

**ASSESSMENT OF KNOWLEDGE OF MOTHERS REGARDING BREASTFEEDING OF  
THEIR CHILDREN IN URBAN AND RURAL AREA**<sup>1</sup>Micah Susan Mathew, <sup>2</sup>Navya Mariam Koshy, <sup>3</sup>Abiya Jose, <sup>4</sup>Ganga Sanal, <sup>5</sup>Nisha Pothen and <sup>6</sup>Dr. Jiji Alfred<sup>1,2,3,4</sup>Sixth Year PharmD Student, Nazareth College of Pharmacy, Othara, Thiruvalla, Kerala.<sup>5</sup>Assistant Professor, Department of Pharmacology, Nazareth College of Pharmacy, Othara, Thiruvalla, Kerala.<sup>6</sup>Assistant Professor, Department of Pharmacy Practice, Nazareth College of Pharmacy, Othara, Thiruvalla, Kerala.**\*Corresponding Author: Micah Susan Mathew**

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**ABSTRACT**

**Background:** Knowledge, attitude and practice of mothers regarding the basic health care needs of their child is inevitable for maintaining good health to create a better future. Breastfeeding has several health benefits to both mother and infant. However, despite strong evidence the prevalence of breastfeeding remains low worldwide. The objective of our study was to determine knowledge of mothers regarding breastfeeding of their child in both urban and rural areas and to determine the impact of counselling. **Methodology:** Our study was a prospective cross-sectional study with 300 participants, 150 each from rural and urban locations and was carried out in Eraviperoor Gram panchayath and Thiruvalla Municipality from Pathanamthitta district. **Result:** Compared to rural mothers, urban mothers had better knowledge regarding various aspects of breastfeeding such as exclusive breastfeeding, importance of colostrums, time of weaning and breastfeeding, benefits of breastfeeding to child and mother, etc. **Conclusion:** Even though the knowledge of urban mothers were better than their rural counterparts, we can't say that all rural mothers didn't know about various aspects of breastfeeding and intervention given in the form of counselling resulted in increasing the knowledge regarding the same among both urban and rural groups. So proper counselling, and a holistic level of support and guidance should be given to mothers, which is possible by strengthening and streamlining the existing programs designed for the same.

**KEYWORDS:** Exclusive breastfeeding (EBF), Colostrums, Weaning, Mother.**INTRODUCTION**

Breastfeeding is a basic human activity which is inevitable to infant and maternal health and of immense economic value to households and societies.<sup>[1]</sup> Breastfeeding is considered as a traditional practice in India and it is believed that it comes, „naturally“ to mothers.<sup>[2]</sup> Breast milk is the ideal nourishment for infants“ and has the specific characteristics that match the growing infants“ nutritional requirements.<sup>[3,4]</sup> The American Academy of Pediatrics recommends EBF for 6 months, followed by continued breastfeeding for at least 12 months along with complementary foods.<sup>[5]</sup> Exclusive Breast Feeding (EBF) is defined as feeding an infant with only human milk and do not give any other liquids or solids.<sup>[6]</sup> WHO recommends that infants should be exclusively breastfed for the first six months of life to achieve survival, optimal growth, development and health. Thereafter, infants should receive nutritionally adequate and safe complementary foods, while continuing to breastfed for up to 2 years or more.<sup>[7]</sup>

Breastfeeding is considered as nature“s most precious gift to humankind and offers many potential health benefits and emotional bonding for mother and baby.<sup>[8]</sup>

The benefits of breast- feeding, to the mother and baby, have long been recognized.<sup>[1]</sup> They have many benefits to the baby like they prevent them necrotizing enterocolitis, allergies, cancers and there are fewer chances of developing diarrhea, vomiting, chest infections, otitis media, etc.<sup>[9-11]</sup> There are also less likelihood of becoming obese and therefore, developing type 2 diabetes and other illnesses later in life, helps to reduce hospitalizations and infant mortality, fastens recovery during illness, less chance of developing eczema and also improves significantly Intelligence Quotient, Brain size compared to artificial feeds.<sup>[10-13]</sup> They also benefit mothers like lowers their risk of getting breast and ovarian cancer, naturally uses up to 500 calories a day, helps in birth spacing, and can help to build a strong bond between mother and baby.<sup>[10,11,12,14]</sup>

In spite of strong evidence in support of EBF for the first six months of life, its prevalence has remained low worldwide and it is estimated that about one-third of infants were only exclusively breastfed for the first six months of their life.<sup>[1]</sup> Breast milk provides calories, protein, necessary nutrients, including vitamins and minerals. In addition to proteins and calories breast milk contain bioactive factors like IgA, lactoferrin, K-casein,

cytokines, growth factors, glutathione peroxidase etc which have anti-infective, antioxidant, growth promoting properties.<sup>[6,15]</sup> The beneficial effect of breastfeeding depends on factors like the time of initiation, its duration, and the age at which the breastfed child is weaned.<sup>[8]</sup>

As a global goal for optimal child health and nutrition, all women should be enabled to practice EBF.<sup>[2]</sup> In recent years, as a result of urbanization and maternal employment outside the home breastfeeding has declined worldwide. In 1991, Breastfeeding Promotion Network of India (BPNI) was established to protect, promote and support breastfeeding throughout India. Further, the Government of India has undertaken National Rural Health Mission, with an intension to implement Integrated Management of Neonatal and Childhood Illnesses (IMNCI) through the existing healthcare delivery system, but still studies in India have shown a decline in breastfeeding trends, especially in urban areas.<sup>[1,16]</sup> Early initiation of breastfeeding is not seen in over 75% of the nation's children and also over 50% of children are not exclusively breastfed.<sup>[9]</sup> Many factors influence the initiation, maintenance and duration of breastfeeding like social and cultural traditions, infant maturity at birth, degree of commitment, and literacy of the mother and level of modernity.<sup>[2]</sup>

#### METHODOLOGY

The study was designed as a prospective cross sectional study to determine the knowledge of urban and rural mothers regarding breastfeeding of their children in urban and rural area and to determine the impact of counselling. The study was carried out in 300 subjects 150 each from urban and rural area and the data was collected using a structured questionnaire that contained various questions to meet the objectives.

#### LOCATION OF THE STUDY

The study was carried out in Eraviperoor Grama-panchayath and Thiruvalla Municipality from Pathanamthitta District on the topic "ASSESSMENT OF KNOWLEDGE OF MOTHERS REGARDING BREASTFEDNG OF THEIR CHILDREN IN URBAN AND RURAL AREA".

**DURATION OF STUDY:** Six months.

**SAMPLE SIZE:** The sample was calculated to be 300; 150 mothers each from urban and rural area using the statistical formula.

$$\frac{Z^2 \times P(1+P)}{e^2} \div \left[ 1 - \frac{Z^2 \times P(1+P)}{e^2 N} \right]$$

Where,

P = Standard deviation

N = Population size  
e = Margin of error  
Z = 95% Confidence interval of Z<sup>2</sup>

#### INCLUSION CRITERIA

- Mothers of 0 months- 5 years old children.

