

UNDERNUTRITION IN PRESCHOOLERS:

— A Cause Of Worry —

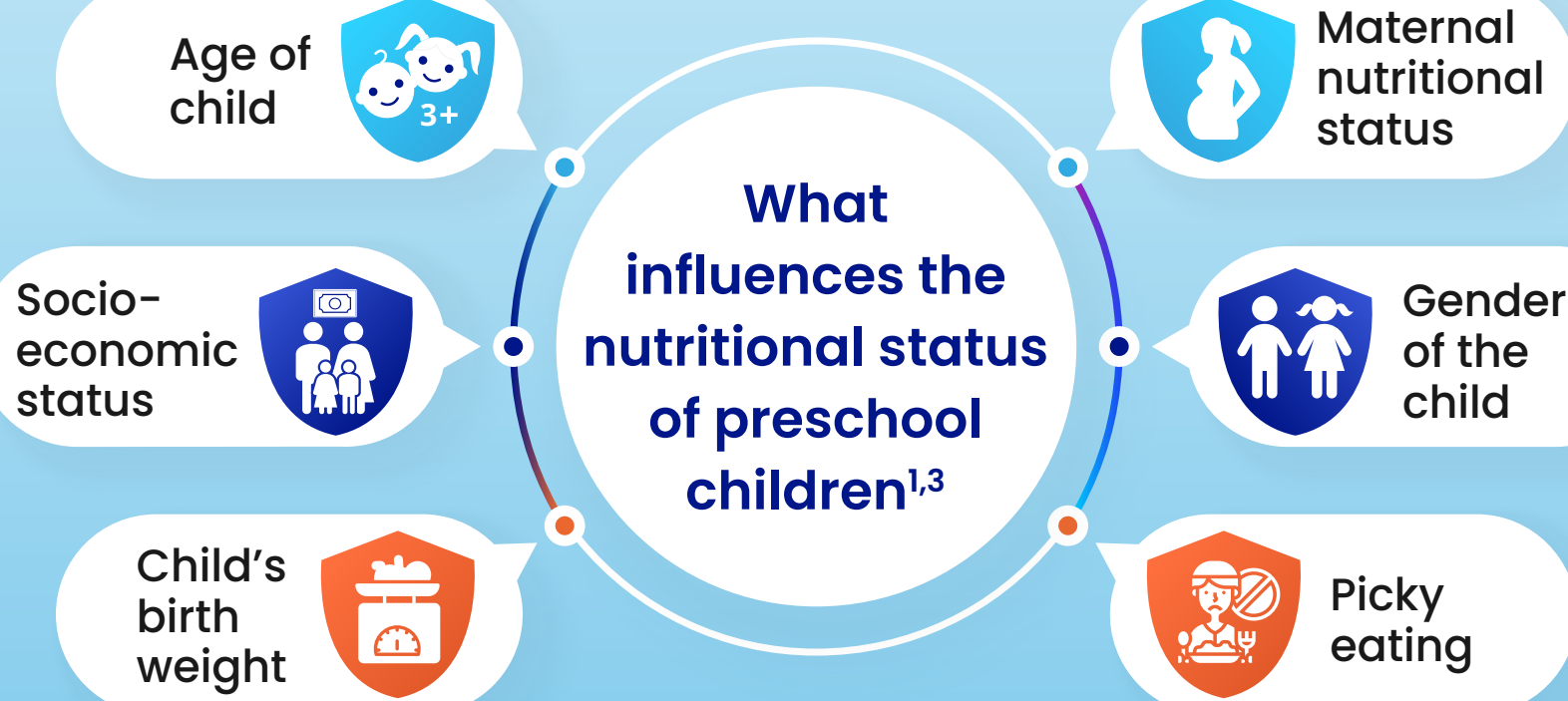


Prevalence of Undernutrition in India

Malnutrition among children: a major public health problem in India (NFHS-5)¹

- Underweight (low weight for age): **35.1%**
- Stunting (low height for age): **38.4%**
- Wasting (low weight for height): **21%**
- **45%** mortality among preschool children is linked to undernutrition, mainly in low- and middle-income countries.¹

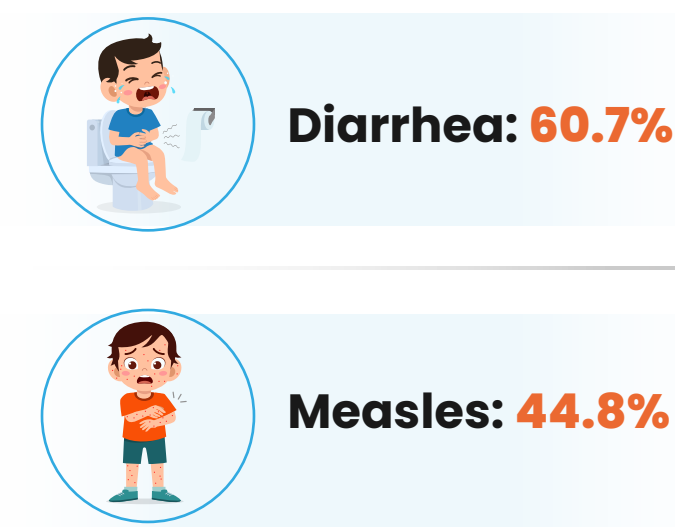
What influences the nutritional status of preschool children^{1,3}



