

PREVALENCE AND DETERMINANTS OF EXCLUSIVE BREAST FEEDING FOR FIRST SIX MONTHS OF LIFE IN INFANTS ATTENDING PEDIATRIC OUTPATIENT DEPARTMENT IN A TERTIARY CARE HOSPITAL - A CROSS SECTIONAL STUDY

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Abstract

Background: Exclusive breastfeeding (EBF) for the first six months of life is recommended by WHO and UNICEF as a critical measure for infant health and development. EBF protects against infections, malnutrition, and long-term health risks, contributing to optimal anthropometric outcomes. Despite its known benefits, the prevalence of EBF remains suboptimal in many regions, influenced by socio-demographic, cultural, and health-related factors. This study aims to estimate the prevalence of EBF and identify determinants influencing EBF practices among infants attending a pediatric outpatient department in a tertiary care hospital. **Materials and Methods:** A cross-sectional study was conducted at Government Thiruvavur Medical College and Hospital, including 460 mothers of infants aged 6–12 months attending the pediatric OPD. Data were collected using a semi-structured questionnaire capturing socio-demographic details, antenatal and neonatal characteristics, EBF practices, and barriers. Anthropometric indices such as weight-for-age, height-for-age, head circumference-for-age, and mid-upper arm circumference (MUAC)-for-age were recorded. Statistical analysis was performed using SPSS software. **Result:** The prevalence of EBF was 75%. Anthropometric abnormalities, including low weight-for-age (14.2%), low height-for-age (16.5%), and low MUAC-for-age (37.1%), were significantly lower among EBF infants compared to non-EBF infants ($p < 0.05$). Barriers to EBF included perceived inadequate milk (54.7%), work-related challenges (30.4%), and cultural practices. Awareness about EBF was universal (100%), with healthcare services being the primary source. **Conclusion:** The high prevalence of EBF (75%) in the study population underscores the success of awareness programs and maternity benefit schemes. EBF was significantly associated with better anthropometric outcomes in infants. Addressing barriers such as perceived milk insufficiency and workplace challenges is essential to sustain and improve EBF practices. Further research is needed to explore local customs and feeding practices affecting EBF.

INTRODUCTION

World Health Organization (WHO) defines Exclusive Breast Feeding (EBF) as when ‘an infant feeds only breast milk, no other liquids or solids – not even water, with the exception of Oral Re-hydration Solution (ORS) or drops/ syrups of vitamins, minerals or medicines’ (World Health Organization).^[1,2] WHO and UNICEF recommend

exclusive breast feeding for the first six months of life.^[3,4]

Breast feeding means feeding the human breast milk to a child.^[5] As per recommendations of WHO and UNICEF, breast feeding has to be initiated as early as within 1 hour of birth. They also recommend exclusive breast feeding for the first 6 months of life. The breast feeding may be continued up to 2 years or beyond along with complementary feeding.

Feeding should be initiated soon after birth unless medical conditions exist for both mother and child. Breast milk is considered as the main source of nourishment during the first year of child's life. Baby should be fed on demand.⁶ First milk which is called as colostrum is the most suitable food for the baby during the early period because it contains a high concentration of protein and other nutrient the body needs.^[6]

Normally, a lactating mother secretes about 450 to 600 ml of milk daily with 1.1-gram protein per 100ml and the energy value of human milk is 70 kcal per ml.^[6] Every postnatal mother should be informed about infant hunger cues, correct nipple latch, positioning of the infant on the breast, and about feeding frequency. It is also suggested that someone trained in lactation, observe a feeding to evaluate positioning, latch, milk transfer, maternal responses, and infant satiety.^[5]

Attention to these issues during the birth hospitalization allows the mother and family to prevent problems that could occur because of improper technique or knowledge of breastfeeding. As an integral part of the discharge counselling process, issues on infant feeding, elimination patterns, breast engorgement, breast care, and maternal nutrition should be counseled.^[5]

The introduction of solid foods which is nutritionally safe, to the infant at the completion of 6 months is termed as complementary feeding. It is given along with breast feeding, as needed by the mother and the child.^[3,4] For the nutritional and developmental reasons, timely initiation of complementary foods (solid and liquid foods other than breast milk or formula milk also called as weaning foods) during infancy is important.^[6]