#### EXCLUSION CRITERIA

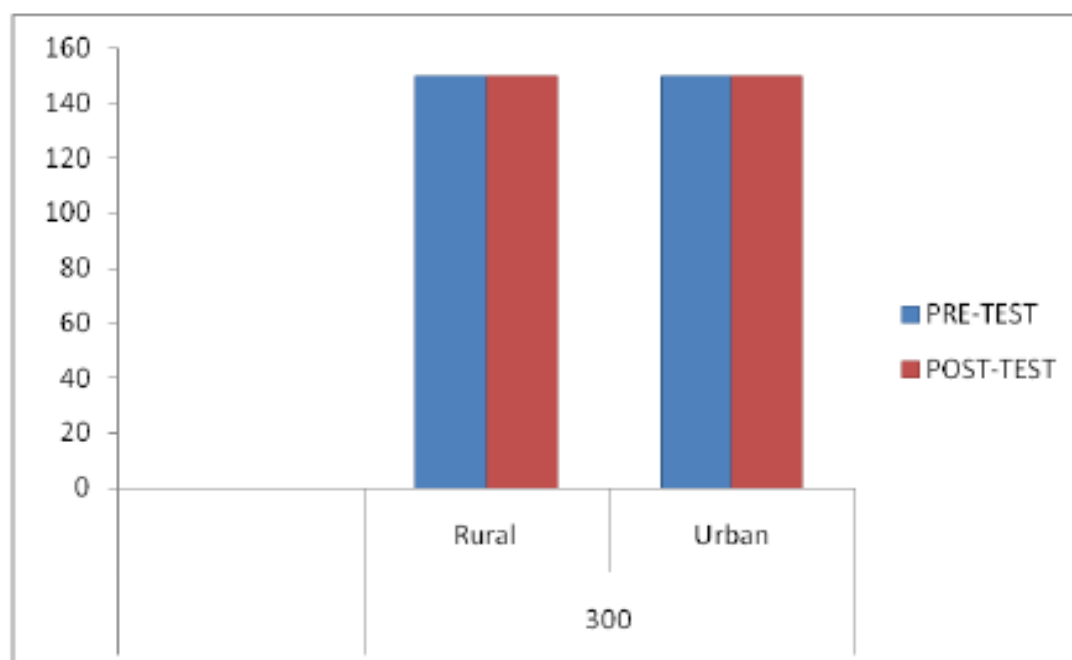
- Mothers who are not willing to participate.

#### DATA COLLECTION PROCEDURE

Participants who were willing to participate and who have given a written informed consent were taken into study and were asked to fill a prepared questionnaire to determine their knowledge regarding breastfeeding of their child. Questionnaires were filled through face-to-face interviews with participants and data were collected. Later counselling was given to mothers and their knowledge regarding breastfeeding of their child was again collected, after that leaflet regarding the same were given to mothers. After one month of data collection, their knowledge regarding breastfeeding was again monitored and recorded.

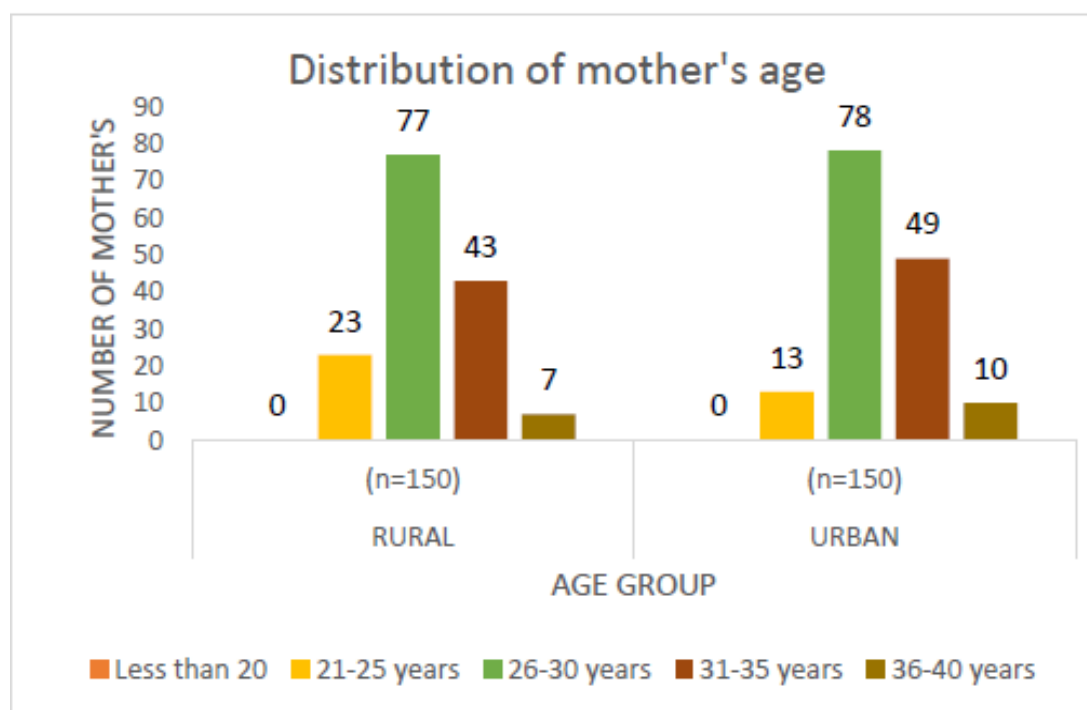
#### RESULTS

The study focused on obtaining data on awareness of mothers regarding breastfeeding of children in Urban and Rural areas. This was a cross sectional study conducted in Eraviperoor GramaPanchayath and Thiruvalla municipality of Pathanamthitta District. The data were collected using a structured questionnaire.



