting and wasting in rural population weaned after 6 months is 64%, 64%, and 27% respectively. Prevalence of underweight, stunting and wasting in rural population weaned after 6 months is 25%, 19%, and 19% respectively. Prevalence of underweight, stunting and wasting in rural population weaned after 6 months is 58%, 53%, and 42% respectively. The above table made us to draw inference that both urban and rural population group in which weaned at 6 months has significantly better outcome than the group in which weaned before or after 6 months.

PROPER CONSISTENCY OF FOOD AND CALORIES
Figure 4: Consistency of food in urban and rural population

Figure 5: Consistency of food in urban and rural population and their outcomes

Figure 4 shows that the 53% and 37% of urban and rural population respectively get food of proper consistency and calories. 47% and 59% of urban and rural population respectively do not get food of proper consistency and calories. Thus feeding practices of urban population is better than rural population. Figure 5 shows that the prevalence of underweight, stunting and wasting in urban population food of proper consistency and calories given is 19%, 21%, and 10% respectively. Prevalence of underweight, stunting and wasting in urban population food of proper consistency and calories not given is 88%, 71%, and 60% respectively. Prevalence of underweight, stunting and wasting in rural population food of proper consistency and calories given is 19%, 14%, and 22% respectively. Prevalence of underweight, stunting and wasting in rural population food of proper consistency and calories not given is 85%, 72%, and 64% respectively. The above table made us to draw inference that both urban and rural population group in which food of proper consistency and calories was given has significantly better outcome than the group in which food of proper consistency and calories was not given.

PREVALENCE OF BREAST FEEDING, KATORI SPOON AND BOTTLE FEEDING BEFORE AND AFTER 6 MONTHS

Figure 6: Prevalence of Breast feeding, katori spoon and bottle feeding in rural & urban population (<6months)

The figure 6 shows the prevalence of Breast feeding, katori spoon and bottle feeding in urban population is 73%, 10% and 17% respectively. Prevalence of Breast feeding katori spoon and bottle feeding in rural population is 47%, 23% and 30% respectively. Hence bottle feeding is most prevalent in rural region than in urban region. The figure 7 shows the prevalence of underweight, stunting and wasting in urban population BREAST FEEDING (<6MO) is 32%, 41%, and 18% respectively. Prevalence of underweight, stunting and wasting in urban population KATORI SPOON is 100%, 33%, and 100% respectively. Prevalence of underweight, stunting and wasting in urban population BOTTLE feeding is 100%, 60%, and 60% respectively. Prevalence of underweight, stunting and wasting in rural population BREAST FEEDING (<6MO) is 57%, 21%, and 18% respectively. Prevalence of underweight, stunting and wasting in rural population KATORI SPOON feeding is 86%, 71%, and 86% respectively. Prevalence of underweight, stunting and wasting in rural population BOTTLE feeding is 86%, 71%, and 86% respectively. The above table made us to draw inference that both urban and rural population group in which BREAST FEEDING(<6MO) and KATORI SPOON feeding has significantly better outcome than the group in which BOTTLE and KATORI SPOON feeding is prevalent.
Figure 8: Prevalence of Breast feeding, katori spoon and bottle feeding in rural & urban population (>6months)

Figure 9: Prevalence of Breast feeding, katori spoon and bottle feeding on underweight, stunting and wasting in urban & rural population (>6months)

Figure 8 shows the prevalence of Breast feeding Exclusive, katori spoon and bottle feeding in urban population is 8%, 50% and 42% respectively. Prevalence of Breast feeding katori spoon and bottle feeding in rural population is 12%, 38% and 50% respectively. Hence bottle feeding is most prevalent in rural region than in urban region. Prevalence of underweight, stunting and wasting in rural population BREAST FEEDING (>6MO) is 8%, 70% and 61% respectively. Prevalence of underweight, stunting and wasting in urban population KATORI SPOON feeding is 27%, 17%, and 17% respectively. Prevalence of underweight, stunting and wasting in rural population BREAST FEEDING (<6MO) is 25%, 17%, and 25% respectively. Prevalence of underweight, stunting and wasting in rural population BOTTLE feeding is 85%, 70%, and 61% respectively. Prevalence of underweight, stunting and wasting in urban population KATORI SPOON feeding is 22%, 17%, and 26% respectively. Prevalence of underweight, stunting and wasting in urban population BOTTLE feeding is 84%, 71%, and 67% respectively.