Breast milk protects the baby against infections and diseases because it is rich in anti-infective factors.^[4] The greatest risk of under-nutrition (underweight, stunting, wasting, and micro-nutrient deficiencies) occurs in the first 1000 days of infant life, i.e., from conception to 24 months of age, and this early effect to growth and development may result in adverse consequences in later life of child on health, intellectual ability, school achievement, work productivity, and earnings.^[6]

As per the WHO reports only 41% of infants were found to be exclusively breastfed. NFHS survey shows 63.1% of babies were exclusively breast fed in India, whereas only 55.1% were exclusively breastfed in Tamil Nadu.^[7] Early feeding and nutrition are of importance in the origin of adult diseases like type 2 diabetes, hypertension, obesity and the metabolic syndrome. Therefore, appropriate feeding practices to be established in the neonatal period and continued throughout childhood and adolescence to adulthood.^[8] Healthful feeding in children requires participation from family members, health care system, schools, community and the government.

Objectives

- To estimate the prevalence of exclusive breast feeding for first six months of life in infants attending Pediatric OPD in a tertiary care hospital.
- To determine the factors affecting the exclusive breast feeding practices for first six months of life in infants attending Pediatric OPD in a tertiary care hospital.
- To compare the anthropometric indices in exclusive breast fed (EBF) infants and Non-exclusive breast fed (Non EBF) infants.

MATERIALS AND METHODS

This was a cross-sectional study conducted to determine the prevalence of exclusive breastfeeding among infants aged 6 to 12 months. The study was carried out at Government Thiruvavur Medical College and Hospital and included mothers of infants in this age group attending the pediatric outpatient department (OPD). The sample size was calculated using the National Family Health Survey-5^[7] estimate of 55% prevalence of exclusive breastfeeding in rural Tamil Nadu the required sample size was determined to be 380. To account for a 20% non-response rate, an additional 76 participants were included, resulting in a final sample size of 460. The study was conducted over a period of one year.

Mothers of infants aged 6 to 12 months were included if their infants were singleton, term births, and if the mothers provided informed consent. Exclusion criteria were singleton deliveries less than 37 weeks of gestation, twin pregnancies, severely asphyxiated babies, neonates admitted to level III NICU for more than seven days, infants with major orofacial deformities, postnatal ICU admission of the mother, and parents who refused consent. Eligible participants were enrolled from the pediatric OPD.

Data were collected using a self-administered semi-structured questionnaire designed to capture information in four sections. The first section included socio-demographic details of the participants. The second section recorded antenatal visits and health details of the mother. The third section collected data on delivery and neonatal characteristics. The final section focused on exclusive breastfeeding practices and the barriers faced by mothers. Official permission for the study was obtained from the Institutional Ethics Committee. Informed consent was secured from all participants before data collection.

The data were entered into Microsoft Excel and analyzed using SPSS software. Descriptive and inferential statistics were applied to interpret the findings. There were no conflicts of interest, sponsorship, compensation, or insurance associated with the study. Ethical considerations were prioritized, and parents or guardians were fully informed about the study's purpose. Participation was voluntary, and there was no risk to the participants.

RESULTS

The mean age of the mothers was 24 ± 3 years. Among the participants, the distribution of maternal education was as follows: primary education 137 (29.8%), middle school education 47 (10.2%), high school education 54 (11.7%), higher secondary education 115 (25%), bachelor's degree 71 (15.4%), and master's degree 36 (7.8%). In terms of occupation, 193 (42%) of mothers were housewives, while 267 (58%) were working. The socioeconomic status distribution included lower class 105 (22.8%), upper-lower class 141 (30.7%), lower-middle class 140 (30.4%), and upper-middle class 74 (16.1%). Regarding breastfeeding-related factors, 322 (70%) of mothers underwent a nipple examination, while 138 (30%) did not. Among those examined, 128 (39.7%) were diagnosed with flat or inverted nipples, and 194 (60.3%) did not have these issues. [Table 1] Among the study population of 460 participants, exclusive breastfeeding was reported by 112 (60.8%) mothers, while 72 (39.1%) did not practice exclusive breastfeeding. Among those who did not exclusively breastfeed ($n = 72$), the primary reasons included inadequate milk 31 (43%), work-related challenges 21 (29.1%), concerns about baby weight gain 15 (20.8%), and family practices 5 (6.9%). Birth intervals were distributed as follows: 36 (19.5%) reported a one-year interval, 75 (40.7%) a two-year interval, 37 (20.1%) a three-year interval, and 36 (19.5%) a four-year interval. In terms of birth weight, 348 (75.7%) infants had normal birth weight, while 112 (24.3%) were classified as low birth weight (LBW). The age distribution of the children was as follows: 7 months 98 (21.3%), 8 months 67 (14.6%), 9 months 66 (14.3%), 10 months 98 (21.3%), 11 months 98 (21.3%), and 12 months 33 (7.2%). The gender distribution of the infants was nearly equal, with males accounting for 234 (50.9%) and females 226 (49.1%). [Table 2]

