

IMPLEMENTATION OF TELELACTATION TO IMPROVE BREASTFEEDING OUTCOMES AMONG MOTHERS OF PREMATURE OR CRITICALLY ILL INFANTS AFTER HOSPITAL DISCHARGE

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Background

- One in eight babies is born prematurely in the United States¹
- Breastmilk is the gold standard for infant nutrition.
 - Role in neurodevelopment & prevention chronic and infectious disease^{2, 3}
 - Breastfeeding declines from 75% at NICU discharge to 40% 6 weeks later^{4, 5}
- Lactation resources are necessary to mitigate challenges to breastfeeding
 - Infant sucking and latching difficulties
 - Breast pain, milk supply issues
 - Poor self-efficacy, confidence, social support, and impaired coping

What is Telelactation?

- Video based lactation services via telemedicine
- Among term infants, benefits include:
 - Improved rates of exclusive breastfeeding⁷
 - Increased access to skilled breastfeeding support⁷
 - Convenient expert guidance⁸
 - Increased satisfaction and confidence breastfeeding⁹



John



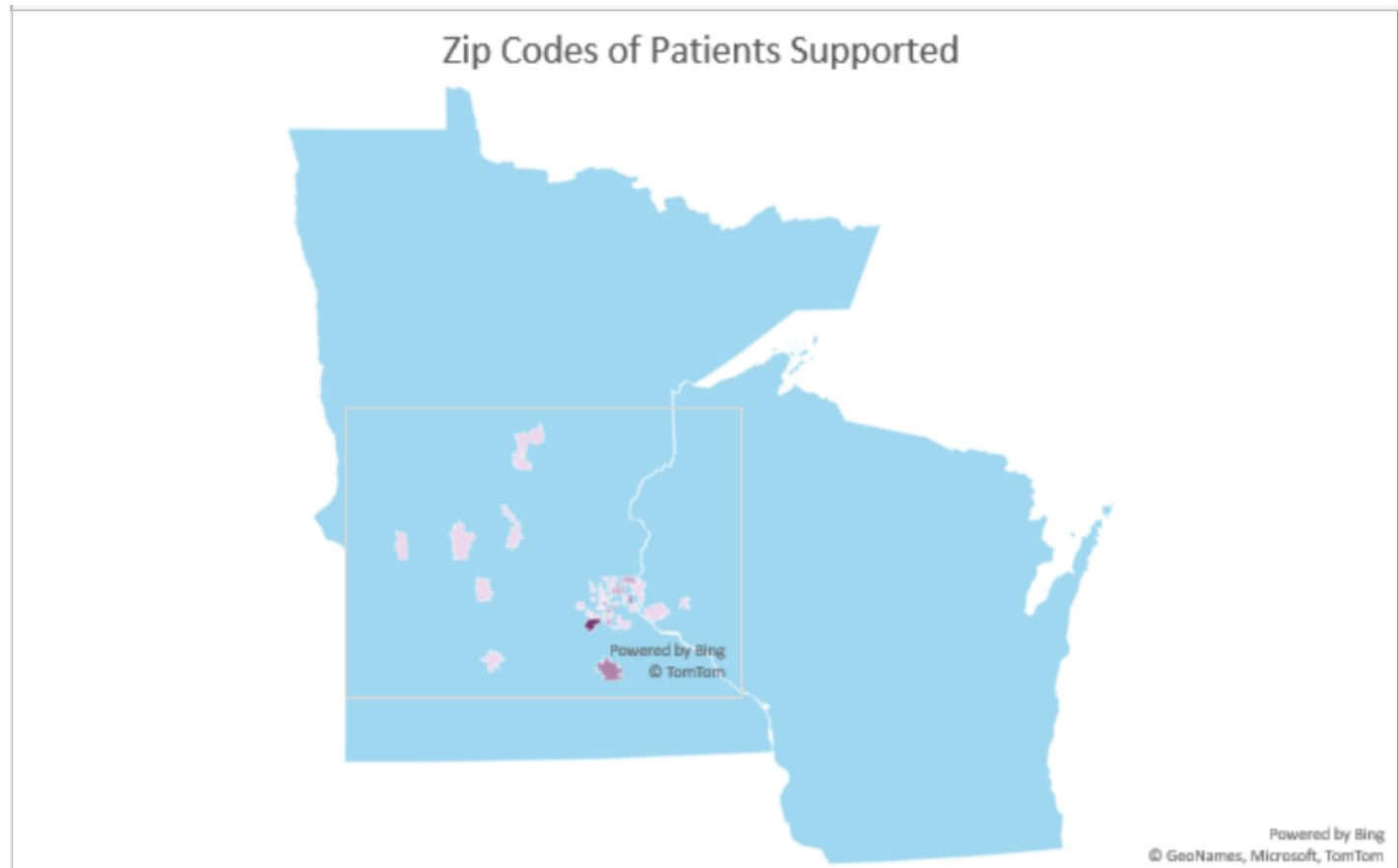
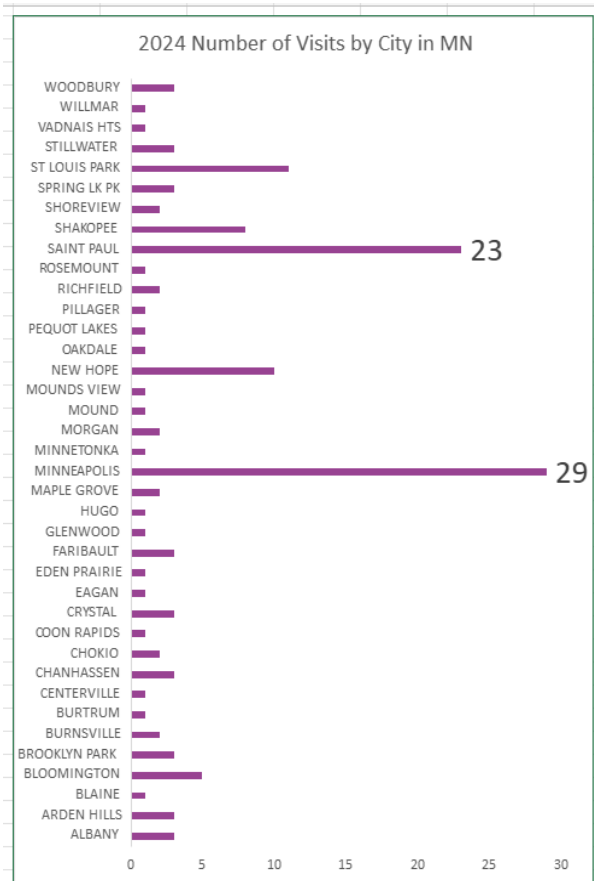
Anna Kae

