Panelists and Agenda

Amy Alwood, MS, RD, IBCLC
Cultural Considerations in Feeding

Divya Denduluri, MS, RDN, LD, IBCLC
Case Studies

Chris Bolling, MD, FAAP
Undernutrition: Picky Eating and Intuitive Feeding

Amrik Singh Khalsa, MD, MS, FAAP
HMO and Donor Milk, Probiotics in Formula and Continuum of Care
Cultural Considerations in Infant Feeding

Amy Alwood, MS, RD, IBCLC
We have considered the Ohio AAP Diversity, Equity, and Inclusion standards in preparing this presentation. We invite your feedback in promoting equity within this learning space:

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Infant Feeding Recommendations: An Overview

• Exclusive breast milk for the first 6 months of life:
  – Mother’s milk.
  – Donor milk.
  – If unable to provide breast milk, iron-fortified infant formula.

• Followed by introduction of nutritious complementary foods with continued breastfeeding for 2 years or longer.
Infant Feeding Recommendations: An Overview

• Complementary food introduction
  – Variety in safe textures and shapes.
  – Include vegetables, fruits, whole grains, lean proteins.
  – Similar to what family eats if balanced and healthy.
  – Self and spoon feeding.
  – Practice drinking water from a cup.
  – Multiple introductions may be needed.
  – Food safety.
Ohio’s Parenting Population

Diverse and dynamic

• Reflected in the Ohio WIC Program languages spoken: English, Spanish, Haitian Creole, Nepali, French, Swahili, Pashto, Arabic, Kinyarwanda, Somali, Dari, Portuguese, Burmese, Ukrainian, Tigrinya.

• How does this compare with the families you see?

• How does this compare with your own background?
Infant Feeding Recommendations: Considerations

Personal
- Existing knowledge on the topic.
- Status symbols.
- Modesty.

Familial
- Support & influential relatives: father, partner, family, friends.
- Generational practices.
- Traditional feeding practices.
- Religious or spiritual beliefs.
Infant Feeding Recommendations: Considerations

Environmental
• Social determinants.
• Past experiences and/or trauma.
• Food insecurity.
• Food access.
• Work and home environments.

Healthcare
• Perceptions of healthcare providers.
  • Doctor knows all vs. mistrust.
• Past experiences.
Infant Feeding Recommendations: Considerations

Interpersonal Approaches

• Rapport, trust, and relationship building.
• Lay person’s terms.
• Early promotion of health benefits.
• Time for questions: theirs and yours!

• Consideration for biases.
• Interpretation and translation.
• Culturally inclusive imagery.
• Check for understanding.
Red Flags of Misunderstanding

- “Yes” only responses.
- Nodding without dialogue.
- Looking away, down, or at family member/support person.
- Unable to verbally reflect understanding.
- Paperwork inaccurate or incomplete.
- Missed appointments.
CONTRIBUTORS

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Case Studies

Divya Denduluri, MS, RDN, LD, IBCLC
Breastfeeding: A Universal Practice..

Cultural infant feeding practices and beliefs that may affect an infant’s nutritional status:

- pre-lacteal feedings
- avoidance of colostrum
- concerns that breastfeeding encourages neediness
- a belief that human milk is insufficient
- variations in perceptions of what constitutes appropriate weight
- a belief in a need for early food supplementation (as early as 2 weeks)
- need for strong parental control over the act of feeding (in infants who are ready for self-feeding)
- encouragement of prolonged bottle feeding (2 years and beyond)
Breastfeeding and the Black Woman

A legacy of slavery: enslaved Black women were denied control over their own bodies and forced to breastfeed their White enslavers’ babies to the detriment of their own.

The long-term consequence of this coercive practice was racial disparities in breastfeeding rates.

