An assessment of age-appropriate infant and young child feeding practices among children in Kancheepuram district, Tamil Nadu, India

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ABSTRACT

Background: Appropriate Infant and Young Child Feeding (IYCF) practices are a cornerstone to reduce child morbidity and mortality. Assessment of IYCF practices among the mother of young children is the need of the hour to find the breaches in their performance and to find out the influencing factors for these gaps. The study was undertaken with the objectives to assess the IYCF practices and the factors influencing among the children of age 7–24 months. Methodology: A cross-sectional study was undertaken in the rural area of Kancheepuram district, Tamilnadu from June 2019 to December 2019. One hundred forty-three children of age less than 2 years were selected by two-stage random sampling method. Data was collected house-to-house using the pretested questionnaire and WHO Infant and Young Child feeding questionnaire. Proportions were calculated and Chi-square test was applied. Results: The mean age of the children was 14 ± 5 months. Among the study participants, only 10.2% were exclusively breastfed for 6 months. 58.6% of children were introduced on soft/solid/semisolid food at the end of 6–8 months. The minimum acceptable diet of breastfeeding children was 31.5% and nonbreastfeeding children was 14%. Age of mother, educational qualification of mother, working status of mother, and mode of delivery were statistically associated with appropriate Infant and Young Children feeding practices. Conclusion: The results revealed that there is only improvement in early infant practices and there are indigent practices of complementary feeding among the mothers.

Keywords: Community participation, IYCF practices, malnutrition, minimum acceptable diet, undernutrition

Introduction

According to the “Convention on the Rights of the Child,” every infant and child has the right to good nutrition.\textsuperscript{1} Undernutrition has attributed to 45% of child death worldwide. About 149 million under five children were stunted and 49 million were wasted due to poor nutrition.\textsuperscript{10} Appropriate Infant and Young children feeding (IYCF) practices from birth to 2 years can improve their chance of survival during this crucial period. In 2002, World Health Organization (WHO) and United Nations Children’s Fund (UNICEF) jointly issued a global strategy for IYCF which emphasized—An infant should be breastfed within 1 h of birth, breastfed exclusively for the first 6 months, and continued up to 2 years of age.\textsuperscript{11} Starting at 6 months, breastfeeding should be combined with safe, age-appropriate feeding of solid, semisolid, and soft foods.\textsuperscript{12} This 2 years of life in any child life is important because optimal nutrition during this period has the potential to shape the child’s physical and cognitive development.
in this period can reduce morbidity and mortality and fosters their physical and mental development.

In 2004, IYCF practices were reassessed using the WHO protocol and rated fair to poor. Only 36% of infants received exclusive breastfeeding for 6 months. The complementary feeding indicator was also rated as poor since only 57.9% of 6–9 months children received complementary foods while continuing to breastfeed.[8] India which has the largest number of under five children showed only a remarkable change in Exclusive breastfeeding (EBF) rates from 41.2% to 53.2% (1988–2016). The early breastfeeding rate was only 24.5% and 53% of children in 6–8 months of age received complementary feeding.[9] Overall, only 21% of breastfeeding and nonbreastfeeding children received optimal IYCF as per recommendations in India.[10]

Most of the studies in India were focused on the breastfeeding practices and there is a lack of evidence on overall complementary practices. The need for assessment of dietary diversity and dietary frequency among 7–24 months which is the crucial period for child nutrition after which suboptimal growth is hard to reverse. Many issues still conquer the rural and remote areas which hinder India to achieve the sustainable development goals in child health. In order to address this concern, the practice of infant and young child feeding was chosen for the study.

**Objectives**

1. To assess the infant and young child feeding practices of children aged 7–24 months.
2. To analyze the factors influencing infant and young child practices of children aged 7–24 months.

**Materials and Methods**

**Study design**

This study was a cross-sectional study conducted in the rural areas of Kancheepuram district, Tamilnadu.

**Study duration**

The study was conducted for a period of 6 months from June 2019 to December 2019.

**Study population**

The children in the age group between 7 and 24 months, who were the residents of villages listed under rural health and training center of a tertiary care hospital, Kancheepuram district, Tamilnadu.

**Sample size estimation**

Considering the prevalence for practice of exclusive breastfeeding from previous study, i.e., 63.4%,[6] 3% error, and 20% nonresponse rate, the calculated sample size was 143.

