Knowledge and Practice of Breastfeeding and Infant Feeding Practices among Different Socio-Economic Mothers from Ghazipur Region in East Delhi

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DOI: https://doi.org/10.52403/ijhsr.20220515

ABSTRACT

Background: Exclusive breastfeeding for 6 months and continued for two years or more protects the infant from infectious and chronic degenerative diseases in the future. The knowledge, attitude, and practice of breastfeeding and infant feeding practices among mothers are important to prevent these comorbidities.

Research aim(s)/question(s): The present study aimed to assess the knowledge and practice of breastfeeding and infant feeding practices among mothers of different socio-economic status in a region of Delhi.

Methods: The study was a cross-sectional study conducted among postpartum mothers having children below 1.5 years.

Results: Around 52% of the mothers were exclusively breastfeeding, 62% experienced skin-to-skin & breastfeeding within an hour after delivery. The majority of the mothers knew the importance of colostrum for their babies and were aware that no prelacteal feed was needed for the initial 6 months. There was an association between exclusive breastfeeding and mother’s age, baby age, breastfeeding support group, and family income (p<0.05). Low family income has a positive effect on breastfeeding duration.

Conclusion(s): It was found that the breastfeeding rate is still less in the present study therefore different information, education and communication activities need to be planned to target all the strata to fill the gaps in knowledge and practice of breastfeeding among mothers.

Keywords: breastfeeding; cross-sectional; infant feeding; postpartum; colostrum; prelacteals.

INTRODUCTION

Breastfeeding is an important determinant for child’s survival which provides major health benefits to both mother and child in terms of proper birth spacing, building maternal stores, and prevention of infections during childhood (1). As per World Health Organization recommendations, infants should be exclusively breastfed for at least 6 months followed by continued breastfeeding for two years or more. Exclusive breastfeeding prevents the risk of developing chronic degenerative diseases like obesity, diabetes, hypertension, hyperlipidemia, metabolic syndrome during childhood or adolescence. Studies have proven that breastfed infants have a higher intelligent quotient (IQ) during childhood. It also prevents mother from future breast or ovarian cancer (2-4). The benefits of breastfeeding depend on the initiation of breastfeeding, its duration, and exclusivity (1).
Globally, optimal breastfeeding rates remain low regardless of multiple scientific evidence which supports & promotes optimal breastfeeding to prevent child malnutrition, mortality, and morbidity(5). In low and middle income countries around 37% of infants younger than 6 months are exclusively breastfed(4). As per National Family Health Survey 4(NFHS 4) data, around 54.9% of infants up to 6 months are exclusively breastfed in India(6). India still leads globally in terms of preterm birth, neonatal mortality, and malnutrition under 5 years, although it had made a significant change in neonatal mortality over the years from NFHS 3 to NFHS 4 data. It is important to understand factors that affect exclusive breastfeeding practices and problems solving approaches to achieve United Nation Sustainable Development Goals-3 of reducing neonatal mortality by 2030(7). Along with breastfeeding, optimal infant feeding practices play an important role in the child's future health and wellbeing of the child (8).

The practice of breastfeeding has declined over the years due to different biological, social, and psychological factors like breastfeeding difficulties, maternal employment, breastfeeding support in a family, maternal attitude towards breastfeeding(9). Many studies have assessed the knowledge and practice of breastfeeding among mothers in the world; however, among Indian mothers such studies and their data are limited.

The World Breastfeeding Trends Initiative (WBTI) adapted an innovative tool from WHO and developed Infant and Young Child Feeding (IYCF) questionnaire by the Breastfeeding Promotion Network of India (BPNI)/International Baby Food Action Network (IBFAN) Asia to assess and monitor the state of implementation of the Global Strategy for Infant and Young Child Feeding among different nations.

Hence, the studies on knowledge and practice of breastfeeding in relation to IYCF practices in India are scanty therefore the present study was conducted to assess the knowledge, attitude, practice of breastfeeding and infant feeding practice among mothers of different socio-economic status in a region of Delhi, India.

**MATERIALS AND METHODS**

- **Research Design**: The present study is a cross-sectional study conducted on postpartum mothers to assess their knowledge and practice of breastfeeding and infant feeding practices. These mothers are from local communities belonging to the different socio-economic status from Ghazipur, a region in East Delhi. Institutional Ethics Committee namely Seva Mandal Education Society’s, Matunga, Mumbai (Maharashtra) has approved the said study vide dated 10th July, 2020 with approval no. SMEs143a.

