Before The First Feed: Advancing Breastfeeding Success Through Prenatal Education

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Problem & PURPOSE

Problem: Breastfeeding rates among first-time mothers in rural communities remain below national goals because many mothers receive limited prenatal breastfeeding education and support.

Purpose: This quality improvement project evaluated whether a 20-minute virtual prenatal breastfeeding education program improved breastfeeding outcomes among primiparous women at hospital discharge and 2 weeks postpartum.

Available Knowledge & Rationale

- **Prenatal breastfeeding education consistently improves breastfeeding initiation, maternal confidence, and breastfeeding duration.** Provider-led education and standardized prenatal counseling increase maternal self-efficacy and support achievement of national breastfeeding goals (Ahlers-Schmidt et al., 2020; Rosen-Carole et al., 2022; Jack et al., 2024; Oggero et al., 2024).
- **Virtual prenatal education is an effective and accessible strategy, particularly for rural populations.** Evidence demonstrates that structured programs such as *Ready, Set, Baby Live* improve breastfeeding knowledge, confidence, and engagement while reducing barriers to participation through flexible, low-cost delivery (Palmquist et al., 2020; Wouk et al., 2023; Gabhart et al., 2024; Zaman et al., 2024).
- **Bandura's Social Cognitive Theory provided the theoretical foundation for this project.** The intervention was designed to enhance maternal self-efficacy through education, behavioral modeling, and supportive learning experiences using the *Ready, Set, Baby Live* curriculum and the Prenatal Provider Breastfeeding Toolkit, strategies associated with improved breastfeeding outcomes (Koutroubas & Galanakis, 2022; McGovern et al., 2024; Rosen-Carole et al., 2022).

Methods

- **Context:** This study was conducted at a rural Midwestern hospital serving first time mothers planning to breastfeed.
- **Intervention:** Participants viewed a 20-minute evidence-based virtual breastfeeding education video between 33-35 weeks' gestation before delivery.
- **Study of Intervention:** Breastfeeding outcomes were evaluated at hospital discharge and again at 2 weeks postpartum using the EHR and structured follow-up phone interview.
- **Measure:** A structured 10 question investigator created tool was used to assess breastfeeding status (exclusive, partial, or formula feeding), maternal experiences, and the perception of the prenatal breastfeeding education program.

Data Analysis

- **Descriptive Statistics:** Frequencies and percentages were used for calculation of breastfeeding status.
- **Chi-square analysis:** was performed in Microsoft Excel to compare breastfeeding status at hospital discharge and 2 weeks postpartum.
- **Qualitative Responses** from follow-up interviews were analyzed using content analysis to identify common themes related to participant experiences and perceptions.

Results

Figure 1

Breastfeeding Status at Discharge vs. 2 Weeks Postpartum

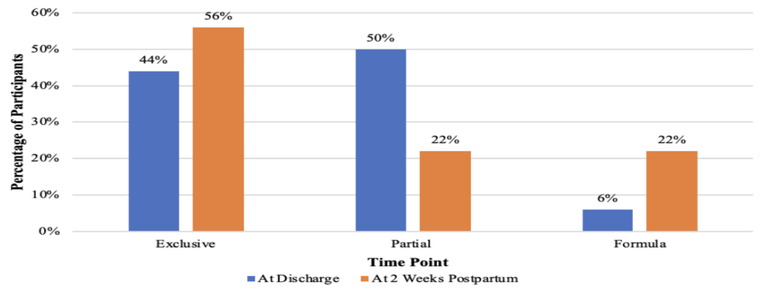
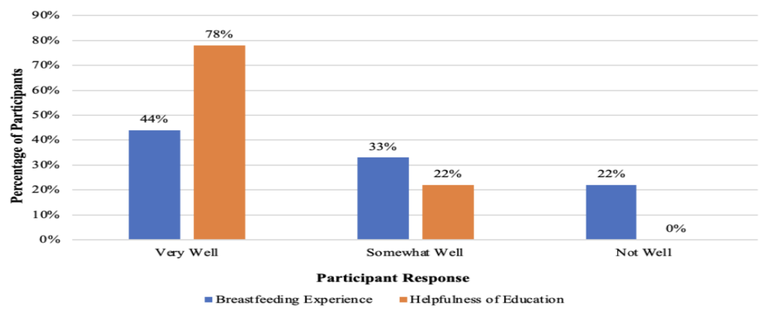


Figure 2

Perceptions of Breastfeeding Experience and Education Helpfulness



There was a total of 18 participants. The chi square analysis showed no statistically significant difference in feeding method over time: $\chi 2(2, N = 18) = 3.945, p = .139$

Discussion

- Exclusive breastfeeding increased from 44% at discharge to 56% at 2 weeks postpartum, suggesting a positive clinical trend following the education.
- Participants reported increased confidence and high satisfaction, supporting the role of prenatal education in improving breastfeeding self-efficacy.
- The intervention was feasible and easily integrated, without increasing staff burden, making it practical in rural healthcare settings.
- Continued postpartum support remains essential, as many participants experienced breastfeeding challenges despite prenatal preparation.