**Sampling method**

Two-stage random sampling was adopted to achieve the sample size.

**Stage 1**

The Rural Health and Training Center of a tertiary care hospital
Liaquathali, et al.: Age Appropriate IYCF practices among children of age 7-24 months in Kancheepuram district

covers 12 villages: Mamallapuram, Kokilamedu, Poonjeri, Kadambadi, Manamai, Kunnapathur, Nallur, Perumaleri, Karanai, Kunnapattu, Kuzhipanthandalam, and Paiyanoor. The total population of 12 villages obtained from the Household family register maintained in RHTC were 39545. Out of twelve villages, four villages—Kadambadi, Kunnapattu, Kuzhipanthandalam, and Manamai—were selected by simple random sampling method (lottery method).

### Stage 2

The population of under 5 children in the four villages were 1456 which is obtained from the respective ICDS centers of the villages. A total of 394 children in the age between 7 and 24 months were enumerated from the above population. Systematic random sampling was adopted to select every third child until the required sample size of 143 was achieved.

### Inclusion criteria

The children of age between 7 and 24 months who were the resident of the village for more than 1 year were included in the study.

### Exclusion criteria

(i) Children whose parents were not present at the time of study. (ii) Children who were sick/ill during the time of study. (iii) The study participants who were not able to contact even after 3 visits.

### Study tools

It comprises two sections. (i) Sociodemographic details, and antenatal and postnatal details of the mother and the child. (ii) WHO Infant and Young child feeding practice questionnaire which includes early initiation of breastfeeding, colostrum feeding, prelacteal feeding, exclusive breastfeeding, timely introduction of solid, semisolid, or soft foods, minimum dietary diversity, minimum meal frequency, minimum acceptable diet, continued breastfeeding for 12 months, and bottle-feeding practices.

### Operational Definitions

**Early initiation of breastfeeding**

The newborns who were put into the breastfeeding within 1 h of the birth.

**Exclusive breastfeeding for 6 months**

No other food/drink, not even water, except breast milk (including

### Table 3: Infant and Young children feeding practices of children aged 7–24 months

| Variables                                      | Frequency | Percentage (%) |
|------------------------------------------------|-----------|----------------|
| Colostrum feeding                              |           |                |
| Yes                                           | 126       | 88.1           |
| No                                            | 16        | 11.2           |
| Do not know                                   | 1         | 0.7            |
| Prelacteal feeding                            |           |                |
| Yes                                           | 51        | 35.7           |
| No                                            | 92        | 64.3           |
| Early initiation of breastfeeding              |           |                |
| Immediately after birth                       | 63        | 44             |
| Within 1 h of birth                           | 55        | 38.4           |
| After 1 h of birth                            | 25        | 17.6           |
| Exclusive breastfeeding                        |           |                |
| Yes                                           | 25        | 10.2           |
| No                                            | 118       | 47.8           |
| Frequency of breastfeeding in last 24 h        |           |                |
| Not on breastfeeding                           |           |                |
| < 5 times                                      | 47        | 32.9           |
| 5-7 times                                      | 21        | 14.7           |
| >7 times                                       | 33        | 23.1           |
| Timely introduction of soft/semisolid/solid food |
| Before 6 months                               | 58        | 40.6           |
| End of 6 to 8 months                          | 84        | 58.7           |
| After 8 months                                | 1         | 0.7            |
| Minimum dietary diversity in last 24 h        |           |                |
| Less than 4 groups of food received            | 30        | 21             |
| 4 or more groups of food received              | 112       | 78.3           |
| No groups of food received                    | 1         | 0.7            |
| Minimum meal frequency in last 24 h           |           |                |
| 7-8 months                                    |           |                |
| 1 time                                        | 8         | 5.4            |
| 2 times                                       | 9         | 6.12           |
| 3 or more than 3 times                        | 1         | 0.68           |
| 9-24 months                                   |           |                |
| 1 time                                        | 8         | 5.4            |
| 2 times                                       | 34        | 23.1           |
| 3 times                                       | 31        | 21             |
| 4 or more times                               | 7         | 4.7            |
| Nonbreastfeeding children                     |           |                |
| 2 times                                       | 1         | 0.6            |
| 3 times                                       | 23        | 15.6           |
| 4 times                                       | 19        | 12.9           |
| 5 or more times                               | 2         | 1.3            |
| Continued breastfeeding up to 12 months in children above 1 year |
| Yes                                           | 81        | 87             |
| No                                            | 11        | 11.8           |
| Do not know                                   | 1         | 1.20           |
| Feeding of lipid-based food                   |           |                |
| Yes                                           | 45        | 31.5           |
| No                                            | 97        | 67.8           |
| Do not know                                   | 1         | 0.7            |
| Feeding iron or iron fortified foods          |           |                |
| Yes                                           | 20        | 14             |
| No                                            | 122       | 85.3           |
| Do not know                                   | 1         | 0.7            |

