Effective Communication to Support Breastfeeding & Interventions for Hypoglycemia

Elizabeth Simpson, MD
Regional Neonatal Nursing Conference
April 25, 2019
Learning Objectives

• Describe ways to improve breastfeeding support
• Discuss supportive language to improve family buy-in to breastfeeding & any needed treatment plans
• Discuss supplementation with human milk, formula and glucose gel
• Discuss criteria for IV glucose and/or NICU admission
• Review of the significance and incidence of hypoglycemia.
• Review factors placing an infant at high risk for hypoglycemia.
• Review of symptoms of hypoglycemia. Discussion of Point of care (POC) uses and limitations
US Breastfeeding Rates

Percentage of babies breastfeeding during the first year

- **Any breastfeeding**
  - Birth: 65%
  - 3 months: 43%
  - 6 months: 51%
  - 9 months: 22%
  - 12 months: 37%

- **Exclusive breastfeeding**
  - Birth: 29%
  - 3 months: 22%
  - 6 months: 37%
  - 9 months: 51%
  - 12 months: 65%

Exclusive breastfeeding is defined as only breast milk and no added medications or micronutrients.


5 Bunik, The Pediatrician's Role in Encouraging Exclusive Breastfeeding
Growth of Baby Friendly USA

www.babyfriendlyusa.org
A Tale of Two Hospitals
Our Background Matters

– “A successful personal or spousal breastfeeding experience positively predicts nurse/physician breastfeeding advocacy.” ¹

– The Surgeon General of the US has identified returning to work as a barrier to successfully achieving the American Academy of Pediatrics’ recommendations ²

– “Limited paid maternity leave and pressure to return to work present tremendous challenges to breastfeeding for even the most motivated women.” ³

¹ Thomas, Annual Leadership Forum
² Spatz et al, Outcomes of a Hospital-Based Employee Lactation Program
³ Paddock, Breastfeeding Patterns
Audience Poll

- Please select the response that best reflects your family’s breastfeeding experience:
  - A. My child(ren) was/were exclusively or nearly exclusively breastfed for at least 6 months.
  - B. I do not have children.
  - C. My family made the decision to formula feed our child(ren).
  - D. My family had difficulty with breastfeeding and supplemented with formula.
  - E. There was significant variability in relation to exclusivity vs. need for formula supplementation amongst the breastfeeding experience I had with each of my children.
We All Have Our Own Stories
Special Considerations Needed

• Study from WIC NYC in AA moms
  – Continuity is important for credibility
  – Nurses are trusted more than doctors
  – Lack of role models
  – Kindness goes a long way
  – Inconsistent and inadequate information
  – Multiple losses & high levels of stress

JOGNN, 35, 173-180; 2006
Independence is Highly Valued

- Ethnography reveals increased value for independence in inner-city, low-income African American mothers
- Evolved response to unpredictable stresses and losses in life “Toxic Stress”
- Breastfeeding perceived to make the baby dependent (spoiled)
- Peer counselor more likely effective
- Pumping appealing

*Pediatr. Rev. 2009;30;e11-e21*
Framework to Explore Goals

- Cognitive Ease
- Natural Assumption
- Appeal to Identity
- Advantageous terms
Common Barriers to Exclusive Breastfeeding

- Little prenatal BF education
- Latch troubles
- Pain and low milk supply
- Nipple Shields
- Ankyloglossia
- Irritability/GER
- Pacifiers

5 Bunik The Pediatrician’s Role in Encouraging Exclusive Breastfeeding
Breastfeeding is a Marathon, not a Sprint

- Just because you have a slow start doesn’t mean you will be unsuccessful.
- Explain natural course of breastfeeding and Mother Nature
- Maternal desire is key
Ankyloglossia

- Could spend all day on this
- Few speech indications
- Hard to have objective studies
- Don’t effect long term BF rates
- Few complications
I don’t have enough milk

• Education about normal BF patterns for health babies
• 2 for 1 calories
• Low needs & small stomach size
• 3rd – 4th magical days
When Do You Want to Supplement for Weight Loss in Term Healthy Babies

1. When baby’s weight has not stabilized or started to increase at time of discharge
2. When the weight loss approaches 10%
3. When weight loss is greater than 10%
4. Only after the 4th day unless the baby is ill, markedly jaundiced or hypoglycemic
How much weight loss is too much?
If Supplements are medically needed

- Supplements are just a bridge
- You won’t need them once your milk comes “in”
- Doesn’t predict how the breastfeeding journey will go
Maternal Medications

• Mom’s need to take care of themselves.
• Look up meds on Hale’s or Lact Med or Mass General BF site.
• Often insufficient data – need for conversation
When Mom’s are so Disappointed
Sweet Little Baby

• 3 day old due for discharge EBF baby who has lost 10.5% BW

• Mom is O+, Babe is A+ DAT pos, Bili has been in just below HRZ for last 24 hrs.