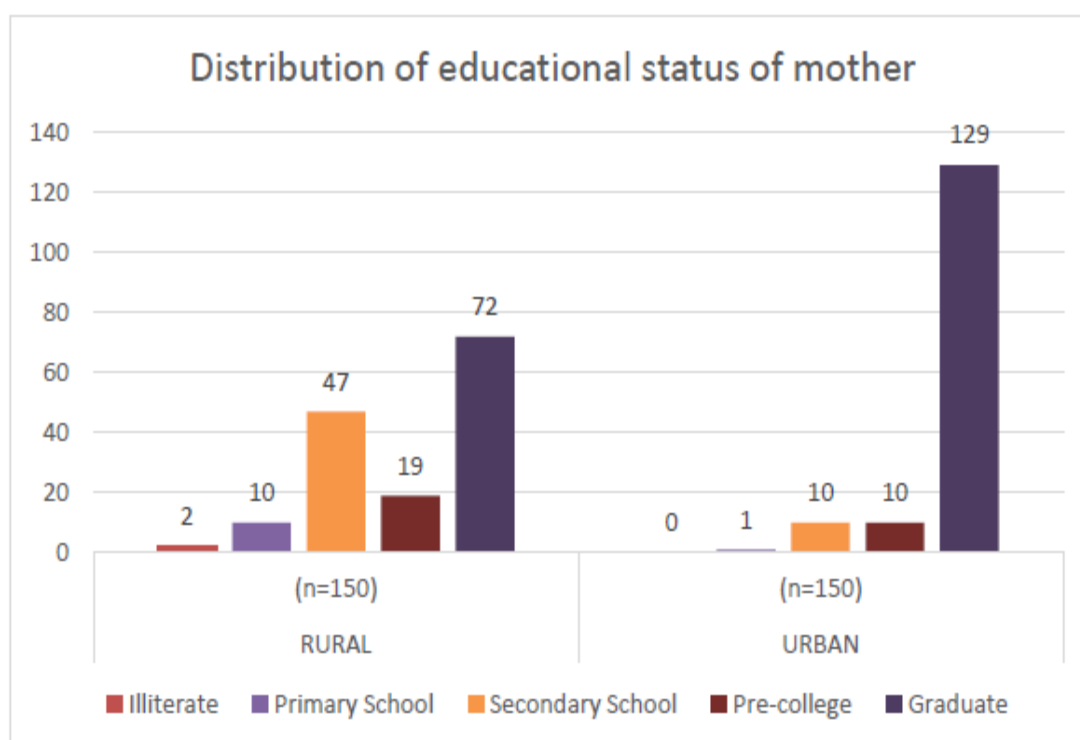
**Figure 1: Distribution of subjects enrolled in the study.**

In our study the total population was 300 mothers, 150 mothers each in urban and rural group pre-test and post test study.



**Figure 2: Distribution of mother's age group.**

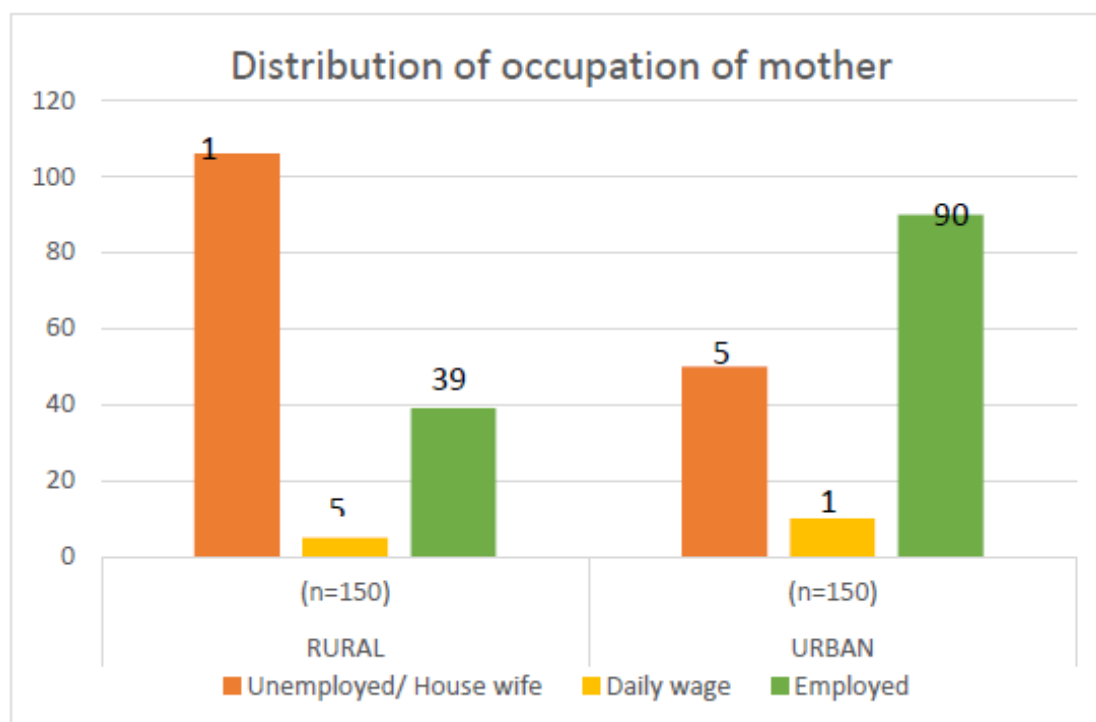
300 participants in our study was divided into 5 groups based on their age, out of which the maximum respondents were from the age group 26-30 (77 were from Rural area and 78 were from Urban area) followed by the age groups 31-35, 21-25, 36-40 years. There were no participants from both urban and rural area that belong the group of less than 20.



**Fig 3: Distribution of educational status of mother.**

The figure shows that the total population of 300 was divided into urban and rural groups each having 150 samples, which was again divided into 5 groups based on their educational status. Here the number of graduate mothers were 72 in rural area and 129 in urban area followed by mothers with secondary school education which was 47 in rural area and 10 in

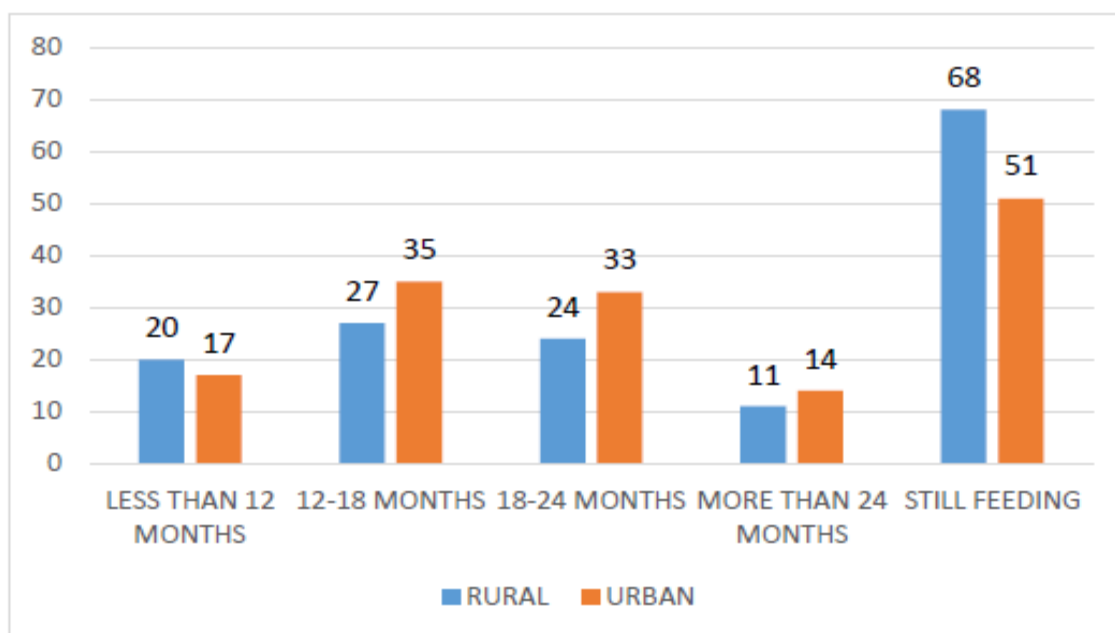
urban area followed by mothers with primary school education which was 10 in rural area and 1 in urban area followed by mothers with pre-college school education which was 19 in rural area and 10 in urban area. The number of illiterate mothers in rural areas was 2 and there were no such mothers in urban areas.