Among the 460 participants, 376 (81.7%) mothers were happy with the gender of their baby, while 84 (18.3%) were not. Within families, 132 (28.7%) were happy with the baby's gender, whereas 328 (71.3%) expressed dissatisfaction. Awareness about exclusive breastfeeding (EBF) was universal, with all 460 (100%) participants being aware. The primary sources of awareness included healthcare services 283 (61.5%), family members 107 (23.3%), and peer groups 70 (15.2%). Breastfeeding initiation occurred within 30 minutes for 276 (60%) mothers and between 1 to 4 hours for 184 (40%), with reasons for delayed initiation often related to pain or surgery following LSCS. Prolactal feeding was reported by 151 (32.8%) mothers, while 309 (67.2%) did not provide prolactal feeds. Among those who gave prolactal feeds ($n = 151$), sugar syrup was used by 75 (49.6%), honey by 46 (30.4%), and cow's milk by 30 (19.8%). The reasons cited for prolactal feeding included cultural practices 75 (49.6%), the belief that it cleans the stomach 46 (30.4%), and the

misconception that colostrum is harmful 30 (19.8%). Regarding feeding positions, the side-lying position was preferred by 213 (46.3%) mothers, cradle position by 142 (30.9%), and laid-back position by 105 (22.8%). Frequent crying in infants was reported by 184 (40%) mothers, while 276 (60%) stated their infants did not cry often. Among the crying infants ($n = 184$), the primary reasons were feeding issues 127 (69%) and wet napkins 57 (31%). Of these mothers, 57 (31%) expressed anxiety over their baby's crying. To manage the crying ($n = 57$), 34 (59.6%) resorted to formula feeding, 13 (22.8%) used medications, and 10 (17.5%) provided cow's milk. [Table 3]

Among the 460 participants, 259 (56.3%) mothers reported that sleep deprivation affected their milk output, while 201 (43.7%) stated it did not. Food restrictions were perceived to affect milk production by 307 (66.7%) mothers, whereas 259 (33.3%) did not find any impact. All participants (100%) agreed that they felt relaxed when family members helped with childcare. However, visitors at the hospital disturbed breastfeeding for 306 (66.5%) mothers, and visitors at home caused similar disturbances for 291 (63.3%) mothers. Among the 267 working mothers, 28 (10.4%) returned to work within three months postpartum, another 28 (10.4%) between three to six months, and 211 (79.2%) returned after six months. However, only 89 (33.3%) reported that their workplace was conducive to breastfeeding, while 176 (66.6%) stated otherwise. Early return to household chores was reported by 291 (63.3%) mothers, while 169 (36.7%) did not resume chores early. Breastfeeding cessation before six months was observed in 115 (25%) mothers, while 345 (75%) continued beyond six months. Among those who stopped breastfeeding early ($n = 115$), the chosen alternatives included formula feeding for 59 (51.3%), animal milk for 38 (33%), and both for 18 (15.6%). Reasons for cessation included inadequate milk 63 (54.7%), work-related challenges 35 (30.4%), and the belief that stopping breastfeeding would help the baby gain weight 17 (14.7%). Complementary feeding was initiated before six months by 115 (25%) mothers, while 345 (75%) introduced it after six months. Among these, homemade food was preferred by 316 (68.7%), and formula feed by 144 (31.3%). [Table 4]