- **Setting & Relevant Context**: It has been observed over the years that though numerous studies were conducted on importance of exclusive breastfeeding and infant feeding practices in the world, but the practice of breastfeeding is still declining due to factors like education, employment, obstetric and medical condition, poor counselling, family support, mothers attitude etc(10). Hence, it is important to identify these factors which influence breastfeeding practices for formulating the better policies and programmes in future. The current study will help in identifying these factors and other related aspects for designing better intervention at different levels in Indian context due to limited studies and data.

- **Sample**: The target sample of the present study were postpartum mothers breastfeeding their babies with inclusion criteria of mothers delivered their baby and having child below 1.5 years, healthy with neither acute disease and disability. Mothers having a child with any kind of birth defect or malformations are excluded. Participation of the participants was voluntary with their written consent to
participate in the study. In the consent form itself mothers were made aware about the purpose of the study and details required from them as part of the research study which includes their knowledge and attitude towards breastfeeding. Around 50 postpartum mothers were selected belonging to different socio-economic status. Due to covid pandemic the sample size was restricted.

- **Data Collection**- The study was conducted and data was collected from September 2020 to December 2020. Prior written informed consent was taken from the participants which was prepared in both English and Hindi Language. For data collection, a pretested questionnaire cum interview schedule was administered by the researcher to the participants from different socio-economic status. For lower socio-economic mothers, help of local Aanganwadi worker was taken. The questionnaire cum interview schedule was followed and multiple choice questions were prepared in both English and Hindi language. It has different sections:

  This part of questionnaire consists of socio-economic and demographic data like age, education, occupation, marital status, family income, No. of children, lifestyle factors (smoking and alcohol consumption);

  It includes antenatal and postnatal details of the mother like antenatal checkups, baby age, delivery type, gender, birth weight, skin-to-skin contact, baby feeding plan, problems in breastfeeding, previous pregnancies, pre-lacteals, working mothers, postnatal checkups, etc.

  This section includes breastfeeding awareness, benefits of exclusive breastfeeding, source of information about breastfeeding, complementary feeding, etc. The duration of interview per mother was 30 minutes as per their availability and suitable location, mostly their home.

  The mothers were assured in the consent form that their personal details will be kept confidential and their identity will not be revealed while the study is being conducted or when the study is reported or published. The questionnaires will be kept confidential, and stored in a secure place.

**Statistical Analysis**- The data was analyzed using Statistical Package for the Social Sciences (SPSS (version 23.0)), and means and standard deviations were calculated. Descriptive statistics like chi-square tests and p-values were determined. The value for significance was $P < 0.05$.

**RESULTS**

The sample in the present study consists of postpartum mothers (N=50), of which around 42% of mothers were in the age group of 21-23yrs, and only 10% were in the age group of 27-29yrs. Almost 96% were housewives, and 4% were self-employed as shown in (Table 1).

<table>
<thead>
<tr>
<th>Demographic Details of Participants</th>
<th>Table 1- Demographic Details of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age group(yrs)</td>
<td>Number (n=50)</td>
</tr>
<tr>
<td>21-23</td>
<td>21</td>
</tr>
<tr>
<td>24-26</td>
<td>15</td>
</tr>
<tr>
<td>27-29</td>
<td>5</td>
</tr>
<tr>
<td>30-32</td>
<td>9</td>
</tr>
<tr>
<td>Mother’s Education</td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>4</td>
</tr>
<tr>
<td>Less than 9th grade</td>
<td>14</td>
</tr>
<tr>
<td>High School</td>
<td>8</td>
</tr>
<tr>
<td>Sr Secondary</td>
<td>6</td>
</tr>
<tr>
<td>Graduate</td>
<td>10</td>
</tr>
<tr>
<td>Post Graduate</td>
<td>8</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
</tr>
<tr>
<td>Housewife</td>
<td>48</td>
</tr>
<tr>
<td>Self Employed</td>
<td>2</td>
</tr>
<tr>
<td>Type of Family</td>
<td></td>
</tr>
<tr>
<td>Nuclear</td>
<td>18</td>
</tr>
<tr>
<td>Joint</td>
<td>29</td>
</tr>
<tr>
<td>Extended</td>
<td>6</td>
</tr>
<tr>
<td>Residence</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>14</td>
</tr>
<tr>
<td>Semi-urban</td>
<td>36</td>
</tr>
<tr>
<td>Family income</td>
<td></td>
</tr>
<tr>
<td>&lt;20,000</td>
<td>36</td>
</tr>
<tr>
<td>20,000-40,000</td>
<td>5</td>
</tr>
<tr>
<td>41,000-80,000</td>
<td>5</td>
</tr>
<tr>
<td>81,000-1,20,000</td>
<td>3</td>
</tr>
<tr>
<td>more than 1,20,000</td>
<td>1</td>
</tr>
</tbody>
</table>