**Figure 4: Distribution of occupation of mother.**

The above figure reveals that the total study population of 300 was divided into urban and rural groups each having 150 samples, which was again divided into three groups (Unemployed /Housewife, Daily wage, Employed). Here the number of unemployed

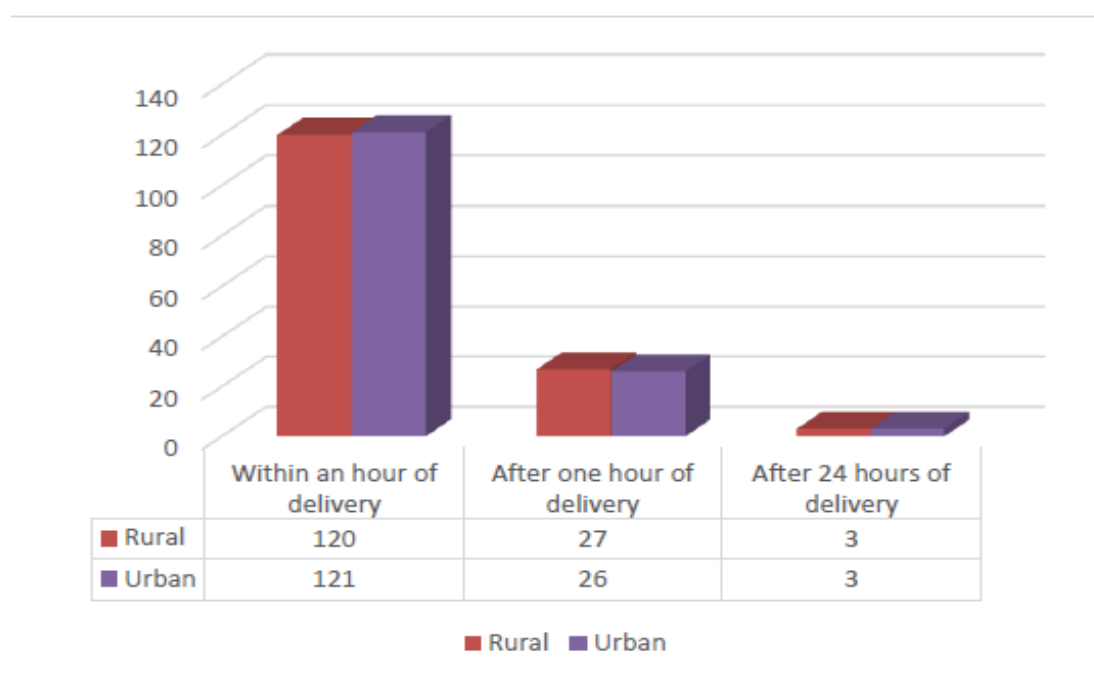
mothers/Housewife were 106 in Rural area and 50 in Urban area, the number of daily wage mothers were 5 in Rural area and 10 in Urban area and the number of employed mothers were 39 in Rural area and 90 in Urban area.



**Figure 5: Distribution based on the duration of breastfeeding period.**

The figure illustrates that the total study population was divided into urban and rural groups each having 150 samples, which was again divided into five categories (less than 12 months, 12-18 months, 18-24 months, more than 24 months, still feeding) based on the duration of breastfeeding period. Here about 20 rural mothers and 17 urban mothers stopped breastfeeding in less than 12

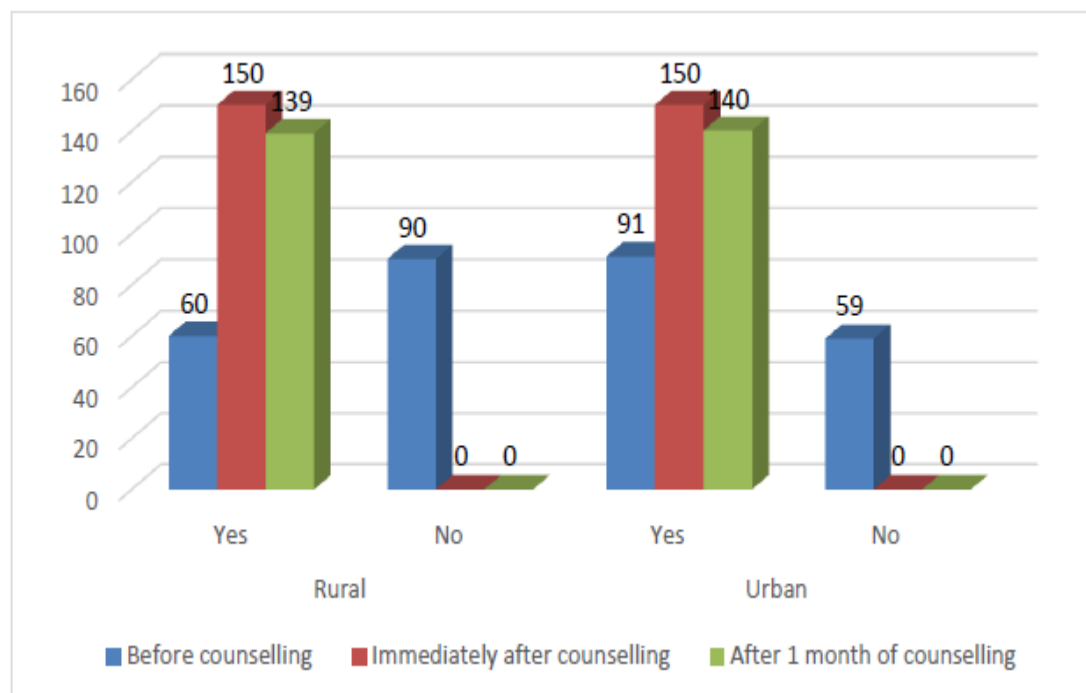
months, 27 rural mothers and 35 urban mothers stopped breastfeeding at 12-18 months, 24 rural mothers and 33 urban mothers stopped breastfeeding at 18-24 months, 11 rural mothers and 14 urban mothers continued breastfeeding for more than 24 months and about 68 rural mothers and 51 urban mothers are still feeding their child.