### Table 3: Contd...

| Variables                                      | Frequency | Percentage (%) |
|------------------------------------------------|-----------|----------------|
| Bottle feeding                                 | 90        | 36.4           |
| No                                            | 156       | 63.2           |
| Do not know                                    | 1         | 0.4            |

### Contd...
milk expressed or from a wet nurse) for 6 months of life but allows the infant to receive ORS, drops, and syrups (vitamins, minerals and medicines).

**Minimum dietary diversity**

The children of 6–24 months of age who receive foods from 4 or more food groups (grains, roots and tuber, legumes and nuts, dairy products, flesh foods, eggs, vitamin A rich fruits and vegetables, other fruits and vegetables) during last 24 h.

**Minimum meal frequency**

The breastfed and nonbreastfed children of 6–24 months of age who received solid, semisolid, or soft solids food in minimum number or more (6–8 months-2 times/9–24 months-3 times/Nonbreast feeding children-4 times a day) during last 24 h.

**Minimum acceptable diet**

The children of age 6–24 months who received adequate

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### Table 4: Sociodemographic profile and infant and young child feeding practices among children

| Variables                  | Appropriate IYCF practices | P   |
|----------------------------|-----------------------------|-----|
| Age of mother              |                             |     |
| 15-20 years                | 2                           | 100 | 0   | 0  | 0.261 |
| 21-30 years                | 64                          | 50  | 64  | 50 | 71.5 |
| 31-40 years                | 5                           | 38.5| 8   | 61.5| 0.002* |
| Education                  |                             |     |
| Higher secondary           | 0                           | 0   | 0   | 0  | 0.015* |
| High school                | 12                          | 54.6| 10  | 45.4| 0.308 |
| Middle school              | 33                          | 63.5| 19  | 36.5| 0.002* |
| Primary school             | 24                          | 80  | 6   | 20  | 0.015* |
| Illiterate                 | 17                          | 43.6| 22  | 56.4| 0.015* |
| Working status of the mother|                             |     |
| Yes                        | 5                           | 25  | 15  | 75  | 0.015* |
| No                         | 66                          | 53.6| 57  | 46.4| 0.002* |
| Socioeconomic status       |                             |     |
| Upper class                | 2                           | 28.5| 5   | 71.5| 0.002* |
| Upper middle               | 1                           | 50  | 1   | 50  | 0.308 |
| Middle class               | 14                          | 70  | 6   | 30  | 0.308 |
| Lower middle class         | 31                          | 62  | 19  | 38  | 0.308 |
| Lower class                | 23                          | 46.9| 26  | 53.1| 0.308 |

*Chi square test was applied, P<0.05 was considered significant.

### Table 5: Antenatal and postnatal details of mothers and infant and young children feeding practice among children

| Variables                  | Appropriate IYCF practices | P   |
|----------------------------|-----------------------------|-----|
| Antenatal visits           |                             |     |
| No visits                  | 0                           | 0   | 1   | 100 | 0.261 |
| <3 visits                  | 8                           | 57.9| 11  | 42.1| 0.261 |
| 3-7 visits                 | 34                          | 43.5| 44  | 56.5| 0.013* |
| >7 visits                  | 14                          | 40  | 21  | 60  | 0.013* |
| Birth interval of the child|                             |     |
| No previous birth          | 51                          | 84  | 10  | 16  | 0.049* |
| 6-15 months                | 3                           | 75  | 1   | 25  | 0.049* |
| 15-24 months               | 14                          | 100 | 0   | 0   | 0.049* |
| >24 months                 | 49                          | 91  | 5   | 9   | 0.049* |
| Place of delivery          |                             |     |
| Home                      | 0                           | 0   | 2   | 100 | 0.025* |
| Health institution         | 132                         | 92.2| 9   | 7.8 | 0.025* |
| Mode of delivery           |                             |     |
| Vaginal delivery           | 37                          | 62.7| 22  | 32.3| 0.000* |
| Assisted delivery          | 10                          | 62.5| 6   | 37.5| 0.000* |
| Cesarean section           | 46                          | 67.5| 22  | 32.5| 0.000* |
| Postnatal visits           |                             |     |
| No visits                  | 1                           | 70  | 9   | 30  | 0.013* |
| 1 visit                    | 42                          | 48.2| 45  | 51.9| 0.013* |
| 1-3 visits                 | 21                          | 53.8| 18  | 46.1| 0.013* |
| > 3 visits                 | 7                           | 100 | 0   | 0   | 0.013* |