The above table made us to draw inference that both urban and rural population group in which KATORI SPOON feeding has significantly better outcome than the group in which BREAST FEEDING (<6MO) and BOTTLE feeding is prevalent.

COMPARATIVE STATEMENT:

Childhood under nutrition is a major public health problem in India especially in the rural part of India. Our study findings gives lessons that appropriate feeding practices can significantly change the nutritional outcomes in the terms of underweight, wasting and stunting. According to UNICEF 2009 [14] India puts 42% under nutrition burden to whole world. NFHS 1,2,3 [20-22] reveals underweight, wasting and stunting in Bihar (62.6%, 60.9%, and 21.8%), (54.4%, 53.7%, and 21%), (58%, 42%, and 28%), respectively. Our study revealed underweight, wasting and stunting 55%, 47%, and 38%.

Figure 10: Comparative statement of nutritional status of Bihar of NFHS1, 2 & 3 with our study on underweight, stunting and wasting

Above table and graph compares NFHS 1, 2, 3 statuses [20-22] of Bihar With our study. Our study revealed prevalence of underweight has decreased by 3% but stunting and wasting has increased by 5% and 10% respectively as compared to NFHS3 survey.

So, it can be concluded that the prevalence of underweight, stunting and wasting in urban population BREAST FEEDING (<6MO) is 32% 41% and 18% respectively. Prevalence of underweight, stunting and wasting in urban population KATORI SPOON is 27%, 17%, and 17% respectively. Prevalence of underweight, stunting and wasting in urban population BOTTLE feeding is 85%, 70%, and 61% respectively. Prevalence of underweight, stunting and wasting in rural population KATORI SPOON feeding is 22%, 17%, and 26% respectively. Prevalence of underweight, stunting and wasting in rural population BOTTLE feeding is 84%, 71%, and 67% respectively. The above table made us to draw inference that both urban and rural population group in which BREAST FEEDING (<6MO) and KATORI SPOON feeding has significantly better outcome than the group in which BOTTLE feeding is prevalent.
Our study is compared with NFHS3 [22], i.e. National status with status of variation in urban and rural population of Bihar. The trend of these studies are similar underweight, wasting and stunting in Bihar is different in urban and rural populations i.e. rural population has more percentage of underweight, wasting and stunting.

![Urban & Rural Variations](image)

Figure 11: Comparative statement of nutritional status in rural & urban population of Bihar of NFHS 3 with our study on underweight, stunting and wasting

