Breastfeeding in Neonatal Intensive Care Units: Assessment of Maternal Support, Needs, and Provider Training

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Background

• According to the Illinois Hospital Report Card, 61.63% of infants discharged from the study hospital are breastfed.1
• The Healthy People 2020 objective for infants ever breastfed is 81.9%.2
• Breast milk is especially beneficial to premature infants because it provides protection against bacteria, viruses, and infections.
• Premature infants are challenged to manage sucking, swallowing, and breathing sequences so they can be fed.3
• In the NICU, premature infants can develop a negative response to oral stimulation from the use of tubes and other equipment which can interfere with feeding.
• The stress associated with having an infant in the NICU can influence a mother’s ability to establish and maintain an adequate milk supply.
• Healthcare providers lack appropriate training to give sufficient breastfeeding support.4
• Studies show that breastfeeding education or training can improve healthcare providers’ knowledge, attitudes, and practices.5

Objectives

• To identify breastfeeding barriers for mothers with infants in the NICU at a tertiary level hospital in the Chicago area
• To incorporate identified barriers and issues into a breastfeeding training program for the specific NICU providers
• To assess changes in provider knowledge regarding successful breastfeeding as well as provider satisfaction with the breastfeeding training program

Methods & Data Analysis

Qualitative and quantitative methods were used.
• Purposive sampling
• Recruited 21 English and/or Spanish-speaking mothers who had infants in the study hospital’s NICU within the last 2 years
• Three to 90-minute focus groups using semi-structured open-ended questions; 6-8 participants in each group
• Recordings were transcribed and coded to identify themes

Focus Groups: Major Themes

1. Little to no pumping information provided during prenatal care especially for women < high-risk pregnancies
   • “You know, you don’t get any information on pumping so I think that something they should, they need to start providing because you never know when you might have a preemie baby.”
   • “They don’t really tell you how to store it (breast milk) and I think a lot of moms that I see coming in they don’t know. Because no one is telling them actually, you know hands on, exactly how to do it.”

2. Little to no information on transition back home
   • “They don’t really tell you how to store it (breast milk) and I think a lot of moms that I see coming in they don’t know. Because no one is telling them actually, you know hands on, exactly how to do it.”

3. Need to improve nurse-patient interactions
   • “One time I went to the NICU at the beginning when you are getting a little well, and a nurse…showed me the amount of milk I brought in and she told me what are you going to do with that...it’s confusing. You have somebody telling you one thing and then something else and now you don’t know.”

4. Lack of consistency of the message given to mothers regarding breastfeeding and pumping
   • “I think everybody needs a mutual thing to tell people because you know people be confuse. You can’t have somebody telling you one thing and then something else and now you don’t know.”

5. Need for more support
   • “...I think that if there were more, people that could talk to the moms or if they had somebody that they could contact or even like, support group for the mothers like that may help motivate people more.”

Breastfeeding Training Assessment

<table>
<thead>
<tr>
<th>Assessment Questions</th>
<th>Pre-test Current Response</th>
<th>Post-test Current Response</th>
<th>P-value</th>
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<tbody>
<tr>
<td>The most important criterion for assessing the milk transfer during a feed at the breast is proper attachment.</td>
<td>29.53%</td>
<td>54.33%</td>
<td>&lt;.0001</td>
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<tr>
<td>Open-ended questions are the most important when counseling women regarding breastfeeding.</td>
<td>30.62%</td>
<td>55.04%</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Recognizing a correct latch involves two aspects, the newborn's body and the mouth position.</td>
<td>26.37%</td>
<td>53.97%</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Combining hand techniques with electric pumps increases milk production in mothers with preterm infants.</td>
<td>72.83%</td>
<td>73.23%</td>
<td>&lt;.9293</td>
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<td>Physiologic advantages of premature infants breastfeeding vs. bottle-feeding are: a) longer, more rhythmic suckling b) more stable oxygen saturation c) less bradycardia d) more normal heart rate e) All of the above</td>
<td>75.60%</td>
<td>74.49%</td>
<td>&lt;.7844</td>
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Provider Satisfaction and Training Effectiveness

Overall providers felt they had met the training objectives. Results for achieving each objective are below.

Objective 1: Identify the three-steps of the Best Start Strategy
89.4% of health care providers reported meeting the objective “To a Great Extent” and 10.6% of health care providers reported meeting it “To a Moderate Extent.”

Objective 2: Describe hallmarks of milk transfer and optimal breastfeeding
84.8% of health care providers reported meeting the objective “To a Great Extent” and 10.6% of health care providers reported meeting it “To a Moderate Extent.”

Objective 3: Discuss three benefits of breastfeeding
90.9% of health care providers reported meeting the objective “To a Great Extent” and 9.1% of health care providers reported meeting it “To a Moderate Extent.”

The teaching effectiveness and expertise of trainers were felt to be “Excellent” by 95.5% of health care provider and “Good” by 4.5% of health care providers.

Conclusion

The focus groups identified barriers to breastfeeding support and suggest some positive actions that the study hospital should take, including:
• Establish a breastfeeding protocol for providers to ensure a clear, consistent message to mothers
• Create a discharge plan that helps mothers transition back to home and work
• Ongoing training for providers to sustain awareness and use of best practices
• Link mothers to resources (i.e. hotline or support group) to foster their breastfeeding success after discharge

These questions showed a significant difference in provider knowledge from the pre to the post test. Knowledge of breastfeeding techniques, milk expression, and counseling strategies.
• Providers were highly satisfied with the training and expressed the desire to utilize it in their practice

Implications for Practice

The results of this research can be a starting point for the study hospital to move forward to:
• Implement a breastfeeding policy that establishes standard practices that all hospital staff must follow
• Future on-going trainings that incorporate issues identified by mothers to enhance training and improve outcomes
• Increase communication between providers and patients to ensure comprehensive breastfeeding support

References

1. Illinois Hospital Report Card, 2012
2. Healthy People 2020 objectives
3. The American Academy of Pediatrics, 2010
5. Centers for Disease Control and Prevention, 2012

Acknowledgements

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