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Research Article

An Observational Study On New Born Weight Trends And Maternal Feeding Practice In Uphe

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Abstract:

Background: Neonatal health outcomes can be improved by early detection of feeding-related problems. **Methods:** Using purposive sampling, a pre-experimental one-group pre-test and post-test study was carried out with sixty women who visited an Urban Primary Health Center. A standardized questionnaire was used to gather information on neonatal weight and development, mother feeding habits, and demographic traits. Data analysis was done using descriptive statistics and the Wilcoxon signed-rank test. **Results:** The majority of mothers (75.0%) showed moderate feeding habits. Of the babies, 71.67% showed normal growth and 63.33% showed significant weight reduction. With a mean difference of 0.80, the mean infant weight score rose from 2.74 ± 0.55 in the pre-test to 3.54 ± 0.87 in the post-test. After the intervention, there was a statistically significant improvement in neonatal weight outcomes ($T = 252, p < 0.001$). **Conclusion:** Newborn weight outcomes were greatly enhanced by the intervention. Encouraging mothers to feed their babies properly may promote healthy development and enhance neonatal health.

Key words: Neonatal, Newborn, Maternal, Feeding

INTRODUCTION

The neonatal period is a crucial phase of life that lays the foundation for healthy growth and development. Birth weight and subsequent weight gain are reliable indicators of an infant's nutritional status and overall health. Inadequate weight gain during early infancy is associated with increased risks of illness, growth retardation, and mortality. Appropriate maternal feeding practices, including timely initiation and exclusive breastfeeding, are essential for ensuring optimal growth.

Breastfeeding within the first hour of birth and exclusive breastfeeding for six months are recommended to promote healthy infant growth. However, various social, cultural, and economic factors may prevent mothers from following these recommendations. Evaluating newborn weight trends alongside maternal feeding practices can generate evidence to improve breastfeeding support and strengthen child health services.

Suboptimal weight gain during infancy remains a major concern because it contributes to poor health and developmental outcomes. Community-based evidence on maternal feeding practices and newborn growth is limited, particularly in urban primary healthcare settings. This study will help identify factors affecting infant weight gain, support effective health education, and provide evidence for developing interventions that enhance maternal feeding practices and improve neonatal health outcomes.

AIM:

To observe and analyze the trends in Newborn weight and examine the relationship between maternal feeding practices and neonatal weight gain.

METHODOLOGY

A non-experimental descriptive study methodology was utilized to evaluate trends in newborn weight and maternal feeding behaviors among women with newborns visiting the Mugulivakkam Urban Primary Health Centre in Chennai. The research encompassed 60 moms chosen by purposive sampling. Mothers between the ages of 20 and 35 with infants aged 0 to 6 months who satisfied the inclusion criteria were recruited. Ethical clearance was secured from the Institutional Ethics Committee, and signed informed permission was acquired from all participants prior to data gathering.

Data were gathered via a standardized questionnaire including three segments. Section A encompassed demographic factors. Section B documented the birth weight of newborns and their present weight to evaluate weight patterns. Section C consisted of a questionnaire with 20 items focused on mother feeding practices.

After administrative authorization and informed consent, Mugulivakkam Urban Primary Health Centre moms were interviewed face-to-face using a standardized questionnaire. Demographics, birth weight, and mother feeding were recorded. Data was collected during the designated research time with privacy, confidentiality, and participant comfort.

Data Analysis:

OBJECTIVE	DATA ANALYSIS
To assess the baseline weight and weight gain/ loss pattern of new born	Descriptive statistic Frequency, Percentage, Mean, Standard deviation
To identify the maternal feeding practice	Pearson correlation coefficient formula $r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{N \sum X^2 - (\sum X)^2} \sqrt{N \sum Y^2 - (\sum Y)^2}}$ Where, r = Pearson correlation coefficient N = Number of observations X = Score of maternal feeding practice Y = Weight gain/loss score of the newborn
To an observational study on new born weight trends and maternal feeding practice an urban primary health centre	Chi square (χ^2) test $\chi^2 = \sum \frac{(O - E)^2}{E}$ Where, χ^2 = Chi square value O = Observed frequency E = Expected frequency

RESULT

Table 1 shows the distribution of mothers according to their demographic characteristics. Most mothers (65.0%) were aged 25–30 years, half (50.0%) had higher education, and 50.0% were housewives. The majority (73.33%) had a monthly family income of ₹10,001–₹30,000, and 61.67% belonged to nuclear families.

Table 2 presents the distribution of newborn characteristics. More than half (55.0%) of the babies were male, and 46.67% were born at 38 weeks of gestation. Most (71.67%) were delivered through normal vaginal delivery. Regarding birth weight, 40.0% weighed less than 2.5 kg, while 71.67% had a current weight above 3 kg. Half (50.0%) of the babies were less than one month old at the time of assessment.