Initiation of breast feeding immediately after delivery in our study in urban and rural population is 30% and 27% respectively. This is slightly higher as compared to NFHS3, which is 25% and less than rural area of west Bengal 31.4% carried out by N. Das and A Dasgupta [24], study carried out. In the study carried out in Delhi by Amir Maroo, Paras agrawal and others [25-30], only 37.2% were put on breastfeeding within one hour of birth. However National Family Health Survey - 3 (NFHS-3) data at the national level and also at Delhi showed it as 23.4% and 21.7%, respectively, for children aged less than 3 years. Another Study from West Bengal had shown it much lower as 13.6%. According to times of India report August 1, 2012 [31], only 30% of infants (in urban population) started breastfeeding within one hour of birth, as is recommended, the figure goes down to 22% in rural population. In our study majority of both rural and urban population 66% and 67% initiates breast feeding after day 1 of delivery. Prelacteal given is 73% and 70% in urban and rural population of Bihar respectively. Colostrums given in urban and rural population is 71% and 64% respectively. However only 29% and 36% of urban and rural population had appropriately get colostrums. Observations showed that Populations in which colostrums was given had significantly low prevalence of underweight (43%), wasting (38%) and stunting (30%) as expected against not given underweight (79%), wasting (60%) and stunting (64%). NFHS 3[22] had showed that rural area is better than urban area in breast feeding practices summarized as exclusive breast feeding being 48.3% in rural and 40.3% in urban area. In our study, the observation was contrary to what was observed in the NFHS3. Urban area appeared better in all the aspects of breast feeding than rural area. However, breast feeding practices were still suboptimal in both the areas. Exclusive breast feeding up to the age of six months is only 46.3% as per NFHS-3. Further analysis of age wise data of NFHS-3 [22], also reveals that exclusive breastfeeding rapidly declines from first month to sixth month, and only about 20% children continue it by six months giving a real figure of exclusive breastfeeding and rest i.e. 26.3% weaned before 6 months. Our study reveals the similar pattern but magnitude is different. Exclusive breastfeeding up to the age of six months is only 25% and 18% in urban and rural region respectively average is 21%. Our study revealed exclusive breast feeding for 6 months. Populations had significantly low prevalence of underweight (18%), stunting (1%) wasting (15%) and as expected against complementary food given before 6 months underweight (67%), stunting (57%). wasting (54%) and late after 6 months group showed underweight (67%), stunting (63%) and wasting (41%). As per NFHS3 36 percent are given food from at least 3 food groups (variety of food), as recommended to ensure adequate diversity in their diet.

**Conclusion**

In our study variety of food given is 63% and 50% in urban and rural population respectively. Our study has revealed that population getting variety of food has significantly better outcome in nutritional status rather than population not getting it. Our study has revealed that population getting nearly proper consistency and calories are only 53% and 41% in urban and rural areas respectively. Population getting nearly proper consistency and calories has significantly better outcome in nutritional status rather than population not getting it. Prevalent mode of feeding in children below 6 months in non exclusive breast feeding is bottle feeding in rural and urban areas. 42% and 50% of urban and rural population bottle feed their children above 6 months respectively bottle feeding significantly affect the outcome i.e. the poor nutritional status as compared to the katori spoon feeding.

- Only 25 per cent of newborns were put to the breast within one hour of birth.
- Less than half of children (46 per cent) under six months of age are exclusively breastfed.
- Only 20 per cent children age 6-23 months are fed appropriately according to all three recommended practices for infant and young child feeding. See more at: 38 per cent before eating, and 30 per cent before preparing food.

**References**

15. WHO: http://apps.who.int/gho/data/view.main/nutrition-1-1
20. NFHS-1 India: main report - National Family Health Survey rchiips.org/nfhs/nfhs1.shtm.
21. NFHS-2 Publications - National Family Health Survey rchiips.org/nfhs/nfhs2.shtm
23. Rural health mission online 2011 available from:post.jgran.com/search/NRHM.
24. N. Das, D. Chattopadhyay, S Chakraborty, and A Dasgupta, Infant and Young Child Feeding Perceptions and Practices among Mothers in a Rural Area of West Bengal, India.
29. Aparajita Dasgupta, Sourav Naiya, Soumalya Ray, Arnab Ghosal, Ram Pravakar, Parthasarathi Ram, Assessment of Infant and Young Child Feeding Practices among the Mothers in a Slum Area of Kolkata: A Cross Sectional Study Dept. of Preventive & Social Medicine, All India Institute of Hygiene & Public Health, 110, Chittaranjan Avenue, Kolkata-700073, India.
30. Maroof Khan, Priscilla, Kayina, Paras Agrawal, Anita Gupta, Anjum Tulip Kannan, A study on infant and young child feeding practices among mothers attending an urban health center in East Delhi, AMIR.