New Tools to Reduce Overfeeding:
The FitWIC Baby Behavior Study

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Training 2:

Infant Sleep & Crying
From last time...

• We wondered why caregivers who intend to follow infant feeding guidelines (breastfeeding, delayed solids, etc) change their minds

• Caregivers in our studies thought their infants were not getting enough to eat
  - Infant crying and waking seen as hunger
  - Parents feel out of control and stressed

• We started talking about normal infant behavior
  - Infant states and cues
 Homework Review

Who would like to share an experience they had observing babies in the last month since our last training?

➢ Did you see infant cues?
➢ Did you see infant states?
➢ Did you talk to parents about Baby Behavior?
Warm Up: Handprints

• Each of you have a copy of a baby’s handprint.

• On **each** finger of the hand, write **one thing** that might cause a baby to cry.

  ➢ Example: baby needs a diaper change

• Who would like to share their hand with the group?
Part One

Infant Crying
“Normal” Crying

• Crying makes adults want to help (important for survival)

• ALL infants cry
  ➢ Crying begins in first hours of life, and on average, peaks at 2.6 hours per day at 6 wks
  ➢ Crying decreases over the next 10 weeks, much better by 12-16 wks

• Responding early to cues will reduce crying

Is There a “Hungry Cry”? 

• Babies cry whenever they are uncomfortable or unhappy  
• How can caregivers tell when a crying baby is hungry?  
• Hungry babies might cry but they will ALSO bring their hands to their face, clench their hands, flex their arms and legs, root, make sucking motions and noises  
• All these behaviors together help us know when a baby is hungry
Caregivers can help crying babies (who have been fed) by:

- Letting babies suck on their hands
- Showing babies their face
- Speaking softly over and over (repetition)
- Holding, rocking, stroking the baby over and over (repetition)
- Babies will take longer to calm down if they are very young or very upset
Persistent Crying: Definition

• Persistent crying is sometimes called “colic”
  ➢ Colic doesn’t have a consistent definition
  ➢ Colic is supposed to be crying for 3 hours a day, more than 3 days per week, for more than 3 weeks

• “Persistent crying” refers to daily inconsolable crying
  ➢ Only 25-30% of persistent criers have problems with digestion - obvious signs
Persistent Crying: Good News and Bad News

- The good news
  - 95% of persistent criers are healthy and thriving
  - Persistent crying (just like all newborn crying) improves by the time the baby is 12-16 weeks old

- The bad news
  - It can take 12-16 weeks before the persistent crier settles down
  - Persistent crying is associated with maternal depression and child abuse
Persistent Crying: Reasons

- Physiological immaturity
- Infant can’t self-soothe or regulate states
- Infant can’t provide readable cues
- Infant illness, injury, or GI problems
  - Crying with signs of illness or a big change in behavior should be investigated by the doctor

*Sometimes parents need referral for professional help

Your Turn

BABY BEHAVIOR DETECTIVE!

Why are these babies crying?
Be a Baby Behavior DETECTIVE!

- Baby Tanya is 3 weeks old
- 10-15 minutes after nearly all feedings she becomes fussy, arches her back, and stiffens her hands and legs
Be a Baby Behavior DETECTIVE!

- Baby Marcus is 3 months old
- During his sister’s 4th birthday party, Marcus shuts his eyes, stiffens his body, and cries loudly
Be a Baby Behavior DETECTIVE!

- Baby Luz is 5 months old
- Every evening from 6 to 8pm, Luz becomes quite fussy, she closes her eyes, tightens her face, and cries unless she is constantly held and rocked
Be a Baby Behavior DETECTIVE!

- Baby Joe is 1 month old
- Baby Joe falls asleep after each feeding
- However, when put down on his back to sleep, he repeatedly wakes and fusses until he is fed again
Be a Baby Behavior DETECTIVE!

- Baby Elena is 6 weeks old
- Despite being fed an hour ago, Baby Elena begins to cry, she draws her fists toward her chin and her legs toward her body, she moves her head from side to side
Part 2: Infant Sleep

• Caregivers in our studies thought their infants were not getting enough to eat
  ➢ Infant crying and *waking* seen as hunger

• We talked about normal infant crying, and how babies cry for many reasons, not just because they are hungry

• Now let’s talk about normal infant sleep and why parents think babies wake at night only because of hunger
Part Two

Sleep Patterns in the Newborn
Your Turn

How many times do parents think that babies wake up...

