Role of Pediatricians in Ensuring Optimal Breastfeeding and Complementary Feeding Practices

Author: Dr Arun Wadhwa (MD - Pediatrics), ACVIP Member, 2020 & 2022, Delhi, India

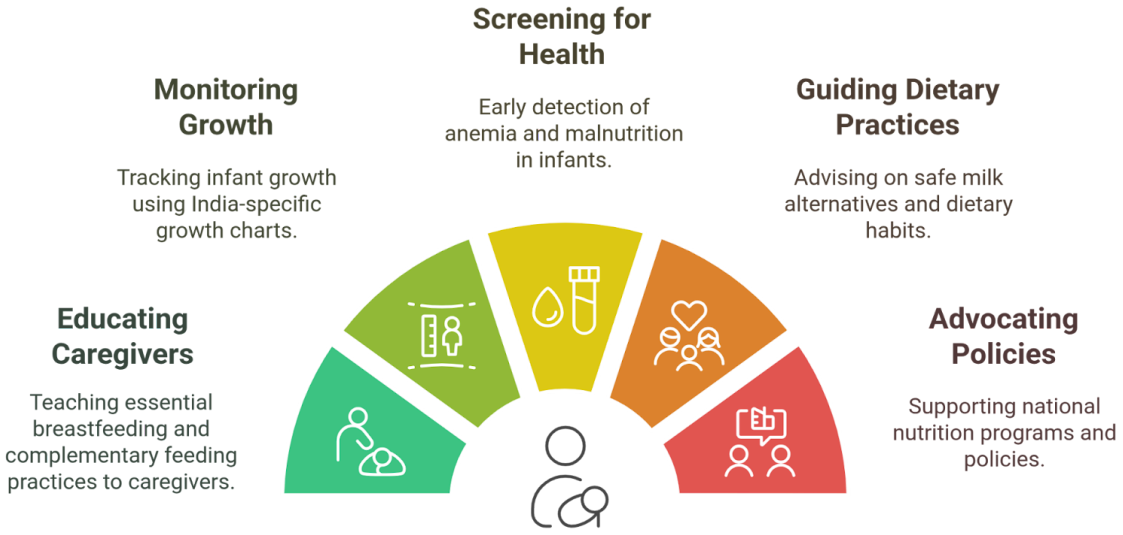
Expert Reviewer : Dr. Bakul Jayant Parekh, Hon. Secretary General, SAPA, India

Introduction

Optimal infant nutrition is crucial for growth, cognitive development, and long-term health. Exclusive breastfeeding for six months, followed by appropriate complementary feeding, is the gold standard. However, only 48% of infants globally are exclusively breastfed, with South Asia achieving a higher rate of 61% [1], [2]. Disparities persist due to cultural myths, maternal undernutrition, and lack of awareness, especially in resource-limited settings.

In India, exclusive breastfeeding rates vary by wealth quintile, with 47.5% in the highest and 43.4% in the lowest [2]. Transitioning to complementary feeding at six months is equally vital. However, poor dietary diversity, delayed solid food introduction, and reliance on nutrient-poor staples pose significant challenges. NFHS-5 reports that only 45.9% of children (6–8 months) receive solid/semi-solid food with breast milk, and just 11.3% of children (6–23 months) meet minimum acceptable diet standards [3]. These deficiencies contribute to malnutrition, stunting, and micronutrient deficiencies, impacting long-term health and cognition.

Pediatricians play a critical role in guiding families through breastfeeding and complementary feeding. Through advocacy, education, and clinical interventions, they help caregivers make informed food choices and maintain proper meal frequency and responsive feeding practices.



Advocating for Optimal Feeding Practices

Pediatricians advocate for exclusive breastfeeding for the first 6 months of life and timely complementary feeding at 6 months, working with families, healthcare systems, and policymakers to enhance awareness and adherence to global and national guidelines. Initiatives like Anaemia Mukt Bharat have helped bring the focus on malnutrition, but significant gaps remain. Pediatricians must actively support and promote IYCF guidelines while tailoring nutritional guidance to their local communities [4].

