Effect of Early Initiation of Breastfeeding on Exclusive Breastfeeding Practices of New Mothers in Petit Goave, Haiti

Disclosures

- I have no disclosures to state.

- However, I would like to share how much I cherish children around the globe and want to help babies start life in the healthiest way possible.

Learning Objectives

- Recognize factors influencing infant feeding decisions which can inform work with local leaders to promote early infant breastfeeding and exclusive breastfeeding globally.

Background

2015 UNICEF data

- Under-5 Mortality Rate (U5MR)
  - Haiti: 69.0/1,000 live births
  - Developing Regions: 46.5/1,000 live births
  - Developed Regions: 5.8/1,000 live births

WHO Recommendations

- Early Initiation of Breastfeeding (EIBF) within 1 hour of birth
- Exclusive Breastfeeding (EBF) for 6 months

Maonga, Mahande, Damian, & Msuya, 2015

Background

- Exclusive breastfeeding (EBF)
- Defined as providing an infant only breast milk from birth through age six months
- EBF has the potential to reduce under-five mortality by 11.6% in developing countries
- This estimated 11.6% reduction in under-five mortality rate could be achieved with an EBF prevalence of 50%.

Maonga, Mahande, Damian, & Msuya, 2015

Background

- Breastfeeding data conducted in Latin America and Caribbean (LAC) countries between 1986 and 2005 reveal
  - all LAC countries experienced improved duration of breastfeeding with the exception of Haiti, where the average duration of breastfeeding declined by 1.2 months between surveys

Lutter, Chaparro & Grammer-Strawn, 2011
Background

- The practice of exclusive breast feeding (EBF):
  - No prelacteal feeds
  - Introduction of complementary foods beginning at six months of age
- Endorsed by World Health Organization (WHO) and Pan American Health Organization (PAHO)
- Early initiation of breast feeding (EIBF) is also associated with decreased neonatal and early infant mortality
  - possibly through both an independent mechanism and through an association with exclusive breastfeeding.

PAHO & Dewey, 2003

2012 Haiti Demographic and Health Survey (DHS) data on Infant and Young Child Feeding (IYCF)

- EIBF (country): 46.7%
  - Urban 44.3%
  - Rural 48%
- EBF at 6 months: 39.7%

UNICEF (2015, October al., 2015)

Lancet August 2013
Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost?

Exposures
Neonates: Early Initiation of Breastfeeding (EIBF)
Infants and children: Exclusive Breastfeeding (EBF)

Outcomes
Decreased childhood morbidity & mortality


To promote health benefits of breastfeeding and impact child mortality
  - understanding factors influencing infant feeding decisions is important
- Cultural beliefs influence health behaviors as well as breastfeeding patterns

Osman, El Zein, & Wrick, 2009

Influences on infant care vary between countries and settings
- It is important to gather country and setting specific data
- The country and setting of this study is rural Haiti.

Maonga et al., 2015

Objectives
Determine rates of EIBF and EBF and their relationship among new mothers in Petit Goave, Haiti

Explore the use of:
  - prelacteal feeds
  - supplemental feedings given at birth - 6 months of age
Research Questions
• What is the effect of Early Initiation of Breastfeeding (EIBF) on rates of Exclusive Breastfeeding (EBF) at 6 months among new mothers delivered by trained Traditional Birth Attendants (TBAs) in Petit Goave, Haiti?

Recruitment and Sampling
Partnership with Global Health Action: Trained Traditional Birth Attendants (TBAs) and Community Health Workers (CHWs)

Recruitment and Sampling
Prospective cohort study N=200
• First women to deliver at home following completion of provider training

Enrollment by trained CHW
• One week after delivery
• Home setting

Inclusion Criteria
• Mother ≥ 18 years of age
• Uncomplicated delivery determined by reports of TBA and mother
• Apparently healthy baby 7-10 days of age

Exclusion Criterion
• Women not mentally or emotionally competent to answer questions

Verbal consent
• Obtained in Haitian Creole

Measures
Exposure
• Early Initiation of Breastfeeding (EIBF): Putting the baby to the breast within one hour of birth

Outcome
• Exclusive Breastfeeding (EBF) at 6 months: Baby first offered something other than breast milk to eat or drink at 6 months of age or later

Measures
Covariates considered for analysis
• Number of children
• Maternal age
• Maternal employment
• Maternal education
• Sex of baby
• Antenatal care
Procedures
Surveys administered by CHW
• One week
• Four weeks
• Six months of age

Data Analysis
Univariate, bivariate, single-factor stratified analyses
• Informed model selection
Modeled variables coded dichotomously
• Conceptual model
• Cell size limitations
• Model selection
  • Backwards selection
  • Covariates
    • Evaluated for statistical significance
    • Retained as conceptual confounders
    • Number of children retained as conceptual confounder and statistical significance