*Chi square test was applied, P<0.05 was considered significant.
The minimum dietary diversity and minimum meal frequency during the last 24 h.

**Consumption of iron rich-iron fortified foods**

The children of age 6–24 months who received a locally available iron-rich food or iron-fortified food during the last 24 h.

**Appropriate IYCF practices**

Those mothers of children 7–24 months with appropriate IYCF practice were given a score as 1 and inappropriate practice as score 0. The overall Infant and Young Child Feeding practices’ prevalence more than 65% was considered as having appropriate feeding practices.

**Data collection**

Institutional Ethical Committee approval (70/IHEC/9-16) was obtained before starting the study. Informed written consent and assent was obtained from the mother. The confidentiality of the data collected from the enrolled participants was maintained in all the phases of the study.

**Statistical analysis**

The entered data was analyzed using Statistical Package for Social Sciences (SPSS IBM) 21. The quantitative data was expressed in frequency and proportions. Chi-square test was applied in which P value <0.05 was taken as significant.

**Results and Analysis**

The mean age of the children was 14 ± 5 months. Ninety (62.9%) were male children and fifty-three (37.1%) were female children.

In Table 1, among 143 mothers, 128 (89.5%) mothers belong to 21–30 years of age group. 1.4% belong to 15–20 years and 9.1% belong to 31–40 years of age group. Majority of the mothers had completed primary school followed high school education. 15.4% of mothers were found illiterate. 86% of mothers were not working during and after pregnancy and 51% belong to a joint family. 45.5% and 34.3% belong to lower middle and lower socioeconomic class, respectively.

In Table 2, majority of the mother (61.5%) had three to seven antenatal visits. 48.3% had no previous birth and only 37.1% of mothers had 24 months of spacing after the first delivery. 98.6% of mothers delivered in health institution. 52% of mothers were delivered by vaginal including instrumental delivery. 60.8% of mother had at least one postnatal delivery.

88.1% of mothers have given colostrum to their children after birth. 35.7% of children were given prelacteal feeding before breastfeeding. 44% of the children were put on breast immediately after birth. Only 10.2% of the children were given exclusive breastfeeding for 6 months. 58.7% of children were started on soft/semisolid foods at the end of 6–8 months and only 32.9% were breastfed more than 5 times along with complementary foods. 78.3% of the children received 4 or more groups of food. Only children of 0.7% in 7–8 months age group, 23.1% in 9–24 months, and 12.9% in nonbreastfeeding children received adequate minimum meal frequency. Majority of the breastfeeding (57.1%) and nonbreastfeeding children (56%) did not receive a minimum acceptable diet. 67.8% and 85.3% of children did not receive recommended lipid-based and iron or iron-fortified foods, respectively [Table 3].

In the Table 4, the infant and young children practices were higher among the mothers with higher educational qualifications than mothers who are illiterates which was statistically significant. The mothers who were not working had higher infant and young children practices than working mothers which was statistically significant.

Table 5 depicts, Among the mothers of study participants of age 7–24 months, the mothers with more than seven antenatal visits had a higher prevalence of inappropriate infant and young children feeding practices when compared to other groups which was not statistically significant. Infant and young children feeding practices were higher among the mothers delivered by cesarean section when compared to other groups and it was statistically significant.