Routine Monitoring

Growth Monitoring: Regular assessment of weight, height, and head circumference using India-specific growth charts helps early risk detection of malnutrition. WHO estimates 22% of children under five globally suffer from stunted growth, a preventable condition with proper nutrition [5]. In India, stunting rates among children under five declined from 38.4% (NFHS-4, 2015–16) to 35.5% (NFHS-5, 2019–21) [6].

Screening for Anemia: To assess the risk of iron deficiency anemia, particularly in low-resource settings, healthcare providers can use hemoglobin assessments and serum ferritin levels. It's important to distinguish between different color shade card methods for anemia screening: WHO & UNICEF endorse hemoglobin color scales (HCS), a shade card approach for anemia diagnosis in resource-limited countries. The NISA (Non-Invasive Screening of Anemia) shade card has a sensitivity of 80.83% and specificity of 66.04% in detecting risk of anemia in children aged 6–60 months [7]. With 67% of Indian children (6–59 months) anemic, timely intervention to prevent anemia is crucial [8].

Impact of digitalization:

The rising trends of social media have increased the search for guidance and conversations on various platforms or groups. However, advice on child health from unreliable sources can lead to confusion and misguidance for parents and caregivers. This emphasizes the critical role of pediatricians in initiating conversations with parents, especially about breastfeeding and complementary feeding, to ensure accurate information is provided from credible sources. Thus, the responsibility lies with pediatricians and clinicians to offer correct advice on optimal nutrition in early childhood.

Pediatricians' Role in Breastfeeding Promotion

Early & Exclusive Breastfeeding

- Initiation within the first hour strengthens maternal-infant bonding & reduces neonatal mortality by 22% [11].
- Exclusive breastfeeding for six months lowers:
    - Diarrhea risk by 50%
    - Pneumonia risk by 50% [9]

Maternal Nutrition During Lactation

- Impact on Breastmilk: Maternal intake of omega-3s (fish) boosts DHA for neural development, while vitamin D enhances infant bone health [10] [12].

- Recommendations: Encourage a nutrient-rich diet with whole grains, lean proteins, and essential micronutrients, supplementing where needed, especially in low-resource settings.

Pediatric Guidance on Milk Alternatives

- Unmodified cow's milk should be avoided in infants under 12 months due to risks of iron deficiency anemia and digestive issues. Its high protein, potassium, and sodium exceed infant needs [13].

- Iron-fortified infant formulas are recommended to ensure proper nutrition and growth.

- Regular vitamin D and iron supplementation are essential, with recommendations starting from birth for vitamin D and 4 months (or 2 weeks for preterm) for iron [12]. Due to potential issues with compliance, pediatricians should reinforce supplementation schedules and explore fortified foods and milk as practical, sustainable solutions for adequate nutrient intake.

Impact on Child Health

- Cognitive Benefits: Breastfed children score 3–4 points higher in IQ even after controlling for socioeconomic factors [10].

- Breast milk significantly shapes the infant gut microbiome, fostering a beneficial microbial community crucial for infant health [20].