Among the participants, majority of the mothers (28%) had education below 9th grade, 20% were graduates, and 16% were undergraduate. Majority of the participants (72%) were from the semi-urban background and had a family income of less than 20,000, and 58% were living in a joint
family system. In the present study, almost all the deliveries were full-term, where 60% normally delivered and 40% by C-section. The birth weight of 82% of the deliveries was more than 2500g & 16% had a birth weight of 2500g.

As per the data on breastfeeding knowledge among participating mothers, as shown in Table 2, it was found that around 74% of the mothers were aware of the importance of breastfeeding, and 60% were in favor of breastfeeding for at least 6 months.

Majority of the mothers knew the importance of colostrum for their babies and were aware that no prelacteal feed is needed except breastfeeding for the initial 6 months of the baby. It was found that most of the mothers were aware about ANC and Postnatal checkups and found ANC checkups more important during pregnancy. The source of knowledge about breastfeeding was parents/in-laws (42%), followed by health professionals & IBCLC (International Board Certified Lactation Consultant) (25%) as shown in (Figure 1).

<table>
<thead>
<tr>
<th>Breastfeeding Knowledge</th>
<th>Yes/No</th>
<th>Frequency (N)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you know the importance of breastfeeding</td>
<td>Yes</td>
<td>37</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>Are you aware of the importance of colostrum for the baby</td>
<td>Yes</td>
<td>35</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>Do you plan to breastfeed your baby in 1st 6 months after birth</td>
<td>Yes</td>
<td>42</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Do you think prelacteal feeding is important</td>
<td>Yes</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>35</td>
<td>70</td>
</tr>
<tr>
<td>Is it important to breastfeed baby for at least 24 weeks</td>
<td>Yes</td>
<td>30</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>Does ANC checkup is important</td>
<td>Yes</td>
<td>47</td>
<td>94</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Does postnatal checkup is important</td>
<td>Yes</td>
<td>27</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>23</td>
<td>46</td>
</tr>
</tbody>
</table>

Table 2 - Breastfeeding Knowledge among Participating Mothers

<table>
<thead>
<tr>
<th>Breastfeeding Practices</th>
<th>Category</th>
<th>Frequency (N)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiation of Breastfeeding</td>
<td>Within an hour</td>
<td>31</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>Within 24 hrs</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>After 24 hrs</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Type of Feeding</td>
<td>Exclusive Breastfeeding</td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>Mixed Feeding</td>
<td>22</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>Exclusive top Feeding</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Giving Prelacteals</td>
<td>Yes</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>35</td>
<td>70</td>
</tr>
<tr>
<td>Fed Colostrum</td>
<td>Yes</td>
<td>35</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>Number of feeds per day</td>
<td>4-5 feeds</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>6-8 feeds</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>More than 8 feeds</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>3-4 feeds + Top milk</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>3-4 feeds + Complementary feed</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Started complementary Feeding (n=50)</td>
<td>After 6 months</td>
<td>20</td>
<td>40</td>
</tr>
</tbody>
</table>

Table 3 - Breastfeeding Practices among Participating Mothers

Figure 1 - Source of Knowledge of Breastfeeding
As shown in Table 3, breastfeeding practices among participating mothers. It was observed in the present study that around 62% of the mother had experienced skin-to-skin contact with the baby immediately and initiated breastfeeding within an hour after delivery.