<table>
<thead>
<tr>
<th>Covariates</th>
<th>Mean [SD] / Overall Prevalence N=195</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal age, years: Mean [SD]</td>
<td>27.3 [5.9]</td>
</tr>
<tr>
<td>Number of children: Mean [SD]</td>
<td>3.4 [1.4]</td>
</tr>
<tr>
<td>Maternal education</td>
<td></td>
</tr>
<tr>
<td>• No formal education</td>
<td>22.6%</td>
</tr>
<tr>
<td>• Primary grades and above</td>
<td>67.2%</td>
</tr>
<tr>
<td>Maternal employment</td>
<td></td>
</tr>
<tr>
<td>• Unemployed</td>
<td>81.6%</td>
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<tr>
<td>• Employed</td>
<td>18.4%</td>
</tr>
<tr>
<td>Antenatal care</td>
<td></td>
</tr>
<tr>
<td>• No antenatal care</td>
<td>48.7%</td>
</tr>
<tr>
<td>• Some antenatal care</td>
<td>51.3%</td>
</tr>
</tbody>
</table>

Exposure & Outcome Overall Prevalence N=195
| Early Initiation of Breastfeeding       | 75.9%                                |
| Exclusive Breastfeeding at 6 months     | 38.5%                                |

Non-breast feeding meals
At the first post natal visit (within one week of birth) n = 200
• 4 mothers indicated prelacteal feeds:
  – powdered milk, water, Gerber (cereal), illegible

Foods being given at the 1 week visit and 3 month visit:
water, Gerber (cereal), medicine, boiled candy, formula, porridge, fresh animal milk, powdered milk, tea/coffee, other

Results
• EiBF was associated with EBF with a crude RR 1.38 (95% CI = 0.86, 2.23).
• The association in the final model, adjusted for number of children, maternal age, maternal employment, maternal education, and sex of baby, did not differ meaningfully from the crude measure.
limitations
Unmeasured confounding
- Community influences
- Content of antenatal care
Generalizability
- Findings limited to pop. studied
Bias
- Information bias
- Interviewer bias/variations in health worker techniques and interpretations
- Respondent recall bias

Significance of Findings
Clinically significant difference in proportion of babies exclusively breastfed at 6 months among those offered early initiation of breastfeeding (41.2%) compared to those not offered early initiation of breastfeeding (29.8%)

Significance of findings and Future Plans
- EIBF may act independently in reducing the risk of infant mortality as well as through the promotion of EBF, which is known to decrease the risk of infant mortality
- Increasing rates of EIBF provides a potential area for intervention in reducing infant mortality
- Qualitative studies on issues around EIBF and EBF including prelacteal feeds and supplementation are needed to understand contextual barriers to improved practice

References

Thank you
- Partners at Global Health Action, Petit Goave, Haiti
- Mothers who participated in the study
- Leslie Cordes MD, MPH (co-investigator/epidemiological statistics)
Got Milk?: Breastfeeding with CMPA

Ashley Marass DNP, CPNP

Disclosures

• No Disclosures to make.

Objective

• Understand how to implement a dairy free diet in breastfeeding mothers.

Cow’s Milk Protein Allergy

• Cow’s milk is the leading cause of allergic reaction in infants.
• 2-7.5% of infants
• Allergy or intolerance?
• IgE associated cases
• Non-IgE associated cases
• Less severe in breast fed infants
• Less CMP
• Immunomodulators
• Differences in gut flora

Breastfeeding and CMPA

• Almost always non-IgE mediated
• Can be particularly difficult because the mother must cut out all milk, milk products, casein, whey, etc.
• Most do not realize how much food they cannot eat.
• It is okay to CONTINUE breastfeeding
• May need a dietician
• Calcium supplement

Immediate Reactions

• Occur less than 2 hours after eating
• Cutaneous symptoms
• Gastrointestinal symptoms
• Respiratory symptoms
• Anaphylaxis
**Delayed Reaction**
- Greater than 2 hours to days
- Non-IgE mediated
- Atopic Dermatitis
- GI disorders

**Signs and Symptoms IgE Mediated**
- Urticaria
- Angioedema
- Atopic eczema
- Vomiting
- Diarrhea

**Signs and Symptoms Non-IgE mediated**
- Usually delayed
- Atopic dermatitis
- Diarrhea
- Blood in the stool
- Irritability
- Sneezing
- Rhinorrhea

**Differential Diagnosis**
- Lactose intolerance
- Celiac disease
- Infection
- GERD
- Colic

**Diagnosis**
- Not one symptom that leads to the diagnosis
- Timing and pattern of symptoms
- Skin prick test
- Serum specific IgE
- Elimination diet- milk, eggs, peanuts
- Oral food challenge

**Treatment**
- If reaction occurs after the food elimination and challenge, diet is continued for 6-12 months or 9-12 months of age.
- Elimination diet
- Formula
Continue to Breastfeed or No?