• Mom is very dedicated to EBF & doesn’t think there is any problem with her baby
Polling Question – What you gonna do??

- D/C, no supplement with next day F/U
- D/C with supplement & next day F/U
- Stay, supplement & repeat bili in 12 hrs
- Stay, supplement & start phototherapy
- Transfer to NICU/IV fluids & phototherapy
Phototherapy options

- How high risk is this patient
- Recent study showed overall DAT + only increased bili by one point – Rare for marked elevation (TMC about 10% overall DAT +)
- Will supplementing help the bili
- Should you treat a subthreshold bili

Christensen, J Perinatology 2018
Is Readmission Bad?

- Treating subthreshold bili helps prevent readmit but over treats many
- Payers usually frown on bounce backs
- Home phototherapy is not common
- Poor parental satisfaction

Wickremasinghe, JAMA Pediatr 2018
F/U Challenges

• Mom’s sometimes refuse to supplement
• Some would prefer IVF to formula
• Weekends are tough
• Difficult to make protocols
• Watch timing of bili level – needs checked close to discharge
Empowering Moms

• Looking back on it - most women will not be sorry that they breastfed.

• The feeling that you did what is known to be best for your child is very powerful.

• Dad’s appreciate the commitment!

• The confidence often translates to other areas of
Follow Up Plans

• Evaluate early and often in the first weeks
• Decide about supplementation
  – Slow-flow nipples
• Address populations that have a preference for combination feedings
  – “Las dos Cosas” >> those two things
• Advocate for maternity leave and support return to work transition
  – Time and space to pump & the actual pumps
  – Encourage conversations with employer
BREASTFEEDING SUPPORT
WORLD BREASTFEEDING WEEK, 1-7 AUGUST

WHAT CAN BE DONE IN THE WORKPLACE

GIVE ENOUGH MATERNITY LEAVE FOR MUMS TO GET BREASTFEEDING ESTABLISHED.

MAKE IT EASIER FOR MUMS TO RETURN TO WORK BY PROVIDING TIME & A PLACE TO BREASTFEED OR EXPRESS & STORE MILK.

SUPPORT YOUR COLLEAGUES WHILE THEY'RE BREASTFEEDING — IT'S NOT ALWAYS EASY TO BALANCE WORK & BEING A NEW MUM!
Proud Baby Café Moms
Hypoglycemia

- 1 hour old born scheduled C-Section
- Mom still in OR – coming soon
- Baby looked small & a little jittery
- Nurse just checked a POC glucose
- Glucose is 37
- Mom committed to EBF
- Poll Everywhere: What do you want to do
What do you want to do?

• Supplement with formula
• Have mom BF ASAP
• Examine baby & risk factors
• Check a serum glucose
• Use glucose gel or donor milk ASAP
AAP Guidelines for At Risk Infants

• Should be fed by 1 hour of age and screened 30 min after the feeding

• Fed every 2-3 hrs & screened before each feeding x 24 hrs for SGA & LPT, 12 LGA & IDM

• Treatment of suspected hypoglycemia should not be postponed while waiting on serum
POC- Love ‘em or Leave ‘em

- Easier and faster
- POC’s known to not work well in polycythemia & acrocyanosis & <50
- Cost of being right/cost of being wrong
- Can’t assume they are wrong
How Low will You Go?

- AAP says tolerate to 35 in first 4 hours – (intrauterine is about 2/3 of mom’s)
- Is slightly jittery normal? Poor feeding (in my old mind) more likely needs fed – in how many hours
- Glucose gel? - is it really much different than Glucose water and we stopped doing this in the 80’s?
- Is 45 OK no matter if you are > 24-48 hours?
Hypoglycemia Standard Treatment
Glucose Gel

Gel Administration

- Squeeze weight based dose into syringe
- Dry the buccal cavities with a sterile 2 x 2
- Place partial dose on latex free gloved finger
- Massage into buccal mucosa alternating sides until dose is complete.