(Source: https://www.washingtonpost.com/outlook/2022/06/08/slavery-racism-drive-toxic-double-standard-about-breastfeeding/)
The Oromo in Seattle

• In East Africa, a majority of the infants are breastfed.
• Breast feeding is initiated in the second or third day of life when the mother’s milk comes in.
  • Prior to this, the infant is given fresh butter or unpasteurized cow milk
• The initial production of colostrum is viewed as nutritionally useless: expressed and discarded
• Infants are breastfed on demand until two to three years of age.
  • Prolonged breast feeding: nutritionally beneficial, a form of birth control.
• Solid foods are offered at a young age (around 2 months).
  • If the infant shows interest, small amounts of soft food are continued.
  • If not, solid foods are intermittently introduced until the infant appears ready.

Barriers to Breastfeeding

Many Oromo women opt to formula-feed once they take up residence in the U.S.

Some reasons for formula-feeding:

• Observe American women formula feeding their babies; they don’t want to stand out as different. Often breast feed at home, and at night.
• It is more convenient, especially in public, since there are strong taboos against bare breasts.
• Situations that require mothers to be separated from their infants.
• Infants get used to bottle feeding and refuse the breast.
• Formula-fed infants gain weight more readily and mothers see larger as healthier.
• WIC provides formula for free.

Case study: 3-month old formula fed infant with weight loss. Mother identifies as non-Hispanic White shares she is diluting formula as infant is gassy, having constipation, sometimes she mixes in cereal.
Discussing Concerns

- Discuss concerns for gassiness, constipation
  - Passes a lot of gas, has 1 soft bowel movement every other day
  - Infant is only fussy at feed times
- Since diluting formula and adding cereal, hasn't noticed any change, is wanting to give some apple juice
- Discuss recommendations for adequate nutrition and promoting growth
- Discuss formula mixing instructions and adding cereal to bottle
- Suggestions to reduce gassiness, expectations for infant bowel movements
Case study: 32-week gestation infant with NEC in the NICU. Family identifies as Muslim, mother is trying to establish her milk supply. Donor milk discussed as a bridge until mother’s milk supply is established.
Discussing Concerns

• Parents asking if formula is an option
• Asked family about concerns with using donor milk
  • Unsure of source, donors’ diet + lifestyle
  • Worried about pathogens
  • Milk kinship
• Discussed current recommendations and rationale
• Discussion:
  • Discussed criteria for donating breast milk, screening process
  • Multiple donor policy, together with pasteurization and fortification of donor human milk, significantly change its characteristics
  • Donor human milk from a well-organized human milk bank does not create a milk kinship (Khalil et al., 2016).
Case study: 8 month old twins with no weight gain in the past 2 months. Family including mother, father, 6 older siblings recently immigrated from Rwanda, speak Kinyarwanda. Mother shares infants eat well, are lean like their father.
Supporting the Family

• Use interpreters
• Include posters, handouts, and pamphlets in the languages that your patients speak.
• Peer counselors for breastfeeding support who speak the same language (if not English) and who have the same cultural identity.
• Teamwork makes the dream work: pediatrician, nurse, dietitian, lactation consultant, social worker, community health worker
Feeding History

• It may not be feasible to learn the cultural feeding practices of each ethnic group.
  • a sensitive approach to breastfeeding and nutrition guidance = successful breastfeeding and introduction of complementary foods.

• For example, in lieu of asking “How is the breastfeeding going?” specifically solicit information on the what the baby has eaten in the last 24 to 48 hours.

• Other types of questions that may be appropriate:
  • How have the other children in your family been fed (eg, for first 6 months)?
  • How and what do you plan to feed your baby for the first 2 (or more) months?
  • Have you heard of feeding other foods to newborn babies?
  • Who else feeds your baby?
Findings and Recommendations

• Infants breastfed on demand, about 6-8 times a day if mother was home. On days she worked (4 days a week), they were fed by other family members.

