



COMPLEMENTARY FEEDING PRACTICES

TO HELP CHILDREN IN BIHAR GROW BETTER, LEARN BETTER, AND EARN BETTER

Optimal complementary feeding practices contribute to saving lives, preventing stunting, and increasing economic growth for the entire state of Bihar. The first 24 months of life offer a critical window of opportunity to prevent the irreversible and life-long damage caused by poor feeding practices. From six to 24 months, children are at peak risk for stunting, micronutrient deficiencies, and common illnesses like diarrhea and pneumonia. Improving feeding practices can help prevent these serious conditions and provide a new foundation for lifelong health and productivity.

Complementary feeding practices address the rapidly increasing nutrient gap between six to 24 months that contributes to undernutrition and its consequences. Adequate complementary feeding from six to 24 months, with continued breastfeeding, is key to addressing both stunting and wasting.¹

The case for investing in nutrition is clear. Poor nutrition during the first 1,000 days—from pregnancy through a child's second birthday—can cause life-long and irreversible damage. It limits the health and economic outcomes of individuals, communities, and nations. Timely introduction of complementary feeding at 6 months of age is key to creating healthier children and a more prosperous Bihar.



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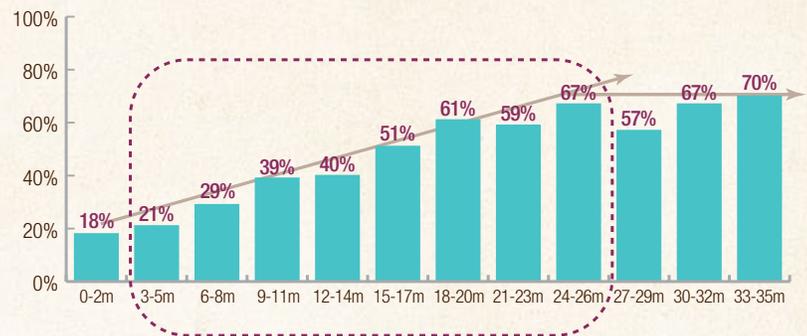
The complementary feeding period (six to 24 months) is when stunting sets in

Typically, growth faltering begins at about 6 months of age, as children transition to foods that are often inadequate in quantity and quality, and increased exposure to the environment increases their likelihood of illness. By the time a child is stunted at 2 years of age, it is largely irreversible.

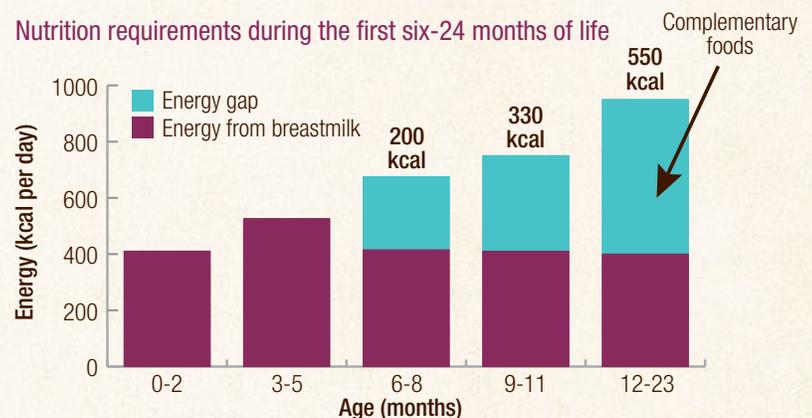
When a child becomes malnourished, it has serious health, education, and economic consequences:

- Under nutrition is associated with a weaker immune system and a higher risk of severe infectious diseases. When undernourished children become adults, they are more likely to suffer from high blood pressure, diabetes, heart disease, and obesity.^{2,3}
- Undernourished children have less capacity to learn, and are less likely to finish school due to compromised brain and mental development at a young age. This can lead to 20 percent lower earnings over their lifetime.⁴
- It has been estimated that under nutrition reduces a nation's economic advancement by at least 8 percent due to direct productivity losses, losses via poorer cognition, and losses from reduced schooling.⁵

The proportion of stunted children in Bihar increases with age until a peak at two years—to reduce stunting, Bihar must invest in significantly improving complementary feeding



Nutrition requirements during the first six-24 months of life



Poor complementary feeding practices are putting Bihar's health and economic outcomes at risk

It is greatly important to start complementary feeding at the right age—180 days—along with continued breastfeeding. Among the most effective interventions for preventing stunting in children ages 6 to 24 months is improving the quality of their diets through complementary feeding. Evidence suggests that greater dietary diversity and the consumption of foods from animal sources are associated with improved linear growth.^{6,7}

In Bihar, key complementary feeding practices are very low:

- Fewer than **7 percent** of children receive a minimum acceptable diet, which is the right combination of minimum dietary diversity and minimum meal frequency.
- Only about **21 percent** of children receive iron-rich and fortified foods.
- Less than **20 percent** of all children receive the minimum dietary diversity, which requires the introduction of four or more food groups with continued breastfeeding.⁸

Improved complementary feeding practices are attainable for most families in Bihar when they receive quality counseling and support

Food availability is just one part of the solution to better feeding practices. Often, even families with sufficient resources do not practice optimal child feeding. Immediately following six months of exclusive breastfeeding, complementary feeding should be:

- **Timely.** All infants should start receiving foods in addition to breastmilk starting at six months (181 days) onward.
- **Adequate.** All children should receive complementary foods in the recommended amounts to meet their nutritional needs to grow.
 - **Diversity** – Each day, children should receive a minimum of four different types of complementary foods from the following groups: grains; roots and tubers; legumes and nuts; dairy products such as milk, yogurt, and cheese; flesh foods such as meat, fish, poultry, and liver/organ meats; eggs; Vitamin A rich fruits and vegetables; all other fruits and vegetables.⁹
 - **Density** – Complementary foods should have a high density of essential nutrients. Even if only one complementary food with a high nutrient density is being consumed alongside breastmilk, the child's nutritional needs are more likely to be met.¹⁰
 - **Animal source** – Eggs, meat, chicken, liver, and fish provide energy, vitamins, minerals, iron, and high quality protein essential for healthy growth. Nutrient-rich animal milk and other dairy products can add much needed diversity to plant-based diets, contributing to overall child growth.¹¹
 - **Iron rich foods** – Complementary foods should contain iron or be fortified with iron to avoid harmful side effects, such as anemia and reduced physical capacity.¹²
- **Safe.** Foods should be prepared and stored hygienically and safely, caregivers should wash their own and child's hands with soap before preparing food, eating, and feeding a child. Therefore, the whole environment in which the food is cooked, stored, and fed should be considered.
- **Appropriate.** Foods should be fed appropriately and in a way that is responsive to the child's interest and readiness to eat.



Maximizing impact: complementary feeding should be linked with appropriate handwashing practices

Even when families feed their children the right foods, and in the right quantities, good nutrition is undermined when children cannot absorb nutrients because they are repeatedly sick from infections.

Handwashing with soap is the most cost-effective health intervention against diarrheal disease and reduces pneumonia.¹³

It works! Research shows that we can successfully promote correct feeding practices

Research in India and South Asia shows that efforts to educate families on appropriate complementary feeding practices can successfully impact feeding practices. One study conducted in Haryana, India showed that children of caregivers who received intensive counseling had significantly higher energy intakes from complementary foods, with small but significant impacts on length gain, compared to a control group.¹⁴

Evidence from programs in Bangladesh demonstrates that when mothers and other family members receive proper counseling on child feeding during visits with doctors and community health workers, their feeding practices improve. The Alive & Thrive initiative increased dietary diversity from 31 percent to 64 percent when families were exposed to both frontline worker counseling and information from mass media. Even when exposed only to mass media, the percentage increased to 37 percent.¹⁵

Key actions for policymakers and program managers include:

- ✓ Establish state-wide guidelines for appropriate complementary feeding practices that can be used in strategies and action plans, educational curriculum, and health worker trainings. In particular, ensure that complementary feeding is:
 - Initiated within all children between 6 and 7 months of age.
 - Delivered in the right quantities and with the right qualities, with diverse food sources that include iron-rich and animal source foods.
 - Linked to good hygiene practices—in particular, washing hands with soap before preparing food and feeding children.
- ✓ Include complementary feeding practices in child nutrition training for all frontline health workers, including Accredited Social Health Activists (ASHAs), Anganwadi Workers (AWWs), and Auxiliary Nurse Midwives (ANMs), and ensure follow up training.
- ✓ Regularly monitor complementary feeding practices using the right indicators to inform program efforts, including monitoring of appropriate counseling practices by frontline workers.
- ✓ Take clear and specific measures to integrate complementary feeding with proper handwashing practices in programs—for example, incorporating targets for linking handwashing with complementing feeding in the State Nutrition Policy.
- ✓ Establish clear linkages between complementary feeding and both agriculture and livelihood opportunities in the state.

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¹⁰ Golden, M.H., World Health Organization, "Proposed recommended nutrient densities for moderately malnourished children."

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¹⁴ Bahl, R., Bhan, M.K., Black, R.E., et al., *Journal of Nutrition*, "An Educational Intervention to Promote Appropriate Complementary Feeding Practices and Physical Growth in Infants and Young Children in Rural Haryana, India," 2004.

¹⁵ Alive & Thrive, "Getting strategic with interpersonal communication: Improving feeding practices in Bangladesh," 2014.