A significant association was found between breastfeeding initiation and type of delivery (Chi-square=11.197 p<0.011). The normal delivery mothers initiated breastfeeding immediately after delivery compared to cesarean mothers who breastfed after 24hours. The reason for late initiation could be perineum pain, delayed milk expulsion, psychological, poor latch, nipple issue, C-section delivery, etc. It was found that 70% of the doctors nursing staff helped the mother in the initial breastfeeding of the baby. There is a significant association between breastfeeding initiation and assistance of medical staff (chi-square=28.982) p<0.000. Exclusive breastfeeding was found only in 52% of the mothers. Majority of the mothers fed colostrum to their babies however around 30% of the mothers fed prelacteals to their babies below 6 months like ghutti, honey, diluted cow milk, water, formula milk, etc. Around 40% of the babies were introduced to other feeds after 6 months which includes cow milk, honey, gripe water, plain water, homemade foods.

Table 4 - Distribution of Study Participants according to Relation between Exclusive Breastfeeding and Different Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Exclusive Breastfeeding</th>
<th>Total</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>Yes (N=26 (%))</td>
<td>No (N=24 (%))</td>
<td>P value= 0.021*</td>
</tr>
<tr>
<td>Mother's Age</td>
<td>Up to 26 yrs</td>
<td>23(46)</td>
<td>13(26)</td>
</tr>
<tr>
<td></td>
<td>&gt; 26 yrs</td>
<td>3(6)</td>
<td>11(22)</td>
</tr>
<tr>
<td>Type of delivery</td>
<td>Normal</td>
<td>17(34)</td>
<td>13(26)</td>
</tr>
<tr>
<td></td>
<td>C-section</td>
<td>9(18)</td>
<td>11(22)</td>
</tr>
<tr>
<td>Sex of the baby</td>
<td>Male</td>
<td>12(24)</td>
<td>12(24)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>14(28)</td>
<td>12(24)</td>
</tr>
<tr>
<td>Literacy</td>
<td>illiterate</td>
<td>1(2)</td>
<td>3(6)</td>
</tr>
<tr>
<td>Residence</td>
<td>Urban</td>
<td>8(16)</td>
<td>10(20)</td>
</tr>
<tr>
<td></td>
<td>Semi-urban</td>
<td>22(44)</td>
<td>14(28)</td>
</tr>
<tr>
<td>Family type</td>
<td>Nuclear</td>
<td>7(14)</td>
<td>11(22)</td>
</tr>
<tr>
<td></td>
<td>Joint</td>
<td>16(32)</td>
<td>13(26)</td>
</tr>
<tr>
<td></td>
<td>Extended</td>
<td>3(6)</td>
<td>0(0)</td>
</tr>
<tr>
<td>Parity</td>
<td>Primipara</td>
<td>13(26)</td>
<td>9(18)</td>
</tr>
<tr>
<td></td>
<td>Multiparous</td>
<td>13(26)</td>
<td>15(30)</td>
</tr>
<tr>
<td>Age of the baby</td>
<td>0-3m</td>
<td>11(22)</td>
<td>3(6)</td>
</tr>
<tr>
<td></td>
<td>4-7m</td>
<td>9(18)</td>
<td>6(12)</td>
</tr>
<tr>
<td></td>
<td>8-11m</td>
<td>2(4)</td>
<td>8(16)</td>
</tr>
<tr>
<td></td>
<td>12-15m</td>
<td>4(8)</td>
<td>7(14)</td>
</tr>
<tr>
<td>BF Support group</td>
<td>Own experience</td>
<td>7(14)</td>
<td>6(12)</td>
</tr>
<tr>
<td></td>
<td>Parents/Inlaws</td>
<td>11(22)</td>
<td>10(20)</td>
</tr>
<tr>
<td></td>
<td>Relatives</td>
<td>1(2)</td>
<td>3(6)</td>
</tr>
<tr>
<td></td>
<td>Health Professional</td>
<td>7(14)</td>
<td>5(10)</td>
</tr>
<tr>
<td>Family income</td>
<td>Less than Rs.20,000</td>
<td>22(44)</td>
<td>14(28)</td>
</tr>
<tr>
<td></td>
<td>Rs.21,000- Rs 40,000</td>
<td>2(4)</td>
<td>3(6)</td>
</tr>
<tr>
<td></td>
<td>More than Rs. 41,000</td>
<td>2(4)</td>
<td>7(14)</td>
</tr>
</tbody>
</table>

Table 4 shows the distribution of exclusive breastfeeding and different variables. The analysis through chi \( \chi^2 \) test confirms that there is an association between exclusive breastfeeding and age of the mother, age of the baby, breastfeeding support group and family income (P< 0.05).