Children's Minnesota Telelactation



- Milk supply & weaning
- Transition from bottle to breast
- Pumping/storing breastmilk
- Supplementation/fortification
- Infant feeding difficulties
- Poor infant weight gain
- Nipple shield use
- Ankyloglossia
- Breast infections/issues
- Returning to work
- Maternal medications & breastfeeding

Patient Demographics

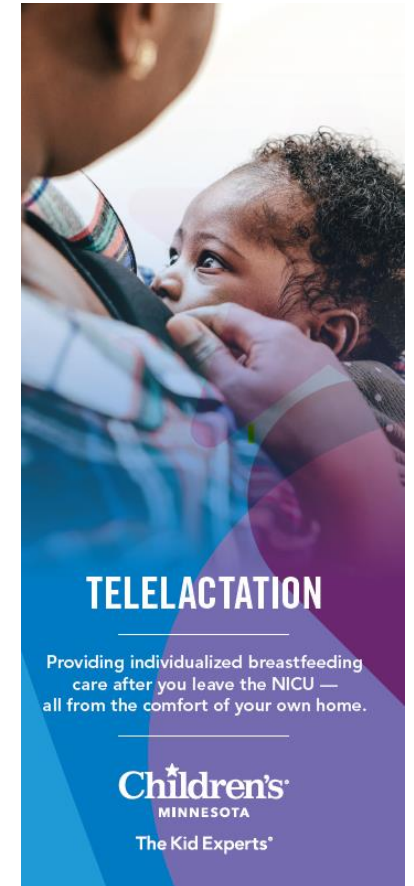


Research Purpose & Aims

- **Purpose:** to determine breastfeeding and infant outcomes among parents of premature or ill infants who receive telelactation after hospital discharge.
 - **Aim 1:** To assess the impact of telelactation on parent-related breastfeeding outcomes including **direct breastfeeding rates, satisfaction with breastfeeding, and breastfeeding self-efficacy.**
 - **Aim 2:** To assess the impact of telelactation support on infant-related breastfeeding outcomes including **weight gain, fortified formula use, and acute care utilization.**