• Infants were eating bites of traditional foods including
  • fufu (made by boiling starchy root vegetables and then mashing them into a dough-like consistency) dipped with soup made with meat and vegetables
  • Snacks: banana, mango, whole milk from an open cup

• Recommendations to support growth:
  • Discuss growth and expectations
  • Breast milk or formula as main source of nutrients – discuss pumping at work, WIC
  • Introducing protein rich foods
  • Follow up, address food insecurity, housing, financial and transportation needs
  • Involving other specialists
Case study: A mother who recently moved to Dayton, Ohio from Mexico shares that she is breastfeeding and offering formula at infant's 2 month well check.
Findings and Recommendations

• Ask about her feeding goals
  • Mother shares she would like to continue offering both as the formula has additional nutrients to help infant thrive

• Ask about feeding routine, supply, family support
  • Mother has a good supply, she is also pumping twice a day to store breast milk for when she returns to work
  • She lives in a multigenerational home, with a large family

• Share current evidence and recommendations
  • Invite her to share
  • Feeding plan that works for the family
Case study: Mother from Guatemala asks about pain in abdomen while breastfeeding infant
Supporting the Dyad

- Ask about cultural practices related to postpartum care and breastfeeding
  - mother was afraid that feeding with infant across her belly would cause the uterus to be displaced
  - shares she has painful cramps while feeding
- Ask about her goals for feeding her infant.
- Discuss different breastfeeding positions, and provide: we discussed laid-back, football and side lying positions

(Image source: https://www.avonhealthcare.com/)
Case study: Family who recently moved from India ask about introducing solid foods to their 3-month old baby girl born at 34 weeks gestation. They share they are vegetarian and are worried about adequate protein and vitamins for their daughter.
Complementary Foods: Frequency and Examples for Infants 6 to 12 Months Old

6 Months: Offer 2 – 3 Times Per Day
• Ground, cooked grains in cereal such as rice, corn, oats and barley with ghee
• Mashed bananas and mango
• Mashed potatoes, sweet potatoes
• Mashed beans and lentils

9 Months: Offer 3 – 4 Times Per Day
• Cooked beans, lentils with ghee
• Small pieces of roti
• Slices of banana and mango
• Small pieces of melon
• Small pieces of soft cooked vegetables
• Puffed rice
• Soft cooked rice, millets with yogurt

12 Months: Offer 3 Meals and 2 Snacks
• Roti with ghee
• Dal made with lentils/beans with ghee
• Small pieces of fruit including citrus
• Small pieces of cooked vegetables seasoned with spices
• Milk
• Yogurt
Suggested Composition of Complementary Foods

(Source: D'Auria E et al., 2020)
Building Trusting Relationships and Alliances

• Barrier to providing culturally humble care: implicit bias.
• Implicit biases: attitudes and beliefs we are not aware of and cannot express.
• The first step to combating bias is to accept we all have them.
• Caregiver training: to enter a patient’s room as if they know nothing about the family’s cultural dynamics.
• Each family has its own subculture: approaching with curiosity and asking open-ended questions will lead to a deeper understanding of their value systems and beliefs regarding medical care.
• Offer regular, ongoing training for our clinical staff.
  – providing resources for cultural questions.
  – offering training so clinicians can learn what questions to ask and how to ask them
Supporting Our Families

Provide culturally-appropriate education and support to pregnant and postpartum mothers:

• Ask questions in a humble, safe manner
• Seek self-awareness
• Suspend judgment
• Express kindness and compassion
• Support a safe and welcoming environment
• Start where the patient is

(Source: www.naccho.org)
Undernutrition: Picky Eating and Responsive Feeding

Chris Bolling, MD, FAAP
Correcting Blind Spots in Infant Feeding
How Early Feeding Practices, Parenting, and Environment Can Promote Healthy Nutrition
I have no financial or other conflicts of interest with regard to today’s presentation.

I will not be discussing off-label use of medications or devices.

I have considered the Ohio AAP Diversity, Equity, and Inclusion standards in preparing this presentation. I invite your feedback in promoting equity within this learning space. If you have suggestions, please email me at bolling.cf@gmail.com.
Objectives

1. Understand the importance of early feeding practices, environment and early relationships in the adoption of healthy active living behaviors.

2. Identify actionable strategies to discuss with parents in establishing healthy active living behaviors.
FIRST 1000 DAYS

Nutrition, Environment, and Relationships in the first 1000 days matter.
Early Childhood is a Critical Period

• Children are acquiring their eating, activity, and sleep patterns.