There is no association between type of delivery, sex of the baby, mother’s education, residence, family type and parity on breastfeeding duration. It was found that a maximum of mothers 46% in the age group upto 26yrs, were exclusively breastfeeding their babies. More semi-urban mothers (44%) were breastfeeding. Majority of the infants (40%) below 6months were exclusively breastfed.
There is a positive effect of breastfeeding support groups like family, health professionals, voluntary organizations, media, books, etc on breastfeeding duration of babies. Family income also has a positive effect on breastfeeding duration, i.e., maximum mothers (44%) having a family income below Rs. 20,000 per month were more aware that breastfeeding is free of cost, so they are free to breastfeed their babies as long as they can.

**DISCUSSION**

As we are aware that breastfeeding provides both short-term and long-term benefits, which is beneficial to both mother and baby. The optimal breastfeeding and IYCF practices from birth to two years are important, which include - initiation of breastfeeding within the first one hour of birth, exclusive breastfeeding for the first six months and continued breastfeeding for 2 years or more, introduction of age appropriate complementary feed after completion of 6 months. These practices help in better health, development, and Survival of infants and young children (11)(12). In the present study, 62% of the mothers experienced skin-to-skin contact with the baby & breastfeed within an hour after delivery. Similar results were seen in the study by (13) and (14). As per NFHS-4 data, breastfeeding initiation within an hour of birth is 42 percent in India(6). The increased percentage of early breastfeeding initiation found in our study could be due to increased awareness of breastfeeding practices among people. It has been observed that delayed breastfeeding becomes a risk factor for neonatal mortality. Significant association was seen between breastfeeding initiation and type of delivery and assistance of medical staff.

In this study, maximum mothers (70%) fed colostrum to their babies and were aware of the importance of first milk for the baby, similar results were found in study of (15)and (16). Around 30% of babies below 6 months were fed prelacteals in the present study, similar to the NFHS 4-data on 21.1% of the children received prelacteal feed. Reason for ghutt for better digestion, water in summer due to thirst, honey or jaggery as a traditional ritual which makes baby soft-spoken, cow milk or complementary food due to constant crying and hungry baby. Formula due to breast milk insufficiency. In some studies, babies were even fed tea/coffee as prelacteals as seen in the study of (16).

In the present study, around 52% of the mothers were exclusively breastfeeding their babies where 28% were a female and 24% were male. Similar results were seen as per NFHS 4 data. Almost both the genders were equally breastfed in the present study, which is similar to the study of (13) and (17). In the present study, around 44% of the mother were doing both bottle feeding and partial breastfeeding, wherein 27% were feeding cow milk, and 25% were feeding formula milk through a bottle, similar to the study of (16). The practice of bottle feeding should be discouraged as it can become a source of infection if not cleaned and sanitized properly. It also causes nipple confusion to babies & affects breastfeeding.

There is a significant association between exclusive breastfeeding and age of the mother, age of the baby, breastfeeding support group and family income (P<0.05). Family income also has a positive effect on breastfeeding duration i.e. maximum mothers (44%) have a family income below Rs. 20,000 per month were more aware that breastfeeding is free of cost, so they are free to breastfeed their babies as long as they can. A similar trend was seen in the study by (13). There is a positive effect of breastfeeding support groups like families, health professionals, voluntary organizations, media, books etc, on breastfeeding duration of babies which is similar to the results from the study of (18). In the present study there is no significant association between mother's education and exclusive breastfeeding/ timely initiation of complementary feeding similar to (14). However, other Indian studies showed a
significant association between mothers education and initiation of complementary feeding as seen study of (19).

In the present study, after 6 months, 40% of the babies were introduced to weaning foods like homemade foods like rice water, dal water, suji kheer, thin khichdi etc., similar to the study of (20). Consumption of liquids other than milk, fruits & vegetables was less among breastfed children(6-23m) compared to non-breastfed children(6).

The knowledge of importance of breastfeeding was among 74% of the mothers in the present study. Most of the mothers were aware of colostrum feed, no prelacteal feed, exclusive breastfeeding, ANC, and postnatal checkup. Their source of knowledge was parents/inlaws, health professionals, past experience, ASHA workers, books/magazines/internet etc. Professional breastfeeding support like lactation counsellors ASHA workers, if initiated soon after the birth of the child, will help in effective breastfeeding practices among mothers as seen in the study of (21). Similar results were seen in the study of(22).