Design & Methods

- Prospective, comparative study leveraging an **encouragement implementation** measuring the effect of telelactation
 - Parent surveys at discharge and 1 month after discharge
 - Infant feeding practices
 - Breastfeeding self-efficacy short form (18 items)
 - Maternal Breastfeeding Evaluation Scale (30 items)
 - For parents who participated in telelactation:
 - Charts audits from telelactation visits
 - Telelactation satisfaction



Participation

- 500 breastfeeding parents met eligibility, 393 approached
- Among the 365 parents who were interested, 237 consented to participate
- Survey completion to date:
 - T1 = 205 parents
 - T2 = 195 parents



Parent Demographics	Total n= 195	Encouragement n=89	Standard care n=106	P
Maternal Age , mean (sd)	31.9 (4.9)	31.8 (4.6)	31.2(5.1)	0.78
Race , n(%)				0.08
Non-hispanic White	161 (82.6%)	71 (79.8%)	90 (84.9%)	
Non-hispanic Black	10 (5.1%)	5 (5.6%)	5 (4.7%)	
Hispanic/Latine	6 (3.1%)	6 (6.7%)	0 (0%)	
Multi-racial	8 (4.1%)	2 (2.2%)	6 (5.7%)	
Asian	8 (4.1%)	4 (4.5%)	4 (3.8)	
Marital Status , n(%)				0.12
Married	155 (79.5%)	66 (74.2%)	89 (84%)	
Not Married/widowed	39 (20.0%)	22 (24.7%)	17 (16%)	
Breastfeeding hx , n(%)				0.12
First infant	99 (50.8%)	51 (57.3%)	48 (45.3%)	
Breastfed 1 infant	66 (33.8%)	29 (32.6%)	37 (34.9%)	
Breastfed 2+ infants	30 (15.4%)	9 (10.1%)	21 (19.8%)	
Gravida , n(%)				0.36
1	73 (37.4%)	38 (42.7%)	35 (33%)	
2	55 (28.2%)	23 (25.8%)	32 (30.2%)	
3	28 (14.4%)	14 (15.7%)	14 (13.2%)	
4 or more	39 (20%)	14 (15.7%)	25 (23.6%)	

Infant & Breastfeeding Characteristics	Total n= 209	Encouragement n=94	Standard care n=115	P
Birth Gestational Age , mean (sd)	35.1 (3.2)	34.9 (3.2)	35.1 (3.2)	0.67
Discharge Gestational Age , mean (sd)	38 (1.9)	37.9 (1.9)	38.1 (1.9)	0.39
Birthweight (grams) , mean (sd)	2478 (827)	2512 (840)	2436 (812)	0.51
Discharge weight (grams) , mean (sd)	2829 (613)	2811 (615)	2843 (614)	0.70
Breastfeeding frequency per 24 hours 0 times 1-7 times 8 or more times	10 (5.0%) 131 (65.5%) 59 (29.5%)	3 (3.6%) 62 (65.9%) 29 (30.8%)	7 (6.6%) 69 (65.1%) 30 (28.3%)	0.53
Satisfaction with breastfeeding Satisfied Breastfeeding more often Breastfeeding less often I want to stop breastfeeding	99 (50.8%) 93 (47.7%) 1 (0.5%) 2 (1.0%)	39 (43.8%) 49 (55.1%) 1 (1.1%) 0 (0.0%)	60 (56.6%) 44 (41.5%) 0 (0.0%) 2 (1.9%)	0.06