• Age 0-5 is a unique window to shape healthy habits
The Role of the Pediatric Providers

- Pediatric healthcare professionals can play a key role in the lives of young children
- Pediatric providers are a trusted source of information
- Children go to the doctor often!
  - Birth to 11 months: 7 well-baby visits
  - 12 months to 24 months: 4 well-child visits
  - 30 month, 3 year, and 4 year: 3 well-child visits
  - Maybe a few ‘sick visits’ as well
What are pediatricians addressing?

What are pediatricians addressing?

What are U.S. Children 6 to 11 Months Old Eating?

- 69% Ate FRUIT on a given day
- 57% Ate VEGETABLES on a given day
- 21% Ate GRAINS on a given day
- 14% Ate SWEETS on a given day

What are U.S. Children 19 to 23 Months Old Eating?

- 69% Ate **FRUIT** on a given day
- 45% Ate **VEGETABLES** on a given day
- 87% Ate **GRAINS** on a given day
- 63% Ate **SWEETS** on a given day

Mean Modified Dietary Quality Index Scores for U.S. Children 6 months – 4 years, NHANES 2011–2016

Dietary quality declines with age and begins as early as 1 year old.

Other relevant patterns

- Transition between baby food and complementary food is a critical point
- A toddler’s diet reflects the eating patterns of adults
- Sugary drink consumption starts as early as 4-6 months
- Most children under 5 do not get enough active play
- Screens are introduced very early (often prior to first birthday)
- Many young children have screens in their bedroom
- Sleep patterns indicate less sleep overall and later or inconsistent bedtimes
What are pediatricians addressing?

- Limiting the consumption of juice: 92%
- Avoiding sugar-sweetened beverages: 92%
- Consuming a variety of fruits/vegetables daily: 89%
- Being physically active: 88%
- Getting adequate sleep: 78%
- Amount of screen time: 76%
- Exposing child to a variety of tastes/textures: 66%
- Not forcing the child to finish food or bottles: 63%
- Eating meals together as a family: 45%
- Creating a pleasant environment for feeding: 41%
- Limiting eating meals in front of the TV: 36%
- Understanding hunger cues: 34%
- Avoiding restrictive/compulsive food practices: 31%
- Using positive food as a reward: 29%

Goals for Early Years

- Eat more fruits and vegetables
- Drink/eat less sugar
- Move more
- Limit screen time
- Establish eating, activity and sleeping routines
- When possible, eat together as a family
- Foster self-feeding and responsive feeding
Responsive Feeding
What is responsive parenting?

- Responsive parenting
  - Warm and accepting behaviors to respond to children's needs and signals
  - **Critically** important to a young child’s development
- In infants and toddlers, responsive caregivers recognize and respond to cues of:
  - Hunger by responsive feeding
  - Sleep by establishing routines
  - Distress by Soothing
  - Need for Physical Activity
- Caregivers’ recognition of these cues can have short- and long-term positive impacts on a child’s health
- Caregivers have the ability to build a positive first relationship with an infant
Creating a healthy nutrition and activity environment at home

Setting appropriate boundaries and attending to and responding to child’s behavioral cues

Modeling healthy eating and activity behavior

Promoting healthy family interaction such as family meals and activities

Prompting specific healthy eating and activity behaviors
What is responsive feeding?

- Responsive feeding is a component of responsive parenting.
- Infants and toddlers rely entirely on caregivers to meet their basic need of feeding.
Basic components of responsive feeding:

- Infant signals hunger or satiety
- Caregiver recognizes cues and responds promptly
- Child experiences a predictable response to their signals
Why? **Responsive feeding**

- Caregiver’s and infants **interact through feeding**
  - This is a child’s first and most powerful need
  - They depend on a responsive adult for this
- **Responsive feeding is associated with healthy feeding patterns**, food acceptance, and healthy food habits.
- Responsive feeding supports **self-regulation skills**
- Parents who practice responsive feeding will have children that grow up to have **healthier eating habits**
Hunger and Satiety: Understanding the parent perspective

- Helping parents “tune into” their infant and view feeding as a two way interaction can encourage responsive feeding practices.
- Parent is concerned if their baby is getting enough to eat may be reassured to learn satiety cues.
- Parents may not realize that learning hunger and satiety cues may be the first step in building a relationship with their infant.
Practical Tip:
If the opportunity presents itself, try pointing out hunger cues in one of the well-child visits so you can help coach the caregiver on how to respond in real time.
Hunger and Satiety: Cues for birth to 6 months

