

PUMP: Providing the Underprivileged with a Manual (Breast) Pump, A Pilot RCT

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Background

Exclusive breastfeeding is the best form of nutrition for infants in the first 6 months of life, in addition, to the benefits of the mother and infant relationship. Realistically life can get in the way and make it difficult to exclusively breastfeed, but experts are saying that even partially breastfeeding is better than just formula feeding. Health advantages of exclusive breastfeeding is that formula tends to increase the chances of allergies, obesity, asthma, pyloric stenosis, and other health complications.

Formula has long been widely distributed and encouraged in hospitals due to its easy accessibility and numerous marketing. Since mothers were normally discharged with formula, this led to the decrease of breastfeeding. Now that hospitals are realizing the health benefits of breastfeeding and encouraging breastfeeding during labor hospitalization, formula companies are now sending formulas to expectant mother's homes, which undermines the success of exclusive breastfeeding in new mothers.

It is important that an evidence based research be conducted to improve breastfeeding outcome among low-income and first time mothers because these two groups have the greatest odds of not exclusively or partially being breastfed.

Objectives

Specific aims:

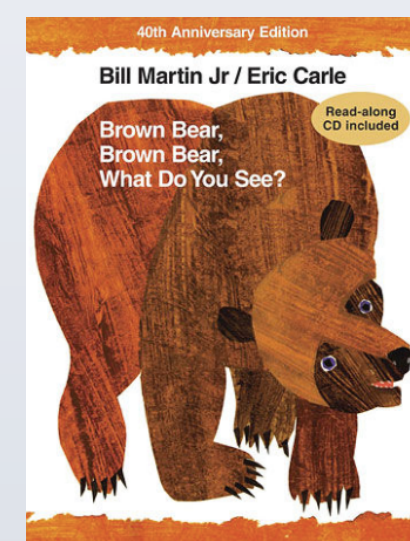
- To test the intervention of providing low-income, first-time mothers with a manual breast pump at hospital discharge on exclusive breastfeeding rates at 6 and 12 weeks.

Hypothesis: Among low-income first-time mothers, receipt of a manual breast pump at hospital discharge will lead to improved exclusive breastfeeding rates at 6 and 12 weeks postpartum compared to receipt of a children's book.

- To use qualitative methods to help facilitate the use of a breast pump intervention to improve breastfeeding rates among low-income, first-time mothers.
- To test the effect of receiving a children's book during the birth hospitalization to parents reading to the baby at 12 weeks.

Method

- Enrollment Goal: N=60 (pilot)
- Study flow:
 - Consent and enrollment during birth hospitalization
 - Randomization
 - Receipt of intervention:



- Follow-up by phone, email, and/or text at 6 weeks and 12 weeks while blinded to the study group assignment
- Inclusion Criteria:
 - WIC-eligibility
 - Liveborn infant
 - In the well newborn nursery
 - 12-96 hours of age
 - Infant is breastfeeding
- Exclusion Criteria:
 - Maternal age <18 years old
 - Maternal incarceration
 - Mother does not speak or read English
 - Infant is a twin or higher level of multiple
 - Infant has cleft lip and/or palate or a known syndrome

Progress to Date

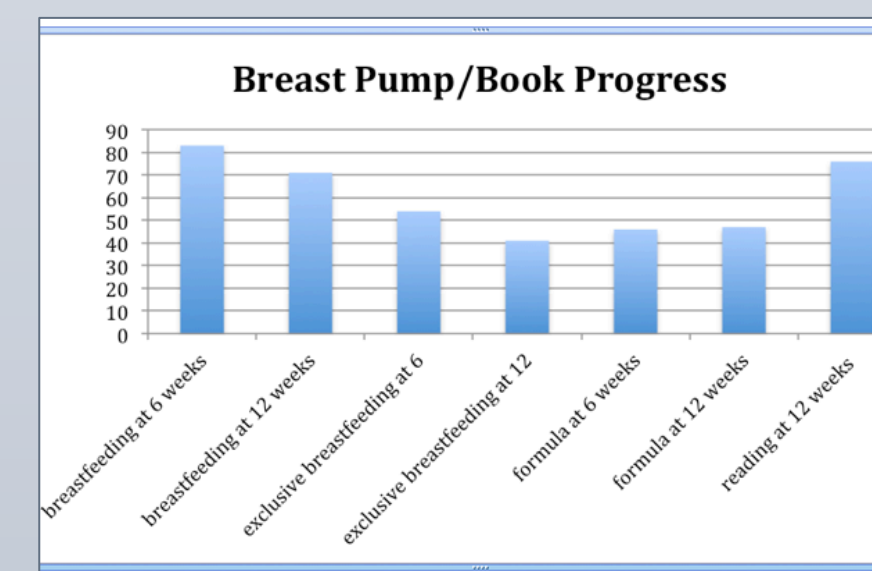
- Enrolled to date: 36 of 60 (60%)
- Follow-up:
 - 6 weeks
 - 12 weeks
 - 3/36 (8%) state "wrong number"
- Changes made:
 - Additional efforts made to ensure we obtain email address and a second phone number
 - Began texting in addition to at least 3 calls
 - ~6 calls, 3-4 texts, 3-4 emails per non-respondent

Table 1:

| | 6 week follow-up N=24 (of 36, 67% response) | 12 week follow-up N=17 (of 32, 53% response) |
|---------------------------------|---|--|
| Breast milk feeding* | 20 (83%) | 12 (71%) |
| Exclusive breast milk feeding** | 13(54%) | 7 (41%) |
| Using formula | 11 (46%) | 8 (47%) |
| Using a manual pump | 12 (50%) | 8 (47%) |
| Using electric pump | 9 (38%) | 8 (47%) |
| Hand expressing milk | 9 (38%) | 8 (47%) |
| Milk sharing | 0 (0%) | 0 (0%) |
| Read with baby in last day | N/A (not asked) | 11 (65%) |
| Read with baby in last week | N/A (not asked) | 13 (76%) |
| Have a library card | N/A (not asked) | 6 (35%) |

*Breast milk feeding includes breastfeeding at breast and/or pumping and feeding mother's milk
**Exclusive breast milk feeding includes breastfeeding at breast and/or pumping milk and no formula

Figure 1



Ongoing Plans

- Analysis of Quantitative and Qualitative data once enrollment is complete
- Publication in a pediatric journal
 - Discussing PUMP study and book intervention
- If result of either intervention (book or manual breast pump) shows significant results, will proceed with a small pilot to identify strategies to improve follow-up, such as financial incentive.
- Seek funding for a larger trial

References

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Acknowledgements

Thank you to:

- Participating mothers and babies
- Mentors: Drs. Chantry and Tancredi
- Althea Crichlow, study coordinator
- APA for funding
- MCRTP program and CTSC