CONCLUSION

It can be observed from the present study that the positive attitude of mothers along with the support of family, medical personnel etc., made them aware about the importance of breastfeeding. Mothers of poor socio-economic status were trying to breastfeed their babies more compared to higher socio-economic status/ literate mothers. Traditional practice of feeding prelacteals below 6 months was being maintained. The improved breastfeeding practices supports the conclusion of the present study. The limitations of the present study were the smaller sample size due to covid pandemic restrictions. The maximum mothers were from lower socioeconomic status which leads to imbalance in participants’ number. More information could be gathered from the participants as they were usually preoccupied with their children. Therefore, different information, education, and communication activities need to be planned to target some of the gaps in the knowledge identified in the present study. It includes planning education strategies to target specific gaps in their knowledge related to the understanding of exclusive breastfeeding, feeding colostrum, timely introduction of complementary foods etc.

Acknowledgments: This work was supported by a University Grant Commission, Government of India.

Conflict of Interest: All the authors involved in this declared that research was conducted in the absence of any commercial and financial relationships that might be interpreted as a potential conflict of interest.

Source of Funding: Present study was supported by the University Grant Commission, Government of India, under the Scheme UGC-NET JRF program grant number is UGC-Ref. No.:1246(NET-JUNE 2014)

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How to cite this article: Suman Kumari, Anita Gupta, Uday S Annapure. Knowledge and practice of breastfeeding and infant feeding practices among different socio-economic mothers from Ghazipur region in East Delhi. Int J Health Sci Res. 2022; 12(5):117-127. DOI: https://doi.org/10.52403/ijhshr.20220501
RESEARCH QUESTIONNAIRE

General Information-
1. Mother’s age: years month/ Baby age:___________
2. Education level:
   (a) Less than 8th grade
   (b) Undergraduate
   (c) Graduate
   (d) Nil
3. Employment Status:
   (a) Self-employed
   (b) A homemaker
   (c) Working woman
4. Marital status:
   (a) Single Mother
   (b) Separated/Divorce
   (c) Any other
5. What is the family average monthly earnings:
   (a) Low income group(< Rs 20,000)
   (b) Middle income group (Rs 20,000 to 40,000)
   (c) High income group (more than Rs 40,000)
6. Father Occupation __________________
7. No. of Children __________
8. Chews or smokes tobacco _____ / takes alcohol ______

Details of current baby-
(A) Antenatal details-
9. Did you go for antenatal checkups to the hospital/ clinic/ nursing home? Yes/ No.
   If yes, then how frequently- 1st Trimester/ 2nd Trimester/ 3rd Trimester
10. How did you plan to feed your baby in the first six months?
    (a) Breast milk
    (b) Formula
    (c) Combination of breast and formula milk
    (d) Cow’s milk
11. Why did you think you would feed your baby this way? Write reason ______________________
12. Who discussed feeding your baby this way?
    (a) Own experience
    (b) Parents/ In-laws
    (c) Relatives
    (d) Friends/ peer group
    (e) Health professional (Nurses/Doctors/ Lactation Consultant)
    (f) Voluntary organizations
    (g) Books/ magazine
    (h) TV advertisement
    (i) Any other

(B) Postnatal details-
13. When you delivered your current baby- Full term/ Premature
14. Was your baby born in the hospital/ home.
15. Type of Delivery-
    (a) Normal
    (b) Forceps
    (c) Vacuum extraction
    (d) Caesarean section
16. Gender of the baby-
    (a) Female
    (b) Male
17. Birth weight:
    (a) SGA (Less than 2500g)
    (b) AGA (2500g-4000g)
    (c) LGA (more than 4000g)
18. Did you have skin to skin contact with your baby after he/she was born (in the first hour after they were born)?
    (a) Yes
    (b) No
    (c) Can’t remember.
    If yes, then who assisted you?
Suman Kumari et al. Knowledge and practice of breastfeeding and infant feeding practices among different socio-economic mothers from Ghazipur region in East Delhi

19. How old was your baby at his or her first feed?
   (a) Less than 30 minutes
   (b) Between 30 minutes and 1 hour (golden hour)
   (c) Between 1 hour and 4 hours
   (d) More than 24 hours
   (e) any other

20. Are you feeding breast milk to your baby. Yes/No. If not give reason-
   (a) Decrease milk secretion
   (b) premature baby
   (c) Soreness of nipple
   (d) Others(specify) __________