**Discussion**

The breastfeeding was initiated immediately among 44% of the children and 17.6% were initiated after 1 h of birth. A similar finding was relevant to the study conducted by Asare et al. in which the prevalence of early initiation of breastfeeding was 63.4%.[11] Kuberan et al. reported that 55.4% were initiated breastfeeding within 1 h of birth.[10] Radhakrishnan and Balamuruga reported that 60.5% were initiated breastfeeding immediately after birth which was coherent with the present study.[10] Only 10.2% of children were exclusively breastfed for 6 months of age which was much lesser compared with the study of Manyeh et al.[9] Maternal perception that only breastfeeding is not sufficient to fulfill the need and growth of infant was found to be strong factor in early cessation of exclusive breastfeeding. Quality of antenatal and postnatal advice on breastfeeding practice has a positive effect on exclusive breastfeeding for first 6 months.[10]

58.7% of children were introduced on complementary feeding at 6–8 months. The similar results were explored in Ethiopia where the timely introduction of complementary feeding was increased from 50.3% to 59.5% (P = 0.051).[11] The minimum dietary diversity was 78.3% which was found to be higher compared to the studies conducted by Dasgupta et al. who reported that the minimum dietary diversity was 46% among 6–23 months of children.[23] Majority of mothers preferred liquid foods for weaning assuming it is well digested and accepted by the infants which hampered infants from receiving balanced diet.[10] The number of antenatal visits was significantly associated with breastfeeding practice and complementary feeding. However, it was not associated with other dietary indicators.
The adequate frequency of food received by children in 6–8 months (2 times) was 6.12% and in 9–24 months (3 times) was 21%, and in nonbreastfeeding children (4 times) was 12.9% which was lesser than the study conducted by Saleh et al.[13] Similarly, higher prevalence (78%) of MMF was observed by Dasgupta et al. in Urban slum of Kolkata[12] and Khan et al. in east Delhi.[14] Similarly, the study conducted by Khan et al. showed 43% and 19.7% of the children receives Minimum meal frequency and minimum acceptable diet respectively.

Among children of 6–24 months, 14% of children were fed with iron or iron-fortified foods and 31.5% of children were fed with lipid-based foods which were not explored in other studies on Infant and Young child feeding practices. The maternal knowledge, local availability of iron or lipid foods, and child acceptance of the food were the main reasons for avoiding the iron or lipid based foods.[10] The educational status of the mothers has significant influence on IYCF practices in the present study. The illiterate mothers were practising inappropriate IYCF when compared to literate mothers. It is evident from the previous works of literature that the mothers with informative educations have better insight in child care which influences their child development.[15] The occupational status of the mother has imperative influence of the feeding practices of the child. The mothers were indulged in their occupation earlier followed postpartum period and household responsibilities which poorly influences the appropriate feeding practices of their children.[16]

97.2% of mothers preferred health institution for delivery and 2.8% delivered at home in the study and there was a significant association between cesarean section and early infant feeding like early initiation of breastfeeding, colostrum feeding, and prelacteal feeding when compared to complementary feeding in the study and it is evidenced by the results of Nguyen et al. and Kakati.[17,18] The inappropriate IYCF practices among mothers with lesser birth interval were due to early interruption of breastfeeding to other children and nutritional deprivation of mother which in turn effects the child nutrient which was explored in similar studies.[10] The mothers with more no of postnatal visits have significant influences on the appropriate feeding practices which is similar with studies of Ali where it is evident that antenatal and postnatal visits have a chance to impregnate the knowledge of child feeding and rearing practices.[15] Since the appropriate feeding practice process starts from the hospitals, the adoption and appreciation of such practices up to 2 years is not only depended on the mothers but it includes stronger community-level commitment from the family members, community health workers, and political support.[19]

Primary physicians have an important role in not only promoting IYCF practices but also in ensuring IYCF practices are followed by providing essential information, counselling, and support to mothers/caregivers on breastfeeding and complementary feeding as well as assisting in solving common feeding problems. It is, therefore, important that their capacity is augmented through in-service or pre-service training and/or through special training on counselling for IYCF.

**Conclusion**

The study examined all the eight core indicators of Infant and Young Children Feeding Practices as recommended by WHO. The results revealed that there is only improvement in early infant practices and there is indigent practice of complementary feeding. The study explored the practice of iron and lipid rich food feeding among the young children which was not studied exclusively so far. It is essential to set standards for primary health care workers in antenatal care, immunization clinics, and sick baby clinic to monitor appropriate infant feeding for up to 2 years. In-service training of health-care workers, frontline workers, and supervisors is also essential in strengthening breastfeeding at health institutions and the community level.