Table 3 shows the distribution of maternal feeding practices, newborn weight differences, and growth. The majority of mothers (75.0%) had moderate feeding practices, while 15.0% had poor practices and 10.0% had good practices. Regarding newborn weight differences, 63.33% experienced significant weight drop, 31.67% had normal physiological weight loss, and 5.0% were below normal. In terms of growth, the majority of newborns (71.67%) demonstrated normal growth, whereas 28.33% had below-normal growth.

Table 4 shows the distribution of newborn weight differences and growth according to maternal feeding practices. Most mothers had moderate feeding practices, among whom 27 newborns experienced significant weight drop and 30 exhibited normal growth.

Table 5 compares the pre-test and post-test levels of newborn weight difference. The mean score increased from 2.74 ± 0.55 in the pre-test to 3.54 ± 0.87 in the post-test, with a mean difference of 0.80. The Wilcoxon signed-rank test demonstrated a statistically significant improvement in post-test scores ($T = 252$, $p < 0.001$), indicating that the intervention was effective in improving newborn weight outcomes.

DISCUSSION

The majority of mothers (65.0%) were caretakers (50.0%), had a monthly family income of ₹10,001–₹30,000 (73.33%), and belonged to nuclear households (61.67%). Additionally, they were primarily aged 25–30 years. According to the data, 55.0% of the newborns were male, 46.67% were born at 38 weeks of gestation, 71.67% were delivered by normal vaginal delivery, 40.0% had a birth weight below 2.5 kg, 71.67% had a current weight above 3 kg, and 50.0% were under one month of age.

Mothers exhibited moderate feeding practices in the majority (75.0%) of cases, while 63.33% of newborns experienced significant weight loss and 71.67% exhibited normal growth. Newborns of mothers who practiced moderate feeding were more likely to experience significant weight loss, while normal growth was the predominant characteristic of all feeding practice categories. The mean neonatal weight difference score increased from 2.74 ± 0.55 at pre-test to 3.54 ± 0.87 at post-test, resulting in a mean difference of 0.80. The Wilcoxon signed-rank test demonstrated a statistically significant improvement ($T = 252$, $p < 0.001$) in neonatal weight outcomes as a result of the intervention.

CONCLUSION

The study concluded that the intervention significantly improved newborn weight outcomes. Promoting appropriate maternal feeding practices may enhance newborn growth and support better neonatal health.

REFERENCES:

- American Academy of Pediatrics. (2022). Policy statement: Breastfeeding and the use of human milk. *Pediatrics*, 150(1), e2022057988. <https://doi.org/10.1542/peds.2022057988>
- Bell, K. A., & Ong, K. K. (2017). Associations of infant feeding with trajectories of body composition and growth: Evidence from longitudinal cohorts. *International Journal of Obesity*, 41(S1), 3–13. <https://doi.org/10.1038/ijo.2017.100>
- Delfino, E., et al. (2022). Newborn weight loss as a predictor of persistence of exclusive breastfeeding up to 6 months. *Frontiers in Paediatrics*, 10, Article 871595. <https://doi.org/10.3389/fped.2022.871595>
- Dharmaraj, A. (2023). Exclusive breastfeeding practices and its determinants in India: A cross-sectional analysis. *Indian Journal of Public Health Research & Development*. <https://doi.org/10.37506/ijphrd.v14i4>
- DiTomasso, D., & Cloud, M. (2019). Systematic review of expected weight changes after birth for full-term, breastfed newborns. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 48(6), 593–603. <https://doi.org/10.1016/j.jogn.2019.09.004>
- Ghosh, P., et al. (2022). Determinants of time-trends in exclusivity and continuation of breastfeeding in India: Analysis of national survey data. *Social Science & Medicine*, 296, 114747. <https://doi.org/10.1016/j.socscimed.2021.114747>
- Haseli, A., et al. (2025). Postnatal weight loss and longer-term growth outcomes in breastfed infants: A cohort study. *Journal of Pediatrics and Child Health*, 61(5), 534–542. <https://doi.org/10.1111/jpc.15111>
- Kundu, R. N., et al. (2023). Regional and urban–rural variation in low birth weight and its determinants in India: Findings from National Family Health Survey-5 (2019–21). *BMC Pregnancy and Childbirth*. <https://doi.org/10.1186/s12884-023-05934-6>
- Leth-Møller, M., et al. (2025). Breastfeeding and infant growth in relation to childhood overweight: Longitudinal cohort evidence. *American Journal of Clinical Nutrition*, 121(4), 789–801. <https://doi.org/10.1016/j.ajcn.2025.01.012>
- Metgud, C. S., Naik, V. A., & Mallapur, M. D. (2012). Factors affecting birth weight of a newborn — A community based study in rural Karnataka, India. *PLOS ONE*, 7(4), e40040. <https://doi.org/10.1371/journal.pone.0040040>
- National Health Systems Resource Centre (NHSRC). (2018). Guidelines for organizing Urban Primary Health Centre (UPHC) services (PDF). Ministry of Health & Family Welfare, Government of India.
- Noel-Weiss, J., Woodend, A. K., Peterson, W. E., Gibb, W., & Groll, D. L. (2011). An observational study of associations among maternal fluids during parturition, neonatal output, and breastfed newborn weight loss. *International Breastfeeding Journal*, 6, Article 9. <https://doi.org/10.1186/1746-4358-6-9>
- Jenifar Monisha A, Hema VH, Isaiyah MP, Vinitha Deva Kumari P, Angel Shalini W, Girija R, Kalpana R. Experiences of Women Regarding Breast Self-Examination Training Using a Breast Model in a Rural Setting: A Qualitative Study. *Int J Drug Deliv Technol*. 2026;16(63s):922-928. DOI: 10.25258/ijddt.16.63s.90
- Hema VH and Jenifar Monisha A*. The Vital Role of Women in Telehealth: Enhancing Access, Equity, and Quality of Care. *Trends Telemed E-Health*. 5(3). TTEH. 000613 DOI: 10.31031/TTEH.2025.05.000613.