Conclusions

- Prenatal breastfeeding education is a feasible, low-cost, evidence-based intervention that can be integrated into routine prenatal care.
- The intervention improved maternal confidence and demonstrated promising improvements in exclusive breastfeeding, despite absence of statistical significance.
- Combining prenatal education with ongoing postpartum lactation support may further improve breastfeeding success and duration.
- Future research should include larger, multi-site studies with longer follow up to evaluate long-term breastfeeding outcomes.

References

Ahlers-Schmidt, C. R., Okut, H., & Dowling, J. (2020). Impact of prenatal education on breastfeeding initiation among low-income women. *American Journal of Health Promotion*, *34*(8), 919–922. https://doi.org/10.1177/0890117120925342

Gabhart, J. M., Wasio, L. N., U-thaiwat, P., Chen, Y. W., & Main, J. (2024). A live online prenatal educational model: Association with Exclusive Breastfeeding at discharge. *Journal of Human Lactation*, *41*(1), 145–155. https://doi.org/10.1177/08903344241297607

Jack, A., Mullin, C., Brown, E., Burtner, M., Standish, K. R., Fields, A., Rosen-Carole, C., & Hartman, S. (2024). Academy of Breastfeeding Medicine clinical protocol #19: Breastfeeding promotion in the prenatal period (revised 2024). *Breastfeeding Medicine*, *19*(8), 575–587. https://doi.org/10.1089/bfm.2024.0203

Koutroubas, V., & Galanakis, M. (2022). Bandura's social learning theory and its importance in the organizational psychology context. *Journal of Psychology Research*, *12*(6). https://doi.org/10.17265/2159-5542/2022.06.001

McGovern, L. M., O'Toole, L., Laws, R. A., Skinner, T. C., McAuliffe, F. M., & O'Reilly, S. L. (2024). An exploration of prenatal breastfeeding self-efficacy: A scoping review. *International Journal of Behavioral Nutrition and Physical Activity*, *21*(1). https://doi.org/10.1186/s12966-024-01641-3

Oggero, M. K., Rozmus, C. L., & LoBiondo-Wood, G. (2024). Effects of prenatal breastfeeding education on breastfeeding duration beyond 12 weeks: A systematic review. *Health Education & Behavior*, *51*(5), 665–676. https://doi.org/10.1177/10901981231220668

Palmquist, A. E., Parry, K. C., Wouk, K., Lawless, G. C., Smith, J. L., Smetana, A. R., Bourg, J. F., Hendricks, M. J., & Sullivan, C. S. (2020). Ready, set, baby live virtual prenatal breastfeeding education for COVID-19. *Journal of Human Lactation*, *36*(4), 614–618. https://doi.org/10.1177/0890334420959292

Rosen-Carole, C., Halterman, J., Baldwin, C. D., Martin, H., Goldstein, N. P., Allen, K., Fagnano, M., Widanka, H., & Dozier, A. (2022). Prenatal provider breastfeeding toolkit: Results of a pilot to increase women's prenatal breastfeeding support, intentions, and outcomes. *Journal of Human Lactation*, *38*(1). https://doi.org/10.1177/0890334421100879 7

Wouk, K., Parry, K. C., Bridgman, J., Palmquist, A. E., Perkins, M., Smetana, A., Woods-Barr, A., & Sullivan, C. S. (2023). Evaluation of an evidence-based prenatal breastfeeding education curriculum adapted for the COVID-19 pandemic: Ready, set, Baby Live Covid-19 Edition. *The Journal of Perinatal Education*, *32*(1), 48–66. https://doi.org/10.1891/jpe-2021-0035

Zaman, F., Morgan, S., Scalora, C., Nelson, M., & Francis, J. (2024). Prenatal breastfeeding education with or without hand expressing human milk and breastfeeding duration in a rural population. *Nutrients*, *16*(19). https://doi.org/10.3390/nu16193303