Refer to Figure 2: Impact on Child Health

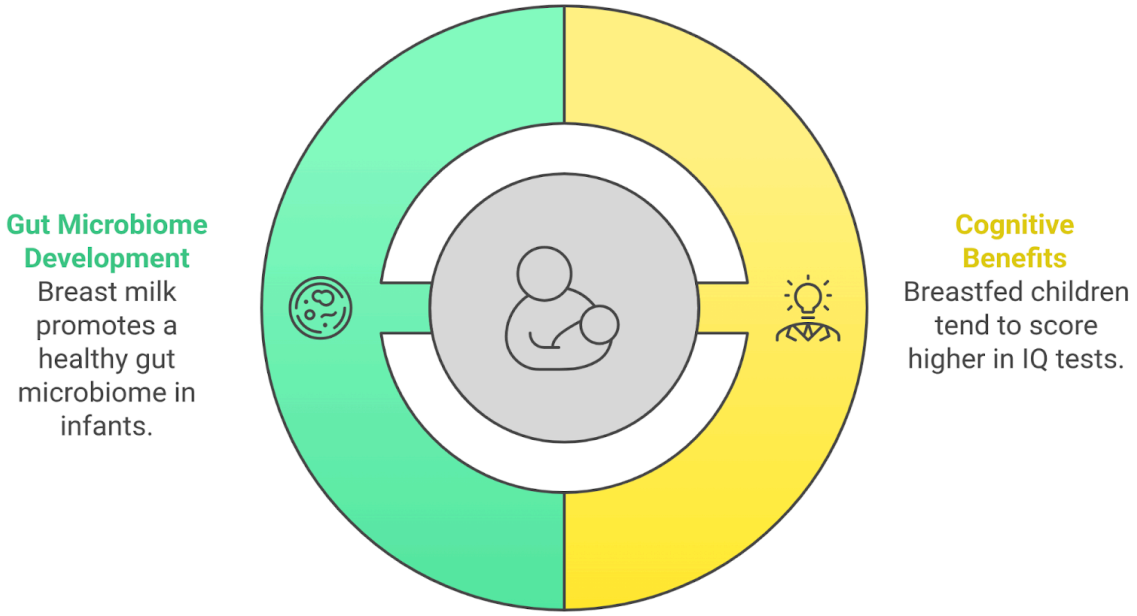


Figure 2: Impact on Child Health

Pediatricians' Role in Complementary Feeding

Timely Introduction of Complementary Foods

- Complementary feeding should start at six months to meet increasing nutritional demands while continuing breastfeeding.
- Delayed introduction leads to micronutrient deficiencies, while early introduction (<4 months) increases allergy risks [14].

Ensuring Nutritional Adequacy

Ensuring Minimum Dietary Diversity (MDD) and Minimum Meal Frequency (MMF) is crucial for meeting the nutritional needs of infants and young children during their rapid growth phase.

- Minimum Dietary Diversity (MDD): It is a proxy for nutrient density of meals. A child must eat from ≥5 of 8 food groups for adequate nutrient intake, improving immunity & cognitive function [15].
- Minimum Meal Frequency (MMF): It is a proxy for energy density of meals.
    - 6–8 months → 2–3 meals/day

    - 9–11 months → 3–4 meals/day + snacks
    - 12+ months → 3 meals + 2 snacks/day [16].
- Minimum Acceptable Diet (MAD): It is a proxy for optimal nutrition. Combines MDD & MMF, reducing risk of malnutrition & supporting long-term health [17].

Complementary Feeding Milestones

Pediatricians should guide caregivers on transitioning feeding practices, which is offering varied flavours and evolving textures of feed based on the infant's developing milestones:

- 6–8 Months: Smooth Purees (Mashed bananas, rice porridge) → 2–3 meals/day
- 9–11 Months: Mashed/Semi-solid Foods (Khichdi, lentil soup, soft veggies) → 3–4 meals + snacks
- 12+ Months: Family Foods (Modified textures for chewing ability) → 3 meals + 2 snacks/day [18].

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Figure 2: Complementary Feeding Milestone

Overcoming Feeding Challenges

- Food Refusal: Infants may need 8-15 exposures to accept new flavors [19].
- Texture Transitions: Gradually move from purees to chunkier foods as chewing develops. Offering age-appropriate varied textures between 9-12m supports easy acceptance of family foods later and reduces food fussiness.

Continuing Professional Development

Pediatricians should engage in continuous medical education to stay updated on evolving guidelines, including the role of bioactive components in breastmilk and new complementary feeding strategies.

Collaborative Care

Pediatricians should work with dietitians, lactation consultants, public health professionals,

and clinic staff to address complex nutritional challenges through a comprehensive approach to patient care.

Summary

In today's digital world, both reliable and questionable information are easily accessible. While misinformation is common on social media, parents trust their pediatrician/clinician as the most reliable source for child health guidance. Pediatricians play a key role in ensuring optimal nutrition by promoting breastfeeding, guiding the introduction of complementary foods, and addressing feeding challenges. This helps reduce malnutrition, stunting, and deficiencies. Regular monitoring, anemia screening, and advocacy efforts enhance their impact, especially in resource-limited settings. Through education and collaboration, pediatricians can empower caregivers with evidence-based strategies, promoting healthier generations and reducing childhood malnutrition.

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