**Figure 6: Distribution of awareness of mothers regarding the time to start giving breast milk to their child.**

The figure illustrates that out of 150 mothers each in urban and rural area, about 120 rural mothers and 121 urban mothers had the opinion to start giving breast milk

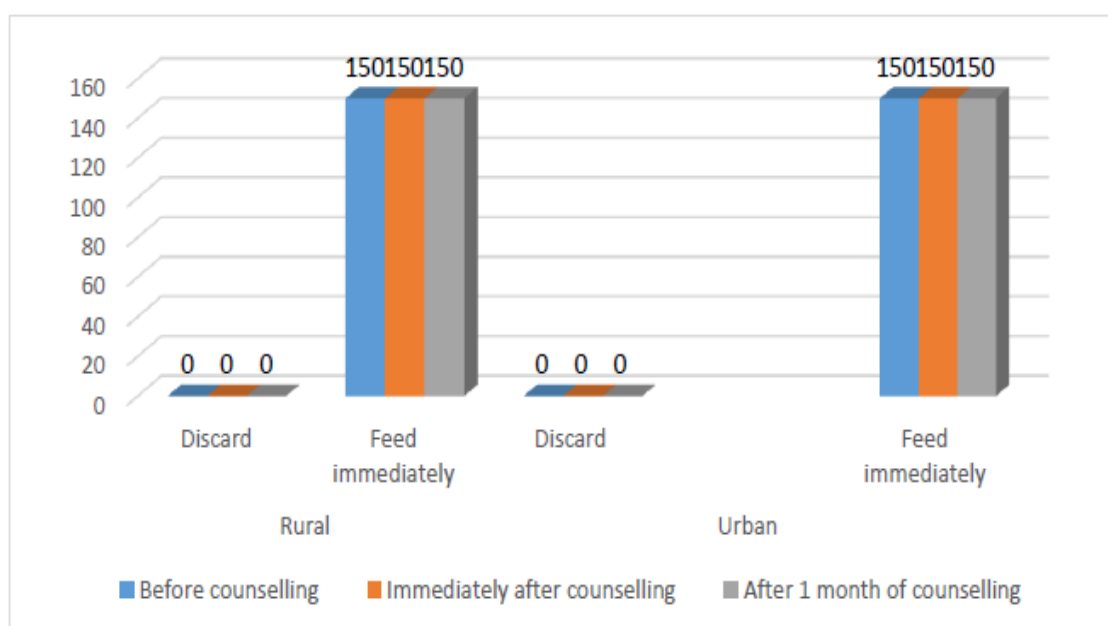
within an hour of delivery. A small number of urban and rural mothers (26 and 27 respectively) had the opinion to start giving breast milk after one hour of delivery.



**Figure 7: Distribution of mother's awareness about exclusive breastfeeding.**

The above graph illustrates the distribution of awareness of mothers about exclusive breastfeeding. Out of 150 mothers in rural area, the number of mothers who knew about EBF was 60 before counselling, 150 immediately after counselling and 139 one month after counselling and those who didn't know about EBF was 90 mothers

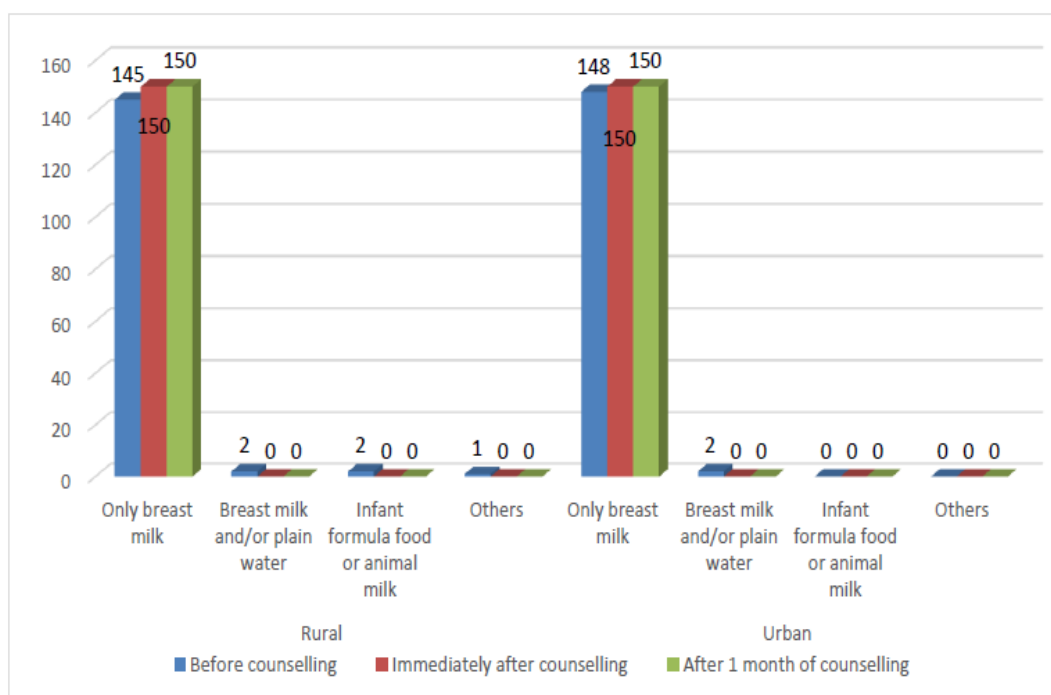
before counselling and 0 immediately and one month after counselling. Whereas in urban area the number of mothers who knew about EBF was 91 before counselling, 150 immediately after counselling and 140 one month after counselling and 59 mothers didn't know about EBF before counselling.



**Figure 8: Distribution of what the mothers did to first milk or colostrums.**

The figure shows that both 150 urban and rural mothers knew that the colostrums or first milk have to be fed to

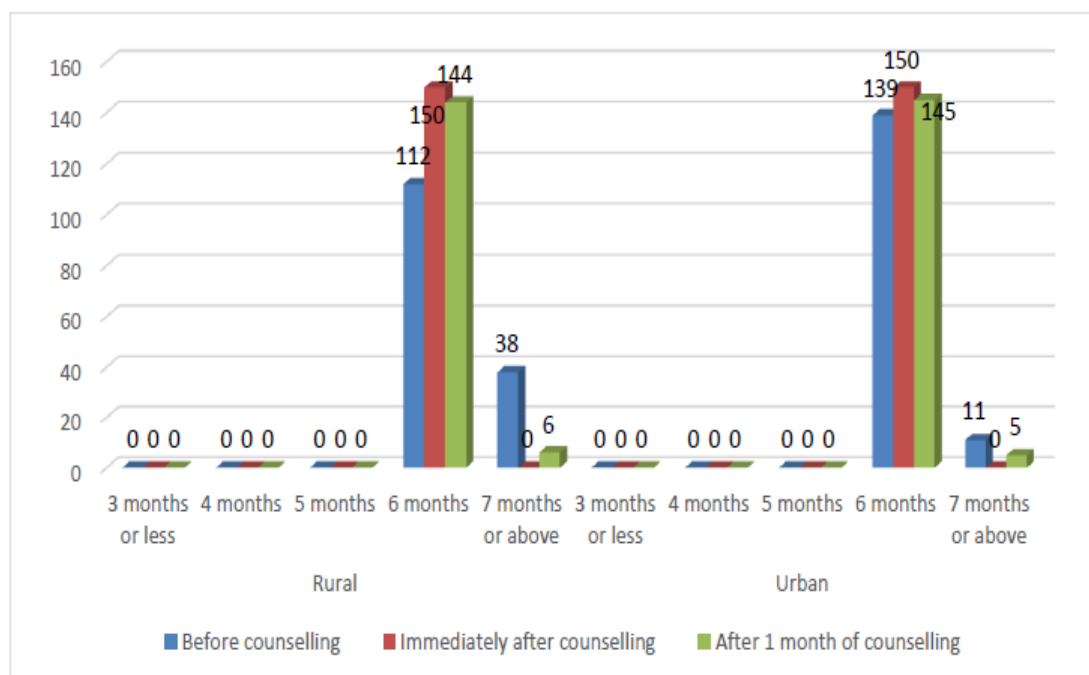
the child and should not be discarded it.