- The mother’s decision
- Even in severe allergy, mother can continue to breastfeed
- Support the mother who wants to continue to breastfeed
- Assist with her diet

Diet without Dairy

- Dairy –free can still have dairy proteins in it
- Whey
- Casein/ caseinate
- Lacto/lacta
- Eggs are not dairy!!!
- Cold cuts/ deli meat

Diet without Dairy

- Some are very sensitive- cow’s meat
- Eating out
- Cooking at home
- List of foods:
  - Veggies
  - Fruit
  - Some breads
  - Meat
  - Pasta
  - Vegan products

Reassuring Mom

- Most outgrow CMPA by 3 years
- Milk supply may drop
- Its okay to supplement or switch
- [http://www.beanmom.com/nomilk.html](http://www.beanmom.com/nomilk.html)

Considering Other Options

- Extensively Hydrolyzed Formula
- Amino-acid Based Formula
- Rice-hydrolyzed Formula
- Specific oral tolerance induction

Reintroducing Milk

- Small amounts a the time
- Needs to be 6 month after diagnosis and 9-12 months of age
- Cooked dairy is easier to digest than the milk product alone
- Milk Ladder
References

Promoting Breastfeeding in the Community: Tiger Babies™ Breastfeeding Support Tent

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Disclosures

• No conflict of interest
• Nothing to disclose

Learning Objectives of Presentation

• Recognize the importance of educating the community on the benefits of breastfeeding and supporting breastfeeding mothers.
• Understand the purpose of the Tiger Babies™ Breastfeeding Support Tent and its benefits to the community.

Purpose of Tiger Babies™ Breastfeeding Tent

• Increase Breastfeeding awareness.
• To provide a clean, comfortable place for breastfeeding mothers to nurse infants during public events.
• Increase duration of breastfeeding.
Barriers

- Poor social support
- Fear of breastfeeding in public
- “Family and friends, as well as the community where the women live, deserve guidance and support”
  Kathleen Sebelius, Secretary of the US Department of Health and Human Services 2009 – 2014
- Insufficient locations
  Dr. Regina Benjamin, Surgeon General 2009–2013

- Women are likely to continue breastfeeding if they have support from local communities and social circles.
  (Bentley, Dee & Johnson, 2003)

Pre-Outreach Survey

- Education
- Research
- Outreach

"Tiger Babies" Breastfeeding Support (Top View Layout)
Amenities of the Tent

- Two private nursing suites
  - Cushioned glider
  - Ottoman
  - Power strip for portable breast pumps and cell phones
- Diaper changing station
  - Extra wipes, diapers, hand sanitizer
  - Diaper disposal system
- Free-standing heaters and fans
- Free bottled water
- Sibling Activities
Survey Results

• Age range: 25-35 yo; Mean age: 29 yo
• Average length of time breastfeeding: 7.18 months
• Breastfeeding exclusively: 20%
• Pump and bottle feed with breastmilk: 10%
• Breastfeeding and bottle feeding with breastmilk: 70%

Survey Results

• Increased willingness to bring the infant to athletic events if there is a private location to nurse: YES (100%)!

• How did you hear about Tiger Babies™ Breastfeeding Support Tent?
  – 70%: Social Media
  – 20%: TV
  – 10%: Friends
  – 10%: Yard signs on campus
Survey Results

- All mothers were "satisfied" or "strongly satisfied" with the friendliness, cleanliness, privacy, and convenience of the tent.

So far -- so good

- 250 women
- 650 guests
- 12 states

"It was so nice for my baby to be comfortable while nursing instead of being hot under my nursing cover out in the sun. Y'all made our family day much more enjoyable and less stressful."

Stephanie Glover Holloway

"Thank you SO much for making my time inside the stadium more comfortable and convenient for me and my almost 7 month old daughter, Emma Lee-Tyler! Your nursing students were so sweet and helpful during my wait time and after."

Mae Lee Mathis

Future Plans

- More Permanent Location within Football Stadium
- AU Basketball Arena: Basketball and Gymnastics
- Softball
- Sponsorship

- Increasing awareness through media
  - Opelika-Auburn local newspaper, Auburn “Parents” Magazine, Auburn Opelika Tourism Bureau, AU Alumni Association, al.com, NICHQ
  - Tiger Babies Breastfeeding Support Tent Facebook page

- Publication of project and survey results; manuscript in review

"THANK YOU! Tiger Babies! Today was our first game to take Finley, 6 months. Thank you for making our day so much easier!"

-Amanda Treadwell
How Can You Help?

• https://www.facebook.com/tigerbabiesauburn/

• Additional Video info:
  https://www.facebook.com/aldotcom/videos/10153980108887483/

• Replicate our model

References


Questions?