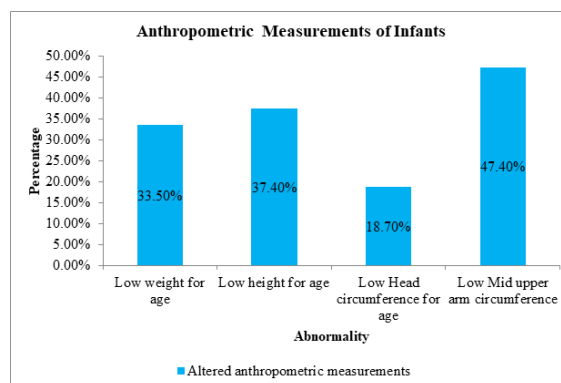


Figure 1. Anthropometric Measurements of Infants

Among the 460 infants studied, 154 (33.5%) were found to have low weight for age, while 306 (66.5%) had normal weight for age. For height, 172 (37.4%) were classified as low for age, and 288 (62.6%) were normal. Regarding head circumference, 86 (18.7%) infants had low values for age, whereas 374 (81.3%) were normal. For mid-upper arm circumference (MUAC), 218 (47.4%) had low values for age, and 242 (52.6%) were within the normal range. [Table 5 & Figure 1]

Among the infants studied, those who were exclusively breastfed had significantly lower rates of anthropometric abnormalities compared to those who were not exclusively breastfed. For weight-for-age, 49 (14.2%) of exclusively breastfed infants were classified as low, compared to 105 (91.3%) among non-exclusively breastfed infants ($p = 0.001$). Similarly, for height-for-age, 57 (16.5%) of exclusively breastfed infants were low compared to 115 (100%) of non-exclusively breastfed infants ($p = 0.002$). Regarding head circumference-for-age, 57 (16.5%) of exclusively breastfed infants were low

compared to 29 (25.2%) of non-exclusively breastfed infants ($p = 0.03$). For mid-upper arm circumference (MUAC)-for-age, 128 (37.1%) of exclusively breastfed infants had low values, while 90 (78.3%) of non-exclusively breastfed infants fell into the low category ($p = 0.01$). These results highlight the significant association between exclusive breastfeeding and better anthropometric outcomes in infants. [Table 6 & Figure 2]

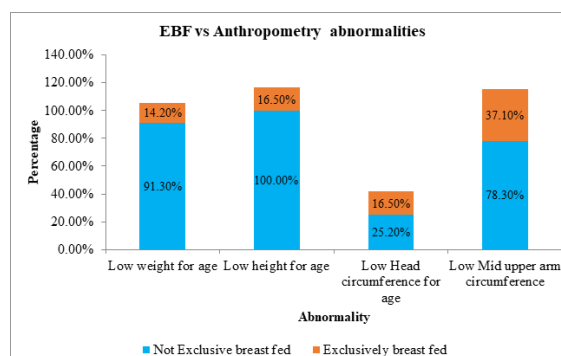


Figure 2: Comparison of Exclusive Breastfeeding and Anthropometric Abnormalities

Table 1: Socio-demographic Characteristics and Nipple Examination Findings of Mothers.

Variables	Frequency (N = 460)	Percentage	
Mother education	Primary	137	29.8%
	Middle	47	10.2%
	High school	54	11.7%
	Higher secondary	115	25%
	Bachelor degree	71	15.4%
	Master Degree	36	7.8%
Mother occupation	Housewife	193	42%
	Working	267	58%
Socioeconomic status	Lower	105	22.8%
	Upper Lower	141	30.7%
	Lower Middle	140	30.4%
	Upper Middle	74	16.1%
Nipple examination	Yes	322	70%
	No	138	30%
Diagnosed with flat or inverted nipple (Out of 322)	Yes	128	39.7%
	No	194	60.3%

Table 2: Exclusive Breastfeeding Practices, Birth Intervals, Birth Weight, Age, and Gender of Infants

Variables	Frequency (N = 460)	Percentage	
Exclusive breast feeding	Yes	112	60.8%
	No	72	39.1%
Reason for not Exclusive breast feeding (out of 72)	Inadequate Milk	31	43%
	Work	21	29.1%
	Baby weight gain	15	20.8%
	Family practices	5	6.9%
Birth interval	1	36	19.5%
	2	75	40.7%
	3	37	20.1%
	4	36	19.5%
Birth weight	Normal	348	75.7%
	LBW	112	24.3%
Age of children	7 months	98	21.3%
	8 months	67	14.6%
	9 months	66	14.3%
	10 months	98	21.3%
	11 months	98	21.3%
	12 months	33	7.2%
Gender of baby	Male	234	50.9%
	Female	226	49.1%

Table 3: Maternal Attitudes, Awareness, Breastfeeding Practices, and Feeding Preferences