40% ORAL GLUCOSE GEL DOSING CHART

Recommended dose = 0.5mL/kg
(200 mg glucose / kg / dose)

<table>
<thead>
<tr>
<th>Birth Weight</th>
<th>mL to administer</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 2 kg</td>
<td>1 mL</td>
</tr>
<tr>
<td>&gt; 2 – 2.5 kg</td>
<td>1.25 mL</td>
</tr>
<tr>
<td>&gt; 2.5 – 3 kg</td>
<td>1.5 mL</td>
</tr>
<tr>
<td>&gt; 3 – 3.5 kg</td>
<td>1.75 mL</td>
</tr>
<tr>
<td>&gt; 3.5 – 4 kg</td>
<td>2 mL</td>
</tr>
<tr>
<td>&gt; 4 – 4.5 kg</td>
<td>2.25 mL</td>
</tr>
<tr>
<td>&gt; 4.5 – 5 kg</td>
<td>2.5 mL</td>
</tr>
</tbody>
</table>

LIMITS:
1 dose per hour
3 total doses per infant
Management of At Risk Newborns for Hypoglycemia (First 24 Hrs of life)

“At-risk” defined as: Late Preterm (35-36 6/7 weeks), LGA (>4000gms), SGA (<2500gms), IDM and/or GDM, Apgar <6 at 1 minute, Maternal Beta Blocker

Symptomatic and BS <40mg/dL → Notify Provider

SYMPTOMS OF HYPOGLYCEMIA: Irritability, tremors, jitteriness, exaggerated Moro reflex, high-pitched cry, seizures, lethargy, floppiness, cyanosis, apnea and poor feeding, tachypnea

ASYMPTOMATIC

Provide uninterrupted skin to skin care and initiate first feed WITHIN 1 hour of life

### Birth to 4 hours of age

- **Target glucose > 40mg/dL**
  - Screen glucose 30 minutes after 1st feeding, between 90-120 minutes of life

<table>
<thead>
<tr>
<th>Initial Screen &lt;25mg/dL</th>
<th>Initial Screen 25-40mg/dL</th>
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</thead>
<tbody>
<tr>
<td>Glucose Gel immediately</td>
<td>Continue feeds q 2-3 hours</td>
</tr>
<tr>
<td>Place skin-to-skin and feed</td>
<td>Screen glucose level prior to each feed</td>
</tr>
<tr>
<td>Repeat BG 1 hr after Gel dose</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2nd screen &lt;25mg/dL</th>
<th>2nd screen 25-40mg/dL</th>
<th>2nd screen &gt;40mg/dL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notify Provider</td>
<td>Glucose Gel immediately</td>
<td>Continue feeds q 2-3 hrs</td>
</tr>
<tr>
<td>Administer Gel</td>
<td>Place skin-to-skin and feed</td>
<td>Screen glucose level prior to each feed</td>
</tr>
<tr>
<td>Continue skin-to-skin</td>
<td>Repeat glucose 1 hr after Gel dose</td>
<td></td>
</tr>
</tbody>
</table>

### 4 to 24 hours of age

- **Target glucose > 45mg/dL**
  - Screen glucose level before each feed

<table>
<thead>
<tr>
<th>1st Screen after 4 hours of age &lt; 35mg/dL</th>
<th>1st Screen after 4 hours of age 35-45mg/dL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose Gel immediately</td>
<td>Continue feeds q 2-3 hours</td>
</tr>
<tr>
<td>Place skin-to-skin and feed</td>
<td>Screen glucose level prior to each feed</td>
</tr>
<tr>
<td>Repeat BG 1 hr after Gel dose</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>2nd screen &lt;35mg/dL</th>
<th>2nd screen 35-44mg/dL</th>
<th>2nd screen &gt;45mg/dL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose Gel</td>
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</tr>
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<td>Repeat Provider</td>
</tr>
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<td>Screen glucose level prior to each feed</td>
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Goal: To obtain 3 consecutive glucose values in target range for age in hours: Birth to 4 hours of age ≥ 40 and 4 to 24 hours of age ≥ 45
BG 30 min after 1st feed

One low sugar
- If <35, give gel and feed
- Repeat BG in 1 hour
- If >35, follow routine protocol

Two low sugars
- If recheck <35, gel again and feed
- Repeat BG in 1 hour
- If still hypoglycemic, call physician
What about Preservatives?

- Same preservatives in other products we use
- Not giving more than 3 doses, 1-2 ml/dose
- The stabilizers are a good thing
Dextrose Gel

- Can “treat” low POC on asymptomatic or mildly jittery babies while waiting on a serum glucose
- Always use in addition to protein source to treat hypoglycemia
- Repeated studies show decrease NICU admission (some by 70%) & less formula supplementation.

Harris, Sugar Babies Study Lancet 2013
Glucose Levels >24 hours

- Goal to be >60 at >48 hours
- What about 24-48 hours?
- Only expert opinion, no actual studies
- Most common recommendation >45
Final thoughts on Hypoglycemia

• How many heel sticks are too many?
• New studies say 2 normal rather than 3 normal may be enough
• No evidence to say heel warmers help
• Maybe POC’s should stop
And a Picture Plus a Lot of Thanks!
References

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