**Figure 9: Distribution of awareness of mothers regarding foods and/or fluids recommended giving a child under 6 months.**

The figure reveals the distribution of awareness of mothers regarding foods and/or fluids recommended to give a child under 6 months. Out of 150 mothers from urban area, 148 mothers had the opinion that only breast milk should be given to child under 6 months of age and this number was increased to 150 after counselling. In case of rural mothers 145 mothers had the same opinion

which was increased to 150 after counselling. 2 mothers each from urban and rural mother had the opinion that plain water can also be given along with breast milk and 2 mothers from rural area also had opinion that infant formula food/ animal milk can also be given to a baby under 6 months of age.



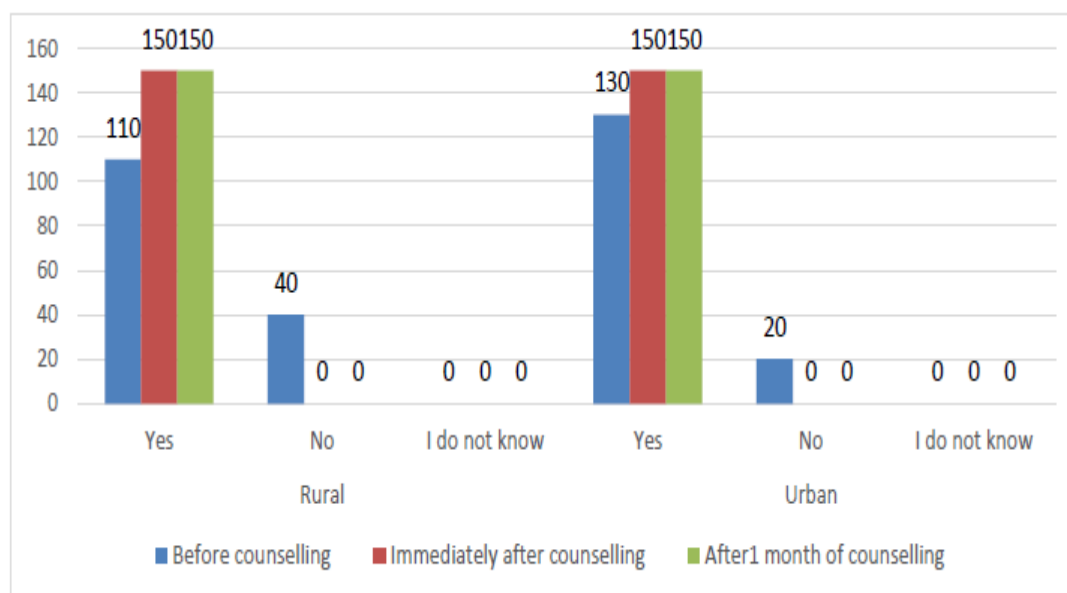
**Figure 10: Distribution of awareness of mothers about the right time to start weaning.**

The figure reveals the distribution of awareness of mothers about the right time to start weaning. Out of 150

mothers each in urban and rural area, only 112 rural and 139 urban mothers knew about the time for weaning

before counselling whereas the number of mothers who knew about the time for weaning had increased to 145

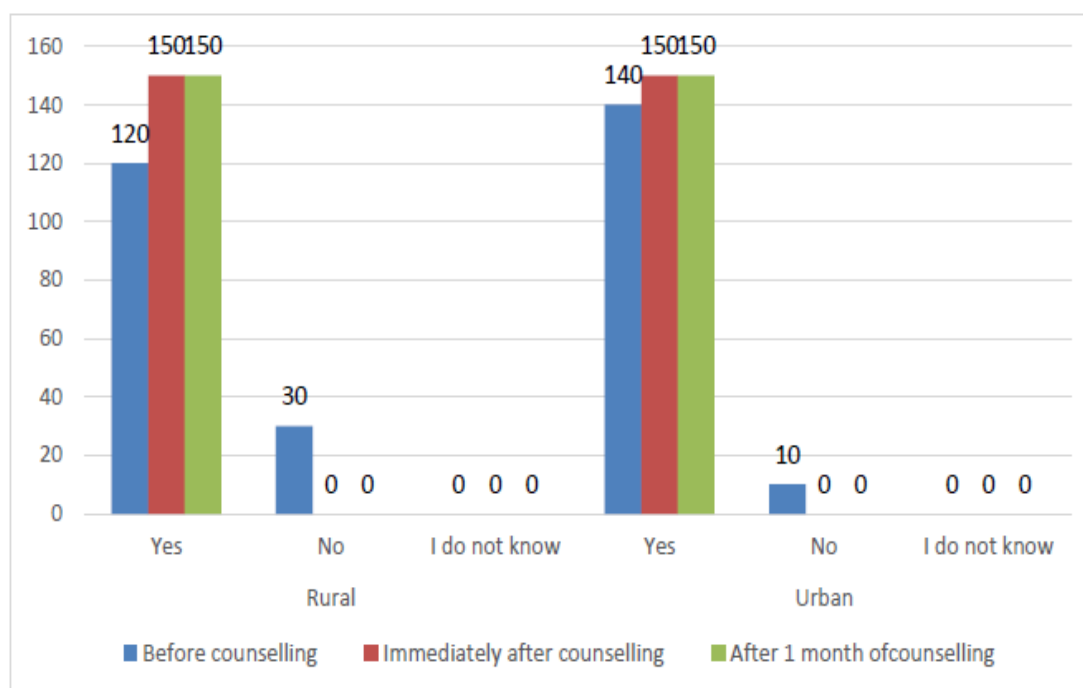
and 144 in urban and rural settings respectively after counselling.



**Figure 11: Distribution of awareness on the fact that breast milk alone being enough for an infant during the first 6 months of life.**

The above figure shows that out of 150 mothers each in urban and rural area, 110 rural mothers knew the fact that breast milk alone being enough for an infant during the first 6 months of life before counselling and it has

increased to 150 mothers after counselling. Whereas the number of urban mothers who knew about the same was 130 before and 150 after counselling.