Preliminary Results

Breastfeeding outcomes, mean (sd)	Overall n= 195	Encouragement n= 89	Standard Care n=106	P
Breastfeeding self-efficacy	63.9 (13.8)	64.3 (13.7)	63.5 (14.0)	0.70
Breastfeeding satisfaction	114.0 (14.8)	114.6 (1.7)	113.5 (15.3)	0.63
Enjoyment/role attainment	56.9 (7.5)	57.3 (0.8)	56.5 (8.1)	0.47
Infant satisfaction and growth	28.9 (5.9)	28.9 (0.6)	28.9 (6.2)	0.96
Lifestyle/body image	28.1 (5.6)	28.7 (0.6)	27.8 (5.5)	0.37
Received Telelactation	44 (22.6%)	31 (34.8%)	13 (12.3%)	<0.0001

Breastfeeding outcomes, mean (sd)	Overall n= 195	Telelactation n=44	Standard n=151	P
Breastfeeding self-efficacy	+2.6 (10.3)	+6.1 (11.2)	+1.5 (9.8)	0.01
Breastfeeding satisfaction	+1.5 (12.5)	+3.1(15.4)	+1.1 (11.7)	0.21
Enjoyment/role attainment	+0.5 (6.7)	+1.7 (8.7)	+0.2 (6.1)	0.23
Infant satisfaction and growth	+1.5 (4.7)	+2.0 (4.5)	+ 1.5 (4.7)	0.39
Lifestyle/body image	-0.6 (4.6)	-0.7 (5.2)	-0.6 (4.4)	0.58
Breastfeeding frequency per 24 hours				
0 times	31 (15.9%)	5 (11.4%)	26 (17.2%)	0.53
1-7 times	91 (46.7%)	20 (45.5%)	71 (47%)	
8 or more times	73 (37.4%)	19 (43.2%)	54 (35.8%)	
Satisfaction with breastfeeding				
Satisfied	112 (57.7%)	23 (52.3%)	89 (59.3%)	0.22
Breastfeeding more often	59 (30.4%)	15 (34.1%)	44 (29.3%)	
Breastfeeding less often	8 (4.1%)	4 (9.1%)	4 (2.7%)	
I want to stop breastfeeding	15 (7.7%)	2 (4.5%)	13 (8.7%)	

Telelactation Utilization

- Among the 44 mothers
 - 1 visit = 29 (65.9%)
 - 2 visits= 10 (22.7%)
 - ≥ 3 visits= 5 (11.4%)
- Presenting concerns at any visit:
 - Latching= 23 (52.3%)
 - Supplementing= 19 (43.2%)
 - Pumping = 18 (40.9%)
 - Low supply = 15 (34.1%)
 - Milk transfer = 15 (31.8%)



Telelactation Satisfaction

N = 43	Mean (SD)
How well did telelactation support address concerns? (0=not well, 100= extremely well)	85.5 (17.8)
Convenience (compared to in-person visits) (0= extremely inconvenient, 100= extremely convenient)	80.7 (23.7)
Ease of use with device (phone/computer) (0= extremely difficult, 100= extremely easy)	80.1 (27.3)
Satisfaction with support (0= extremely unsatisfied, 100= extremely satisfied)	84.7 (18.5)
Extent telelactation helped achieve breastfeeding goals (0= minimal assistance, 100= great assistance)	79.4 (16.5)
Recommendation for other mothers (0= do not recommend, 100= highly recommend)	87.1 (15.4)

Telelactation Satisfaction

- "My telelactation specialist was GREAT!! I was very thankful for her support and guidance during my son's feeding journey, especially appreciated and found helpful her expertise with premature babies, as their feeding needs are unique."
- "I have experience breastfeeding so I knew all the tips and tricks but it was reassuring... she helped me figure out next steps, which eventually got us to the place where he can successfully nurse."

Conclusion

- Telelactation shows promise in breastfeeding outcomes
 - Increased breastfeeding self-efficacy
 - High satisfaction and usability ratings
- Participatory design with encouragement implementation
 - Promotes ethical allocation of services
 - Reduces selection bias without a randomized trial
- Further analysis needed to further understand long-term telelactation benefits
 - Longterm breastfeeding outcomes
 - Infant health outcomes, growth and development, & care utilization



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