**Hungry**
- Bringing hands to mouth
- Rooting reflex
- Sucking noises
- Fast breathing
- Clenching fingers
- Flexing arms and legs

**Full**
- Push you away
- Stop sucking
- Extend or relax arms
- Fall asleep
**Hunger and Satiety: 6 to 12 months**

**Hungry**
- Opening mouth when spoon gets near
- Reaching for the spoon or food
- Visually tracking food with eyes
- Pointing to food
- Getting excited when food is presented
- Expressing a desire for food through sounds, words, or facial expressions

**Full**
- Shaking head no
- Turning head away
- Pushing spoon or food away
- Not opening mouth when food is near
Conversation Starters

- How do you know your child is hungry?
- What is it like feeding your child when they are very hungry or very tired?
- How do you know your child is full?
Hunger and Satiety

Early Feeding Cues or "I'm hungry."
- stirring
- mouth opening
- turning head

Mid Feeding Cues or "I'm Really Hungry!"
- stretching
- movement
- hand to mouth

Late Cues or "I'm upset, please calm me."
- crying
- agitation
- turning red
What we learned from parents
Parents want the best for their children

• But ....
  • Are confused about messages and strategies for healthy active living
  • Confronted daily with an environment that makes it hard to be healthy
What we learned: Parent’s Perception

• Parents think obesity is a serious problem.
• However, it is not perceived as a problem in their family or as something relevant in infancy or young childhood.
• Parents are receiving mixed messages about obesity.
What made it hard for parents to hear and act on healthy messages?

- Use of “obesity” language, especially related to infants.
- Guidance focused on future outcomes.
- Limited knowledge of recommendations.
- Disconnect between guidance and personal experience.
Positive Messages

• Use of healthy active living, healthy habits, growing healthy and healthy weight instead of obesity and overweight.

  • Start today: Help your child stay at a healthy weight for life.

  • Yes, it’s true! The first years set the stage for healthy habits for the rest of your child’s life.

  • It’s never too early to start.
What made it easier for parents to hear and act on healthy messages?

- **Respect** for the parent and his/her expertise
- Explanation of the “why” behind the recommendations
- **Actionable strategies** for implementation
- **Tailored** and personalized information
Acknowledge Parent Expertise & Role

• Being a parent is an important — and hard — job!

• No one knows your child better than you, tell me a little bit about....
Acknowledge real life experiences and varying sources of information

• Being a working mom is not easy and can be tiring, sometimes it can be really hard to …

• Grandparents love your baby/child and love to share advice, sometimes it is hard to sort through all the information …

• Many cultures have wonderful traditions and sometimes it is hard to figure out how to …
Breast milk and formula are the best choices for your baby. When it’s time for him to start using a cup (around 6 to 9 months), give him breast milk, formula, or water.

Soda pop and juice — even 100% fruit juice:
• Add unneeded calories to your baby’s diet
• Get your baby used to very sweet, sugary flavors
• Can harm your baby’s new teeth

Why: in simple & clear statements
You’ve probably heard that breastfeeding is best for you and your baby.

You may have heard that breastfed babies get sick less often.

But did you know that your baby will benefit from breast milk long after you’ve stopped nursing?
Include realistic actionable strategies and try to meet parents where they are

- If mealtime has become stressful because of pickiness, try a strategy of doing a plate of three items: a “definitely will eat”, a ’might eat’ and a ‘stretch’. And do not ask what they want. Just continue to place a small amount in front of them with no pressure to do anything with it.

- Other things you could try:
  - Keep putting healthy food on the plate even if they complain.
  - Have a specific time that the table is open. And once dinner is over, it’s over. Resist snacking when they are hungry five minutes later.
  - Get healthy foods more available than unhealthy ones.
Strive to:

• Listen to family.

• Personalize and customize information to their child and family experiences and needs.