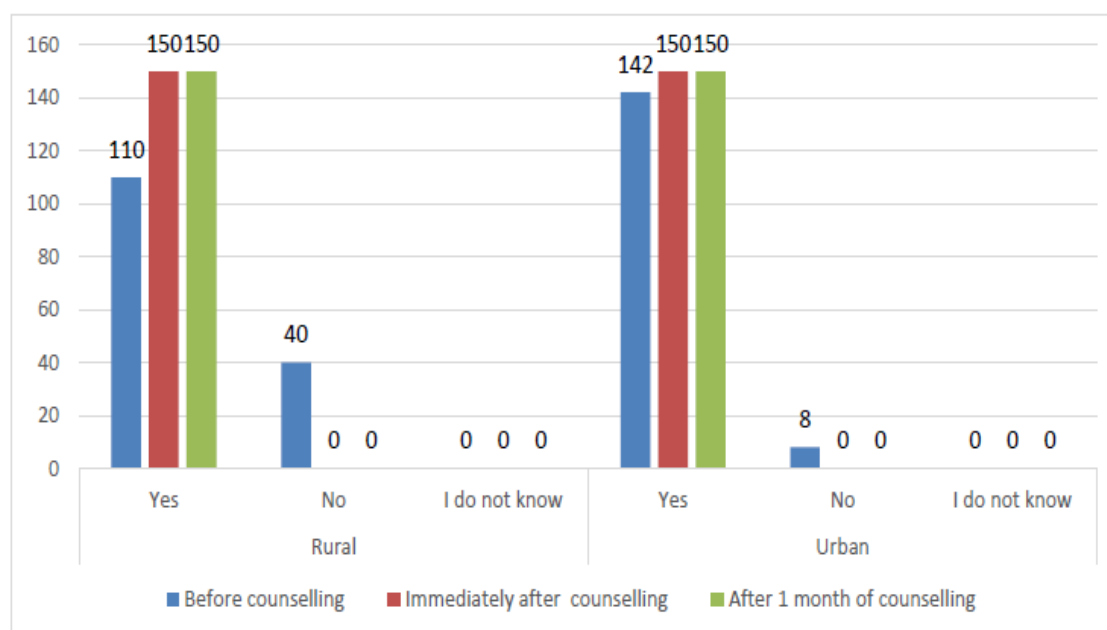


**Figure 12: Distribution of awareness of mothers on the fact that exclusive breastfeeding for the first 6 months used to prevent diarrheal and respiratory diseases for the infant.**

The above graph demonstrates that among the rural mothers about 120 rural mothers knew that EBF for the first six months reduce diarrheal and respiratory disease in infant before counselling and it was increased to 150

after counselling. And among urban mothers, 140 had knowledge about the same before counselling and increased to 150 after counselling.

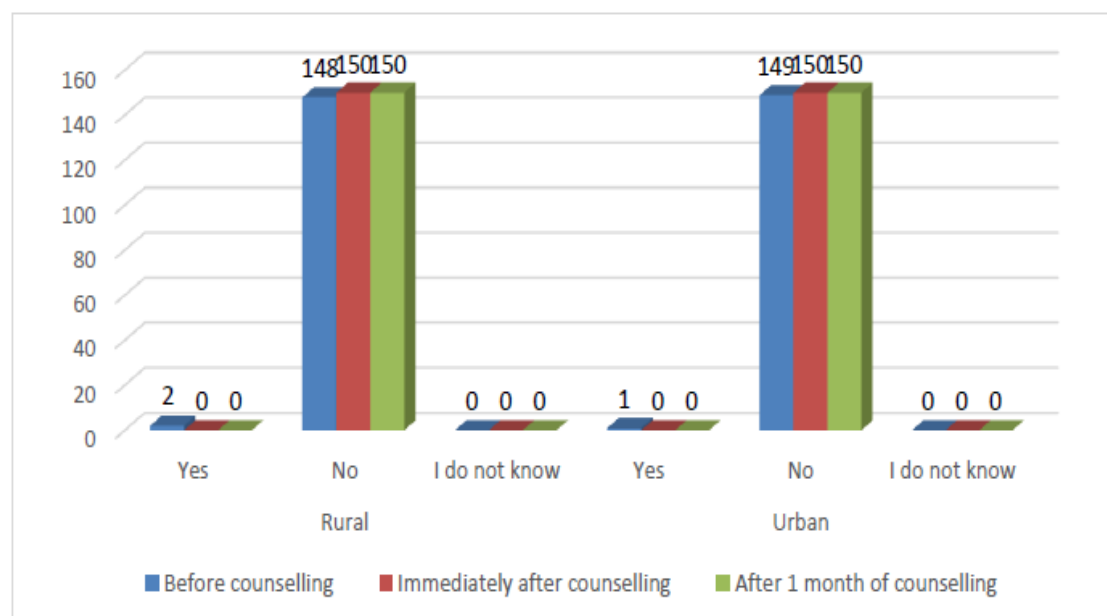




**Figure 13: Distribution on the awareness of keeping proper hygiene and making sure that your nipple area is clean before breast feeding the child.**

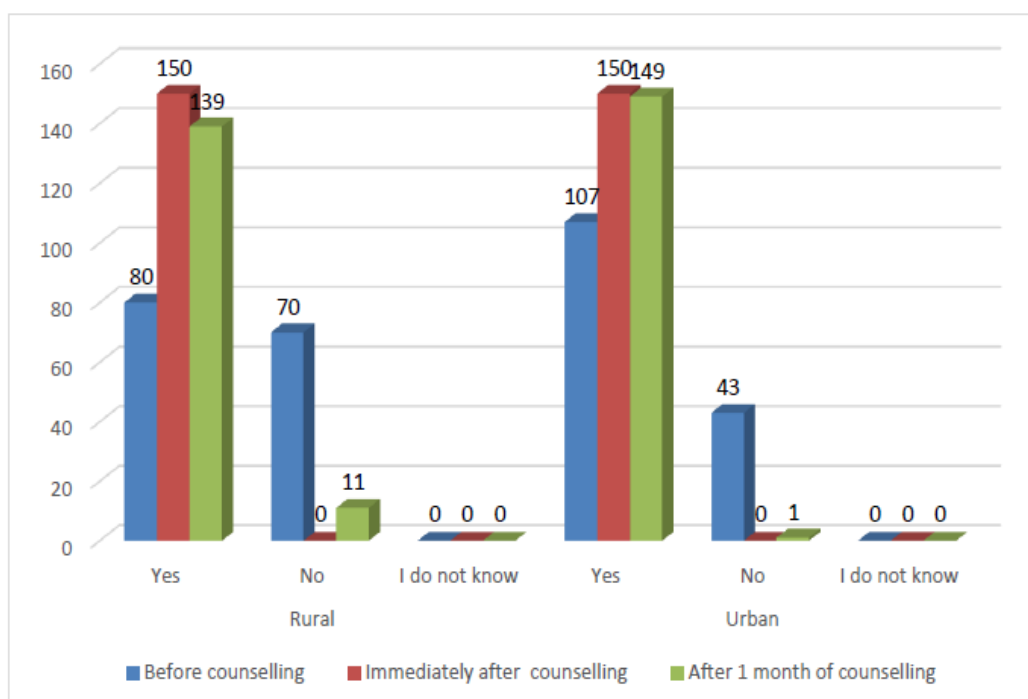
The above figure reveals that out of 150 mothers each in urban and rural area, 142 mothers from urban area keep proper hygiene and make sure that their nipple area is

clean before feeding the child and in rural area only 110 mothers knew the same. The awareness was increased to 100% after providing proper counseling.