Variables		Frequency (N = 460)	Percentage
Mother happy with gender	Yes	376	81.7%
	No	84	18.3%
Family Happy with Gender	Yes	132	28.7%
	No	328	71.3%
Awareness about EBF	Yes	460	100%
Source of Awareness	Health care	283	61.5%
	Family	107	23.3%
	Peer group	70	15.2%
Initiation of Breast Feeding	< 30 minutes	276	60%
	1 to 4 hours	184	40%
Prelacteal feeds	Yes	151	32.8%
	No	309	67.2%
Type of Feed (n = 151)	Sugar syrup	75	49.6%
	Honey	46	30.4%
	Cow's milk	30	19.8%
	Total	151	100%
	Reason for Feeds	N	%
	Cultural	75	49.6%
	Stomach clean	46	30.4%
	Colostrum bad	30	19.8%
Preferred position for feeding	Side lying	213	46.3%
	Cradle	142	30.9%
	Laid back	105	22.8%
Baby cry often	Yes	184	40%
	No	276	60%
Reason (n=184)	Feed	127	69%
	Wet nap	57	31%
Anxious on Baby cry (n= 184)	No	127	69%
	Yes	57	31%
Measures taken (n=57)	Formula feed	34	59.6%
	Medicine	13	22.8%
	Cow's milk	10	17.5%

Table 4: Impact of Maternal Factors, Work, and Feeding Practices on Breastfeeding and Complementary Feeding

Variables		Frequency (N = 460)	Percentage
Sleep deprivation affect	Yes	259	56.3%
	No	201	43.7%
Food restriction affect	Yes	307	66.7%
	No	259	33.3%
Feel relaxed when family members help	Yes	460	100%
Visitors at hospital – Disturb to Breast feed	Yes	306	66.5%
	No	154	33.5%
Visitors at home – Disturb to Breast feed	Yes	291	63.3%
	No	169	36.7%
Return to work (n= 267)	< 3 months	28	10.4%
	3-6 months	28	10.4%
	> 6 months	211	79.2%
Work place conducive to Breast feed (n=267)	Yes	89	33.3%
	No	176	66.6%
Return to household chores early	Yes	291	63.3%
	No	169	36.7%
Stop breast feeding	< 6months	115	25%
	> 6 months	345	75%
Alternative chosen (n= 115)	Formula feed	59	51.3%
	Animal milk	38	33%
	Both	18	15.6%
Reason to stop (n= 115)	Inadequate feed	63	54.7%
	To gain weight	17	14.7%
	Work	35	30.4%
Initiation of complementary feeding	< 6months	115	25%
	> 6 months	345	75%
Type of Food	Home made	316	68.7%
	Formula feed	144	31.3%

Table 5: Anthropometric Measurements of Infants (Weight, Height, Head Circumference, and MUAC for Age)

	Weight for Age		Height for age		Head Circumference for age		MUAC for age	
	N	%	N	%	N	%	N	%
Low	154	33.5%	172	37.4%	86	18.7%	218	47.4%

Normal	306	66.5%	288	62.6%	374	81.3%	242	52.6%
Total	460	100%	460	100%	460	100%	460	100%

DISCUSSION

Our study results shows that about 75% of women are exclusively breast feeding their children. As per the WHO reports only 41% of infants were found to be exclusively breastfed. NFHS survey shows 63.1% of babies were exclusively breast fed in India, whereas only 55.1% were exclusively breastfed in Tamil Nadu.^[7] Radhakrishnan et al showed that only 34% were found to be exclusively breastfed for 6 months.^[8] Chudasama et al showed that there is decline in rate of exclusive breastfeeding from 97% in 3rd month to around 62% in 6th month of life.^[9] Umadevi et al reported that only 38% were exclusively breast fed. And only 33% were fed within one hour of birth.^[10] Jenifer reported that 68% was the exclusive breast feeding. And 97.5% were the early initiation of breast feeding.^[11] Rahul et al reported that about 41.7% had initiated the breastfeeding within one hour of birth. Weaning started by 21.6% before the end of 6 months. Prevalence of Exclusive breastfeeding as per the study was 79.2%.^[12] Srinivas et al reported that the prevalence of exclusive breastfeeding for 6 months was found to be only 41.6%. The early initiation of breastfeeding within an hour of birth was found to be only 38.4%.^[13] Rathisharmila et al reported that prevalence of exclusive breastfeeding for 6 months was about 44%.^[14] In comparison with various studies above, our study shows that the prevalence of exclusive breast feeding is high.