• Integrate tailored obesity prevention guidance into every well-visit between newborn and age 5
Highlights and Future Directions of Parenting at Mealtime and Playtime (PMP)

- Supportive Clinical Spaces and Engagement with Patients Living in Larger Bodies
- Motivational Interviewing
- Meal Planning on WIC and SNAP
- Building Confidence with the Body and Mind
- Halal and Kosher Snacks
- Creative Forms of Exercise

Ohio Chapter
Incorporated in Ohio
American Academy of Pediatrics
Dedicated to the Health of All Children
PMP Mobile App and Contact Information

The PMP team is revising and re-energizing the mobile application in 23/24! Stay tuned for NEW content, technology and design features!!

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Questions?
HMO and Donor Milk, Probiotics in Formula and Continuum of Care

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Objectives

1. Understand the importance of infant nutrition on setting the foundation for lifelong health
2. Understand the importance of human milk oligosaccharides on infant health outcomes including immune system modulation and gut microbiome establishment
3. Understand the potential benefits and risks of HMO from donor milk
4. Understand the role of probiotics in formulas
5. Understand the benefits of continuum of care practices
Infant Nutrition: Gateway to Lifelong Health

• The “first 1000 days” is considered the most critical for infant nutrition [1]
  – During which the foundations for long-term health are set [2]
  – 1,000 new neural connections every second are created [3,4]
  – Crucial for the development of body, brain, metabolism, and immune system [5]
  – Child and adult health risks, including obesity, hypertension, and diabetes, may be programmed by nutritional status during this period
  – All providers caring for children can advocate for healthy diets for mothers, infants, and young children in the first 1000 days [1]
How does infant nutrition impact long-term health?
The role of microbiome

• Microbial communities develop within the gastrointestinal tract in early life
  – this helps with the development of the immune, endocrine, metabolic, and other host developmental pathways

Previous thinking: Fetus in mother's womb is protected from microbial environment: First ‘dose’ of microbiome through birth canal
  – Recent study that shows the presence of bacteria or bacterial nucleic acids in the umbilical cord blood & amniotic fluid [10]

• Gut microbiome is aided with consumption of breastmilk
  – Key factor to aiding in microbiome development is human milk oligosaccharide (HMO)
What is HMO: Human Milk Oligosaccharide?

• HMO are complex nonnutritive sugars present in human milk [6,7]
  – Third largest component in breast milk
  – Contain between 3 – 22 saccharide units/molecule; made up of 5 different sugars in various sequences and orientations
  – There are 200 different types of HMO known in human milk
  – Concentrations vary due to lactation period, mother's genes, and length of gestation [8]

• HMO production is genetically determined [7]
  – Different profiles dependent on mother → different HMO profiles
  – This may help protect infant against certain infections and promote different types of microbiota as well as timing of microbiome development
Benefits HMO

• HMO function as prebiotics \(\rightarrow\) promote growth of beneficial bacteria \cite{7}
  – Includes Bifidobacterium infantis
  – Protects infant from colonization of pathogenic bacteria
  – Plays impt role in preventing GI and respiratory infections

• HMO modulates intestinal epithelial cell and immune cell modulators
  – alters the environment of the intestine
  – Alters immune responses through T cells

• HMO acts as receptor decoys in the GI system
  – Prevents pathogens from binding to carbohydrates in intestinal epithelial cells
  – HMO structure mimic carbohydrates of intestines and pathogens bind to HMO
    \(\rightarrow\) pass harmlessly out of GI tract
Donor Milk

- Donor milk is milk from a mother who is often producing in excess of what her infant needs [8]
- Donor milk banks are mature or pooled milk from lactating mothers at different stages of lactation [8]
- Newborns can receive donor milk when their mother’s own milk volume is not sufficient for their child or unavailable
- Donor milk is especially important for baby’s born premature due to their increased risk of infections and immune GI tract [8,9]
- Donor milk from mothers delivered prematurely have the most adequate composition for preterm infant feeding [9]
HMO and Donor Milk

• Remember, HMO composition varies between mothers and over the course of lactation

• In one study (Marx et. al. 2014), they showed that infants in NICU receiving donor milk got different total amounts and composition of HMOs than what they would receive from their mother’s own milk [10]

• Studies are few but this may have implications on gut microbiome and immunity
  – Need further studies to evaluate the long-term effect of this
But wait, what about formula?