**Figure 14: Distribution of awareness that milk powder available in market is better than breast milk.**

The above figure reveals that out of 150 mothers, 148 mothers from rural area and 149 mothers from urban area know that milk powder available in the market is not better than breast milk and this awareness was increased to 100% in both groups after counseling.



**Figure 15: Distribution on awareness that lack of breast feeding can cause breast cancer, ovarian cancer and can help to reduce weight.**

The figure reveals that out of 150 mothers each from urban and rural area, only 80 mothers from rural area and 107 mothers from urban area knew that breastfeeding can reduce the risk of ovarian cancer, breast cancer and helps to reduce weight. This knowledge was increased to 100% after providing proper counselling.

#### FINDINGS

- Our study was carried out in 300 mothers, 150 mothers each from urban and rural areas.
- Most of the mothers fall in the age group 26-30 years. The mean age of rural participants was 29.13( $\pm 3.82$ ) and that for urban ones was 29.87( $\pm 3.65$ ).
- The percentage of graduate mothers in urban areas was 86% which was much higher compared to that of mothers in rural areas which was 48%.
- Considering the employment status, most women in rural areas were unemployed compared to that of women in urban areas.
- Only 91 urban mothers and 60 rural mothers had knowledge about EBF. The rural and urban mothers knew the importance of colostrums and fed colostrums to their child.
- Same proportion i.e. 80% of both urban and rural mothers had started breastfeeding within an hour of delivery and its importance.
- Mothers both in Urban and Rural areas had knowledge about the importance of providing breast milk in the first six months of the child's life.
- About 112 mothers in rural area and 139 mothers from urban area knew the right time to start weaning.
- 110 mothers from the rural and 142 mothers from

the urban area maintained proper hygiene while feeding their child.

- Majority of the mothers from urban and rural area agree that formula milk is not superior to breast milk.
- Only 80 mothers from rural and 107 mothers from urban area knew that breastfeeding their child can prevent them from breast cancer, ovarian cancer and also help them to loose weight.

#### DISCUSSION

The role of the mother is pivotal for good health of an under five-year child. Therefore, the mother's knowledge about the basic health care needs of their child is important. Knowledge and attitude of mothers towards the basic healthcare needs of their children such as vaccination, nutrition, breastfeeding, hand hygiene, etc is essential for proper growth and development of children and thereby contributes positively for the economic growth as the future is in their hands. So our study describes knowledge of mothers regarding the breastfeeding of their children in rural and urban areas.

While assessing the knowledge regarding breastfeeding we found that only 60 rural mothers (40%) knew about it. While among our urban mothers, 91 mothers i.e. 60.6% mothers knew about EBF but at the same time it was found that mothers in urban areas stopped breastfeeding earlier than rural mothers, i.e. about 68 rural mothers (45%) breastfed for more than 24 months while it was only 51 mothers (34%) in urban settings. This variation mainly depends on lack of time, job overload etc, as most of the mothers from urban areas were employed. For successful lactation, timely initiation

of breastfeeding i.e. within half an hour of normal delivery and within four hours of Cesarean delivery is an essential. In the present study about 120 rural mothers (80%) and 121 urban mothers (80.6%) initiated breastfeeding within an hour of delivery and is controversial to a study conducted by Karnawat *et al.* where only 46.7% rural and 57% urban mothers breastfeed their child within an hour of delivery.

In our study 100% of both rural and urban mothers knew the importance of colostrums and fed colostrums to their child. A similar result was found in a study conducted by Ghure *et al.* where 89.2% mothers knew about the importance of colostrums and fed them. In contrast, in a study conducted by Chinnasami *et al.* colostrums has been considered bad by 25% of mothers and 10% have given pre-lacteals like sugar, honey to their child. This variation between various studies existed may be due to the different types of customs prevalent in India as socio-cultural factors influence these practices and vary from region to region. The other reason could be the presence of greater awareness regarding colostrums among our study subjects, and this might be due to the greater awareness of health workers in our area.

In our study, 141 urban mothers (99.3%) and 149 rural mothers (94%) were well aware of complementary feeding. About 112 rural mothers (74.6%) and 139 urban mothers (92.6%) knew the correct time of starting complementary feeding i.e. by 6 months of age and about 38 mothers among our rural participants (25.3%) and 11 mothers from our urban participants (7.3%) started complementary feeding after 7 months. This is contrary to the study conducted by Karnawat *et al.* where only 20% of total mothers (23.3% of urban and 16.7% of rural) knew about the correct age of starting complementary feeding.

In our study 110 rural mothers (73.3%) and 130 urban mothers (86.6%) of urban mothers believed that breast milk is alone enough for their child up to 6 months of age. Knowledge about advantages of breastfeeding were linked to educational level, in our study about 120 rural mothers (80%) and 140 urban mothers (93.3%) knew that exclusive breastfeeding for the first 6 months of their life used to prevent diarrheal and respiratory diseases for the infant. Whereas in a study done by Alamirew *et al.* only 60.9% of the population knew that EBF prevents diarrheal and respiratory diseases in infants.

Mothers are concerned about the cleanliness of their child, his vaccination, clinical appointment, and his overall health. In this regard, maternal education has been suggested to be a powerful and significant determinant of child health status. Multipronged efforts have made significant inroads in uplifting child health in India. This is being reflected by improved parameters. Still, there are areas which if attended to, can contribute to further improvement. It is pertinent to mention that community based public education; focused more on

mothers should be encouraged to improve health status.

## LIMITATIONS

- The main limitation of the current study is the study sample, which may not be the representative of the population and thus cannot be generalized.
- Through this study, we were able to determine the knowledge of mothers regarding breastfeeding. But due to limited time we were not able to determine the practice and attitude of mothers regarding the same.

## CONCLUSION

Mother's perception and attitude towards the basic healthcare needs of a child like immunization, feeding practices, hygiene and health seeking behaviour greatly influence the quality of life and future of the child. From our cross-sectional study we tried to assess the knowledge of mothers regarding breastfeeding of their children in urban and rural areas. The presence of rural urban division was significant in our study. From this study we were able to find out that mothers in urban areas have better knowledge regarding healthcare concerning breastfeeding than rural areas. Also educated mothers from rural areas have better knowledge. We can't say that rural mothers are less educated, as the percentages of uneducated mothers were less. Mother's knowledge about breastfeeding and its benefits were found to be more satisfactory in urban settings than rural settings. Knowledge of mothers regarding the correct time of starting complementary feeding was found to be more satisfactory in urban populations than rural populations. Proper counselling sessions regarding breastfeeding were given to every mother included at the beginning of the study and proper follow-up were done. With regard to counselling given, we were able to improve the knowledge of rural as well as urban mothers.

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