Consequences of undernutrition

Increased disease burden⁴

- 53% of all childhood deaths attribute to undernutrition and associated infections:



Failure to thrive⁸

- Failing to grow at a rate consistent with expected standards for children <3 years of age.

Micronutrient deficiencies⁵⁻⁷

- Altered absorption and bioavailability can cause micronutrient deficiency, limiting the effects of specific vitamins and minerals, leading to malnutrition and faltered growth.

Long-term consequences⁹

- Stunted adult size
- Diminished intellectual ability
- Reduced economic productivity
- Altered reproductive performance
- Increased risk of metabolic and cardiovascular disease

How can undernutrition be reversed/prevented in preschoolers?

Diversification of diet¹⁰⁻¹²



To improve the variety of foods consumed

Protein supplementation^{13,14}

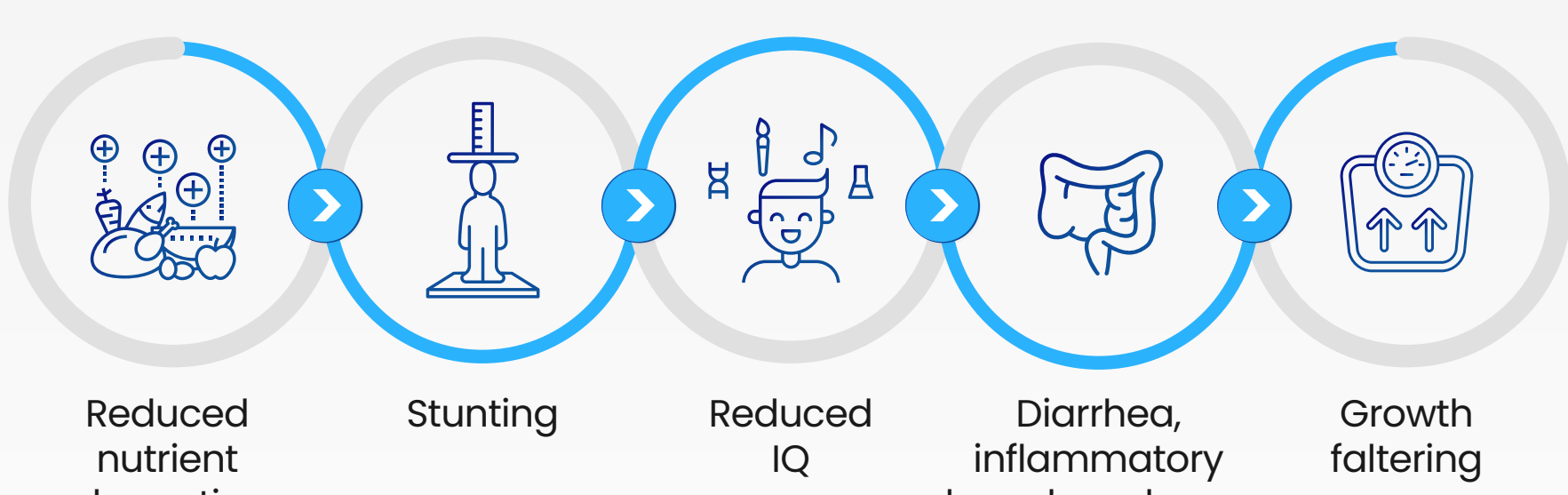
- Protein deficiency results in:
 - ▶ Mortality
 - ▶ Stunted physical growth
 - ▶ Premature aging
- Proteins play an important role in growth and development
- **Lysine** releases growth hormone
- **Arginine** promotes lean body mass

Micronutrient supplementation¹⁵⁻¹⁸

- **Zinc** improves general mental development
- **Iron-folic acid** increases hemoglobin and plasma ferritin
- **Vitamin A** reduces infections
- **Vitamin D and K** enhance calcium absorption and bone health

Role of prebiotics¹⁵⁻¹⁸

Effects of altered gut microbiota with mucosal damage



Key takeaways



- ✓ Undernutrition is a common and serious health issue in India and globally, affecting children under 5 years.
- ✓ While public health measures such as food fortification aim to improve dietary intakes in children, dietary diversity, protein, micronutrient and prebiotic supplementation are essential to increase the intake of specific nutrients to avoid undernourishment, diminished growth, and development in preschoolers.²⁰