21. How do you express breast milk –
   (a) Manually
   (b) Manual pump
   (c) Electric pump

22. Were there any problems breastfeeding your baby in the early days? Yes/NO. If yes then it is due to-
   (a) Nipple pain
   (b) Breast Engorgement
   (c) Thrush
   (d) Mastitis (inflammation of the breast tissue)
   (e) Breast abscess
   (f) Others specify __________

23. Do you consume any drink/ food immediate before breastfeeding? Yes/No. If yes, then what all you consume before breastfeeding-

24. How many breastfeeds or feeds or expressed breast milk does your baby have in a 24 hour period?
   (a) 1-3
   (b) 4-5
   (c) 6-8
   (d) More than 8

25. Does your baby usually fed on-
   (a) one breast at one session
   (b) both breasts at one session.
   (c) Don’t know

26. Since your baby was born, have you ever feed him/her in a public place
   (a) No-I never fed in a public place.
   (b) Yes-Breastfed in a public place
   (c) Yes-bottle fed infant formula in a public place
   (d) Yes – bottle fed expressed breast milk.

27. Have you ever been stopped or made to feel uncomfortable about breastfeeding in a public place?. Yes/No.

28. Previous pregnancies- Yes/ No (If yes, then give details)

<table>
<thead>
<tr>
<th>No. of Previous pregnancies</th>
<th>No.</th>
<th>Gestation age</th>
<th>Birth weight</th>
<th>Normal/ C-section</th>
<th>Gender</th>
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</table>

29. How you fed your previous children in first six months after birth-
   (a) Breast milk
   (b) Formula milk
   (c) Combination of breast and formula milk
   (d) Cow’s milk
   (e) Don’t remember

30. How were you fed when you were a newborn baby?
   (a) Breast milk
   (b) Formula milk
   (c) Combination of breast and formula milk
   (d) Cow’s milk
   (e) Don’t know

31. How old was your baby when you first introduced anything other than breast milk-less than 1 month
   (a) 2-3 months
   (b) 4-5 months
   (c) 6 months
   (d) More than 6 months
   (e) Any other __________
32. What all you introduced along with breast milk during this phase-
   (a) Ghutti
   (b) Honey
   (c) Jaggery
   (d) Gripe water
   (e) Homemade foods
   (f) Any other
   (g) None

Working Mothers-
33. How old was your baby when you returned to work? __________
34. How many hours were you working in a day?
35. What arrangements (if any) did you make regarding the care of your baby when you were at work;
   (a) In-laws
   (b) Baby caretaker
   (c) Creche
   (d) Take your baby with you to work place
   (e) Any other
36. What arrangements did you make regarding feeding your baby when you were at work;
   (a) Stored expressed breast milk
   (b) Formula milk with wati spoon
   (c) Bottle feeding
   (d) Feed your baby in between working hours
   (e) Any other
37. Does your employer provide facilities at work to express milk or breastfeed your baby if you want to?
   (a) Yes-to express milk
   (b) Yes to breastfeed
   (c) No- neither
   (d) Not applicable

Breastfeeding awareness-
38. Do you know the benefits of breastfeeding. Yes/No. If yes then how long a baby exclusive breastfed-
   (a) 1 month only
   (b) 2 -3 months
   (c) 4-5 months
   (d) 6 months
   (e) Don’t know
39. Which is the most helpful source of information about breast feeding-
   (a) Own experience
   (b) Parents/ In-laws
   (c) Relatives
   (d) Friends/ peer group
   (e) Health professional (Nurses /Doctors/Lactation Consultant)
   (f) Voluntary organizations
   (g) Books/ magazine
   (h) TV advertisement
   (i) Any other
40. Which of the following best describes your baby’s feeding- (Please place a tick in the relevant box for each column. There should only be 1 tick per column and 4 ticks altogether).

<table>
<thead>
<tr>
<th></th>
<th>1 week</th>
<th>2 months</th>
<th>4 months</th>
<th>6 months</th>
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<tbody>
<tr>
<td>Breast milk only</td>
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<tr>
<td>Formula only</td>
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<tr>
<td>Combination of breast milk and formula milk</td>
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<tr>
<td>Breast milk and formula or other foods</td>
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</table>

41. After delivery, did you go for postnatal checkups to the hospital/ clinic/ nursing home? Yes/ No.
42. Did you attend separate follow-up for lactation in hospital/ nursing home. Yes/No

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