Table 1: Distribution of the demographic variables of the mothers .

S.No	Demographic Variables	Frequency (F)	Percentage (%)
1	Age		
	a. 18–24 years	16	26.67
	b. 25–30 years	39	65.00
	c. 31–36 years	5	8.33
	d. 37–42 years	0	0.00
2	Educational Qualification		
	a. Higher	30	50.00
	b. Literate	8	13.33
	c. PT	1	1.67
	d. Secondary	21	35.00
3	Occupation		
	a. Housewife	30	50.00
	b. Company Employee	11	18.33
	c. CA	8	13.33
	d. IT Professional	4	6.67
	e. Accountant	2	3.33
	f. MC	2	3.33
	g. CT	1	1.67
	h. Tailor	1	1.67
	i. Teacher	1	1.67
4	Monthly Family Income		
	a. Less than ₹10,000	7	11.67
	b. ₹10,001–₹30,000	44	73.33
	c. ₹30,001–₹50,000	8	13.33
	d. Above ₹50,000	1	1.67
5	Type of Family		
	a. Joint	23	38.33
	b. Nuclear	37	61.67

Table 2 : Distribution of variables of new born babies.

S.No	Newborn Variables	Frequency (F)	Percentage (%)
1	Gender of the Baby		
	a. Male	33	55.00
	b. Female	27	45.00
2	Gestational Age		
	a. 36 weeks	3	5.00
	b. 37 weeks	14	23.33
	c. 38 weeks	28	46.67
	d. 39 weeks	13	21.67
	e. 40 weeks	2	3.33
3	Type of Delivery		
	a. Normal	43	71.67
	b. Caesarean	17	28.33
4	Birth Weight		
	a. < 2.5 kg	24	40.00
	b. 2.5–3.0 kg	17	28.33
	c. > 3.0 kg	19	31.67
5	Current Weight		
	a. < 2.5 kg	9	15.00
	b. 2.5–3.0 kg	8	13.33
	c. > 3.0 kg	43	71.67
6	Age of the Baby During Visit		
	a. Less than 1 month	30	50.00
	b. 1–3 months	4	6.67
	c. 4–6 months	6	10.00
	d. More than 6 months	20	33.33

Table 3. Distribution of the level of Level of weight differences and growth among the babies.

S.No	Variables	Frequency (F)	Percentage (%)
1	Level of Maternal Feeding Practice		
	a. Poor practice	9	15.00
	b. Moderate practice	45	75.00
	c. Good practice	6	10.00
2	Level of Weight Differences		
	a. Below normal	3	5.00
	b. Normal physiological loss	19	31.67
	c. Significant weight drop	38	63.33
3	Level of Growth		
	a. Below normal	17	28.33
	b. Normal	43	71.67

Table 4. Distribution of the Maternal Feeding Practices, Newborn Weight Differences, and Growth

S.No	Maternal Feeding	Weight Differences			Growth	
		Below Normal	Normal Physiological	Significant Weight Drop	Below Normal	Normal
1	Poor Practice	0	2	7	1	8
2	Moderate Practice	2	16	27	15	30
3	Good Practice	1	1	4	1	5

Table 5. Comparison between birth weight and current weight differences among the babies.

Level of weight difference	Mean	S. D	Mean Difference Score	Wilcoxon signed rank test
Pre test	2.74	0.55	0.80	T = 252
Post test	3.54	0.87		p< 0.001 ** Significant

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