Our result showed that the percentage of low weight for age, low height for age, low head circumference for age and low Mid upper arm circumference for age is higher in children who are not exclusively breastfed ($p < 0.05$). Jenifer et al reported that that about 50.6% of babies had less weight for their age.^[11] Koya S et al reported that among the 240 women enrolled in the study, 33% had provided the supplementary food for their child at 14 weeks of infant's age. Infants who had supplementary feeding had nearly 2.5 times higher odds of being wasted (OR: 2.449, p -value: 0.002) on comparison with exclusively breastfed infants.^[15] Giashuddin AS et al showed that 38.1% of children were stunted and 38% were under weight for their age. Overall, 46% of children were suffering from diseases. Exclusively breastfed children were nutritionally better off ($p < 0.001$).^[16] Alvarez-Uria G et al measured the anthropometric markers (weight, length/height, weight for length/height, body mass index, head circumference, mid-upper arm circumference, triceps skinfold, and subscapular skinfold) showed that formula-fed infants experience severe malnutrition during the first two months of life.^[17] Bhagwat et al reported that there is a delay in the initiation of breastfeeding was observed in female children (54.5%), which shows a significant reduction in their weight ($P=0.020$) as compared to those initiated the

breast feeding early. And also observed that out of the total population, 16.7% (males = 9.8%, females = 21.8%) were wasted, out of which 4.2% (males 2.4%, females = 5.5%) were severely wasted (below -3 SD), 50 % (males = 56.1%, females = 45.5%) stunted and 26% (males = 14.6%, females = 34.5%) underweight.^[18] Ashok A et al conducted a study to find if there is any association between teaching the art of expressing breastmilk and storage of milk, feeding the baby and their anthropometric measurements. The mean head circumference of the infants in study group was found to be less than control group. In the study mean weight, length, head size of the infants in study group was found to be more than control group. On applying chi square test, it is statistically significant with p -value < 0.01 .¹⁹ In comparison with various studies above, our study also shows that the anthropometric measurements are altered and the child gets affected when they are not exclusively breast fed.

In our study, about 25% stopped breastfeeding at less than 6 months. Among them 51.3% chosen formula feed as the alternative. And 54.7% informed that the reason for stopping breastfeeding is inadequate feeding to the baby. Radhakrishnan et al reported that unable to breastfed, poor weight gain as the reason for bottle feeding.^[8] Umadevi et al reported that 8% mothers said that inadequate milk as reason for bottle feeding. Other reasons indicated in that study are cracked/ sore nipple (14.5%).^[10] Srinivas et al showed that the reason for non-exclusive breastfeeding was due to insufficient breast milk by 14.4% mothers. About 20.5% of mothers informed difficulty in breastfeeding.^[13] Kuberan et al reported that more than half of the women (55%) were saying that there was inadequate milk secretion and only 1/3rd of the mothers (33%) had given expressed breast milk to their children.^[20] Anveet R et al reported that the common reason for the discontinuation of exclusive breastfeeding was inadequate milk output in 56.44% mothers.^[21] Radhakrishnan et al showed that poor weight gain as the reason for bottle feeding.^[8] Umadevi et al reported that the reason for feeding in bottle as per the study is that the mother does not satisfy hunger (15.5%), Slower weight gain (11%).^[10] Srinivas et al reported that the reason to not exclusively breast feed was unable to satisfy baby hunger (12.3%).^[13] In comparison with various other studies, our study shows that inadequate breast milk, poor weight gain is considered the reason for stopping the exclusive breast feeding.

CONCLUSION

The prevalence of exclusive breast feeding in our study population is high (75%). This high prevalence may be attributed by the fact due to increased awareness, antenatal briefing, and various schemes

like Dr. Muthulakshmi Reddy Maternity Benefit scheme (MRMBS), Nutritional kit supplementation to pregnant mothers and enhancement of maternity leave to one year to government women employees. All the mothers in our study had awareness regarding exclusive breast feeding. Breast feeding had significant influence on anthropometric measurements. Our result showed percentage of low weight for age, low height for age, low mid upper arm circumference for age is higher in children who are not exclusively breast feed. This finding may be attributed to improper dilution and poor feeding practices. However, this needs further in-depth clarification by detailed field studies to assess the dilution measurement, feeding practices, local customs, and taboos. Perceived Inadequate breast milk, poor weight gain was considered as the reasons for stopping the exclusive breast feeding.