At 2 mo? _______
At 4 mo? _______
At 6 mo? _______
What Parents Said

What parents *really think* about their babies waking at night:

- At 2 mo: 0-20 times per night
- At 4 mo: 0-6 times per night
- At 6 mo: 0-6 times per night
Average Night Waking

- Average waking at night is:
  - 2-3 times by 2 mo
  - 2 times by 4 mo
  - 1 time at 6 mo

- Too much waking is stressful and should be investigated (before infants are switched from breastfeeding to formula)

- Babies may wake too often when sick, uncomfortable, or because of a change in routine

- Limited waking is OK

Reasons for Excessive Waking

- Physiologic immaturity
- Ineffective feeding
- Illness or injury
- TV in room (or other intermittent stimulation)
- Caffeine or meds
- Change in routine
- May need to refer
Infant Sleep States

• Active sleep (REM) is considered to be important for brain development
  ➢ Babies dream and blood flows to the brain bringing nutrients to active brain cells
  ➢ Images stimulate brain function

• Quiet sleep is deep sleep
  ➢ No dreaming
  ➢ Little or no movement
  ➢ Important for the brain to rest

Infants “cycle” through active sleep, quiet sleep, and waking.

Infant Sleep Cycles

• Infant sleep cycles are 60 minutes long (adult cycles are 90 minutes long)

• Infants sleep 13-14 hours per day from 2-12 months – but not all at once!

  ➢ Initially, newborns will wake with each cycle (every 1-2 hours)

Peirano et al. J Pediatr 2003; 143: 70-9
Newborn Sleep/Wake Cycle

Newborns start sleep in Active Sleep (AS) (dreaming for 20-30 mins) and move to Quiet Sleep (QS); Adults start sleeping in quiet sleep, then they start active sleep later.

Infants in active sleep wake up easily when put down, because active sleep is a light sleep; When they are in quiet sleep, they are harder to wake up.

Newborns spend equal time in active and quiet sleep (in 50-60 minute cycles).
2-Month-Old Infant Sleep/Wake Cycle

At 2-3 mo, infants begin with shorter periods of Active Sleep (AS) then move into Quiet Sleep (QS); they start to have longer quiet sleep periods at night.
4+ Month-Old Infant Sleep/Wake Cycle

By the time babies are 3-4 months, they have more regular sleep patterns that are more like their parents. Around the same time, they start to fall asleep in quiet sleep just like adults do. Parents think the babies “sleep a lot better” around 4 months.
Infant Sleep Patterns

• As infants get older, they can link cycles together:
  - ≤ 2 mo (links 2 cycles: 2 hrs)
  - 3 - 4 mo (links 4 cycles: 4 hrs)
  - ≥ 6 mo (links several cycles: 6-8 hrs)

• So, infants will sleep longer and will not be as easy to wake as they get older

Why Active Sleep and Night Waking are Good

• Active sleep is important to brain development
• Waking may be essential to survival—needs must be met for breathing, feeding, warmth
• Breastfeeding mothers’ hormonal cycles are interrupted by night feeds, not having periods may lower risk for hormone-related cancers
• Therefore, active sleep and waking at night are beneficial for mothers and young babies

Infant Feeding and Sleep

• Breastfed infants do wake more than formula-fed infants
  - Breastfed infants have more active sleep (more likely to wake up)
  - Babies digest breast milk more quickly than formula – this is best for their development and growth

• Formula-feeding moms can promote active sleep by putting babies “back to sleep” or using pacifiers

Sleep States...

Active sleep
- Dreaming and rapid-eye movements
- Body and face twitches
- Blood and nutrients to brain
- Newborns fall asleep this way
- Easy to wake

Quiet sleep
- Important for complete rest
- Very little movement
- Harder to wake
- Infants who are 4-months-old or older fall asleep this way

Match Game!
In your clinic groups:
- Break into pairs
- Each pair will receive a case study with a question to answer
- Using either the infant crying or sleep handout, come up with a short 30-second “speech” to answer your participant’s question.
- Practice your “speech” in front of your clinic groups
- Each group will pick one pair to share their “speech” with the big group, and we will time you!
Your Turn!

Pair and Share

What is one thing you learned in this training that you think you will use in the next 2-4 weeks?
Homework Challenge!
Coming Up Next Month…

- How to talk to parents about their babies’ behavior without offending them
- Physical activity for infants
- Quick & easy ways to share Baby Behavior messages while counseling

What are your questions about infant sleep or crying?