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Nil.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate participant consent forms. In the form, the participants/parents have given their consent for participant images and other clinical information to be reported in the journal. The participants/parents understand that participant names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflicts of interest.

**References**

1. WHO.int. 2020. Infant And Young Child Feeding. [online] Available from: https://www.who.int/news-room/fact-sheets/detail/infant-and-young-child-feeding. [Last accessed on 2020 Mar 27].
2. World Breastfeeding Trends Initiative. 2020. Making a Difference. [online] Available from: https://www.worldbreastfeedingtrends.org/uploads/resources/document/making-a-difference-wbti-eval-report 2020. [Last accessed on 2020 Jun 13].
3. Rchiips.org. (2016). National Family Health Survey. [online] Available from: http://rchiips.org/nfhs/factsheet_nfhs-4.pdf. [Last accessed on 2016 Aug 18].
4. Infant and Young Children feeding recommendations 2016[Internet]. Indianpediatrics.net. 2018. Available from: https://www.indianpediatrics.net/infant-and-young-child-feeding-practices-wbti-eval-report-2016.pdf. [Cited 2018 Sept 13].
5. Asare BY, Preko JV, Baafi D, Dwumfour-Asare B. Breastfeeding practices and determinants of exclusive breastfeeding in a cross-sectional study at a child welfare clinic in Tema Manhean, Ghana. Int Breastfeed J 2018;13:12.

6. World Health Organization. Indicators for assessing infant and young child feeding practices: Part 2: Measurement.

7. Kuberan D, RajanRushender C, Kumar GD, Balaji R. Awareness, attitude, and practice of exclusive breastfeeding among mothers attending a tertiary care hospital in Tamil Nadu. National Journal of Research in Community Medicine. 2017:238-42.

8. Radhakrishnan S, Balamuruga SS. Prevalence of exclusive breastfeeding practices among rural women in Tamil Nadu. International Journal of Health & Allied Sciences. 2012 Apr 1;1(2):64.

9. Manyeh AK, Amu A, Akpakli DE, Williams JE, Gyapong M. Estimating the rate and determinants of exclusive breastfeeding practices among rural mothers in Southern Ghana. Int Breastfeed J 2020;15:7.

10. Chellaiyan VG, Liaquathali F, Marudupandiyan J. Healthy nutrition for a healthy child: A review on infant feeding in India. J Family Community Med 2020;27:1-7.

11. Ahmed KY, Page A, Arora A, Ogbo FA. Trends and factors associated with complementary feeding practices in Ethiopia from 2005 to 2016. Maternal Child Nutri 2020;16:e12926.

12. Dasgupta A, Naiya S, Ray S, Ghosal A, Pravakar R, Ram P. Assessment of infant and young child feeding practices among the mothers in a slum area of Kolkata: A cross sectional Study. Int J Biol Med Res 2014;5:3855-61.

13. Saleh F, Ferdous Ara M, Hoque A, Alam MS. Complementary feeding practices among mothers in selected slums of Dhaka city: A descriptive study. J Health Popul Nutr 2014;32:89.

14. Khan AM, Kayina P, Agrawal P, Gupta A, Kannan AT. A study on infant and young child feeding practices among mothers attending an urban health center in East Delhi. Indian J Public Health 2012;56:301.

15. Ali FL. A study on feeding practices among mothers with children aged less than two years in rural area of Kancheepuram District, Tamil Nadu. Int J Community Med Public Health 2019;6:3471.

16. Kavle JA, LaCroix E, Dau H, Engmann C. Addressing barriers to exclusive breast-feeding in low- and middle-income countries: A systematic review and programmatic implications. Public Health Nutr 2017;20:3120-34.

17. Kakati R, Rahman SJ, Borah M, Borah H. Colostrum feeding practices and its determinants among urban and rural mothers in Kamrup, Assam, India. Int J Res Med Sci 2016;4:4567-72.

18. Nguyen PH, Keithly SC, Nguyen NT, Nguyen TT, Tran LM, Hajeebhoy N. Prelacteal feeding practices in Vietnam: challenges and associated factors. BMC Public Health 2013;13:932.

19. Dandekar RH, Shafee M, Kumar R. Breastfeeding and weaning practices among literate mothers A community based study in rural area of Perambalur taluk, Tamil Nadu. The Health Agenda. 2014 Jan;2(1).