- HMOs are traditionally absent in infant formulas
  - Babies who are exclusively formula fed do not get benefits associated with HMOs
- Galactooligosaccharides (GOSs) and fructooligosaccharides (FOSs) were developed to make it similar to HMO in breast milk [11]
  - They mimic the prebiotic from mother’s milk and enter the composition of the intestinal microflora, making them similar to breast milk
  - However, they are simpler in structure than HMO
  - They may have ability to modulate the immune system
  - Further studies needed to clarify role/benefit of GOS and FOS
  - Even mechanism of action of natural HMO need further explanation
Probiotics and Formula

• Probiotics are foods or supplements that contain live microorganisms intended to maintain or improve normal microflora
• Prebiotics are foods (typically high-fiber foods) that act as food for human microflora
• Infants fed with infant formula have, in general, different patterns of gut microbiota in terms of abundance and diversity [12]
  – More similar to that of adults
• These differences motivated researchers to find ways to promote similar microbiome for formula fed infants
Probiotics and Formula

• Recent systematic review (published in 2022) conducted to look at health benefits of adding probiotics in formula [12]

• Main finding: some isolated effects [12] ….
  – modest reduction in the frequency or severity of colic or regurgitation
  – some strains demonstrated a reduction in episodes of colic
  – Some strains help decrease the number of days with fever and use of antibiotics

“[…] however, there was considerable heterogeneity which reduced the level of certainty of effect. Although the total number of 26 RCTs included with over 1957 infants is considerable, many of the different probiotic treatments were only evaluated in 1 or 2 trials”
Probiotics and Formula

• Previous Cochrane review (Mugambi et. al. 2012) also looked at potential benefit of probiotics in formula [13]
  – “Probiotics in formula also failed to have any significant effect on growth, stool frequency or consistency.”
  – Probiotics did not lower the incidence of diarrhea, colic, spitting up / regurgitation, crying, restlessness or vomiting.
  – However, there were concerns about the quality of evidence

• Another systematic review (Carpay et. al. 2022) looking at prebiotic, probiotic, and symbiotic supplements after C-section [14]
  – Goal was to restore dysbiosis after C-section towards a microbial signature of vaginally born infants
  – Some studies significantly increased the abundance of supplemented Bifidobacterium and Lactobacillus genus
  – “However, given the variety in study products and study procedures, it is yet too early to advocate specific products in clinical settings”
Continuum of Care
Continuum of Care – What is it?

• Continuum of care refers to continuity of individual care
• It is an approach to better coordinate services for mothers, children, and families around pregnancy and delivery and beyond [15]
  • The goal of this approach is to avoid dichotomies, provide all women with access to reproductive health choices and care during pregnancy and childbirth
  • Create an environment in/around pregnancy and delivery so that all babies have the ability to grow into thriving children
• It was started to address maternal, neonatal, and child deaths [15]
• Kerber et. al. have suggested a multi-system approach to address these gaps
  • Through clinical care interventions, outpatient and outreach services, and integrated family and community care throughout the lifecycle
Continuum of Care

• What does this look like?
  – Effective studies have created “packages of care” that link antenatal care, skilled birth care, and post-natal care
  – When linked, there is a significant reduction in combined neonatal, perinatal, and maternal mortality risks (RR 0.83; 95% CI 0.77 to 0.89) [16]

• How about primary care?
  – Example: Supporting breastfeeding
  – Schwartz et. al. showed that primary care interventions to support breastfeeding are possible in the clinic setting and can improve breastfeeding outcomes [17]
Next Steps?

• Consider ways to support your families in outpatient setting
  – What are current gaps in our care?
  – What are areas we can improve as a practice?
• Are there places/networks we can collaborate?
  – Community partnerships (e.g., Celebrate One)
  – In-clinic/co-located resources (e.g., lactation support)
• Promoting ways that encourage change in HCP behavior
  – Join local, regional QI initiatives
  – Be part of activities that offer CME/MOC credit
References

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