REFERENCES

1. Still R, Marais D, Hollis JL. Mothers' understanding of the term 'exclusive breastfeeding': a systematic review. *Maternal & child nutrition*. 2017 Jul;13(3):e12336.
2. Definitions | Nutrition | CDC. (n.d.). Retrieved August 9, 2024, from <https://www.cdc.gov/nutrition/infantandtoddlernutrition/definitions.html>
3. Infant and young child feeding. (n.d.). Retrieved August 9, 2024, from <https://www.who.int/news-room/factsheets/detail/infant-and-young-child-feeding>.
4. Kliegman R, Stanton B, St. Geme JW, Schor NF, Behrman RE, Nelson WE. *Nelson textbook of pediatrics*. 2020.
5. Breastfeeding and breast milk: condition information [Internet]. 2015. Available from: <https://web.archive.org/web/20150727155223/http://www.nichd.nih.gov/health/topics/breastfeeding/conditioninfo/Pages/default.aspx>
6. Park K. *Park's textbook of preventive and social medicine*. Twenty-fourth edition. Jabalpur: M/s Banarsidas Bhanot Publishers; 2017.
7. National family health survey(NFHS-5) [Internet]. Available from: http://rchiips.org/nfhs/factsheet_NFHS-5.shtml
8. Shankar Radhakrishnan SR, Balamuruga SS. Prevalence of exclusive breastfeeding practices among rural women in Tamil Nadu. *Int J Health Allied Sci*. 2012;1:64-7.
9. Chudasama RK, Amin CD, Parikh YN. Prevalence of exclusive breastfeeding and its determinants in first 6 months of life: A prospective study. *Online J Health Allied Scs*. 2009;8(1):3.
10. Umadevi R, Patel RG. Prevalence of exclusive breastfeeding among rural women in Kancheepuram District, Tamil Nadu. *Indian Journal of Forensic and Community Medicine*. 2017;4(4):277-9.
11. Jennifer HG, Muthukumar K. A cross-sectional descriptive study was to estimate the prevalence of the early initiation of and exclusive breast feeding in the rural health training centre of a medical college in Tamilnadu, South India. *Journal of clinical and diagnostic research: JCDR*. 2012 Nov;6(9):1514.
12. Different breastfeeding positions for babies - breastfeeding information [Internet]. BREASTFEEDING SUPPORT FOR INDIAN MOTHERS. Available from: <https://www.bsim.org.in/breastfeeding-information-breastfeeding-positions>
13. Srinivas KS, Chandra Mithila P, Kannan R. Prevalence of exclusive breastfeeding among mothers of rural Tamil Nadu- A cross-sectional Study. *Journ of Medical Science and Clinical Research*. 2018; 6(9): 610-15.
14. Rathisharmila R, Uvaraj P, Saraswathi N, Ilamaram V. Optimal feeding practices in Tamilnadu, breast feeding and complementary feeding: the reality. *International Journal of Contemporary Pediatrics*. 2020;7(2):243.
15. Koya S, Babu GR, Iyer V, Yamuna A, Lobo E, Kinra S, Murthy GV. Determinants of breastfeeding practices and its association with infant anthropometry: results from a prospective cohort study in South India. *Frontiers in public health*. 2020; 8:492596.
16. Giashuddin MS, Kabir M, Rahman A, Hannan MA. Exclusive breastfeeding and nutritional status in Bangladesh. *The Indian Journal of Pediatrics*. 2003;70:471-5.
17. Alvarez-Uria G, Midde M, Pakam R, Bachu L, Naik PK. Effect of formula feeding and breastfeeding on child growth, infant mortality, and HIV transmission in children born to HIV-infected pregnant women who received triple antiretroviral therapy in a resource-limited setting: data from an HIV cohort study in India. *International Scholarly Research Notices*. 2012;2012(1):763591.
18. Bhagwat B, Nooyi SC, Krishnareddy DH, Murthy SN. Association of Practices Regarding Infant and Young Child Feeding with Anthropometry Measurements Among an Urban Population in Karnataka, India. *Cureus*. 2019;11(3).
19. Ashok A, Shwetha JH, Mahesh TK. A comparative study of impact of breastfeeding practices on the nutritional status of the infants among the working and non-working women. *Int J Contemp Pediatr* 2018;5:1759-62.
20. 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.
21. Randhawa A, Chaudhary N, Gill BS, Singh A, Garg V, Balgir RS. A population-based cross-sectional study to determine the practices of breastfeeding among the lactating mothers of Patiala city. *Journal of family medicine and primary care*. 2019;8(10):3207-13.