Micronutrient Fortification for Young Children: What the Evidence Says

Micronutrient deficiencies, also known as 'hidden hunger,' is a pressing public health issue for children in the first two years of life, especially in developing countries. These nutritional gaps can lead to anemia, growth delay, and increased risk to frequent infections during the most critical period of growth and development.

Fortified complementary feeding can be considered as a strategy to bridge these nutritional deficiencies.

This summary presents key findings from "Effects of Micronutrient Fortified Milk and Cereal Food for Infants and Children: A Systematic Review" by Eichler et al. (2012) which analyzed data from 18 randomized controlled trials involving 5,468 children aged 6 months to 5 years. The objective was to assess the effectiveness of micronutrient-fortified milk and cereal products on the health of infants and young children compared to non-fortified foods.

Main Findings



Hematological outcomes

- Iron fortification increased hemoglobin levels by 0.62 g/dL (95% Cl: 0.34 to 0.89)
- Iron plus multi-micronutrient fortification increased hemoglobin levels by 0.87 g/dL (95% Cl: 0.57 to 1.16, 8 studies) and is more effective than single iron fortification for hematologic outcomes
- Reduced risk of anemia by 57% (relative risk 0.43; 95% CI: 0.26 to 0.71)



Vitamin A levels

 Fortification increased levels of vitamin A



Ferritin

 Showed improvement with fortified foods



Functional health outcomes

 Data w.r.t information about height or weight gain or z-scores, motor and mental development, and morbidity were limited and evidence is inconclusive. One trial showed improved weight/height gain and reduced infection rates.



Additional insights

Greater hemoglobin response was seen in low- and middle-income settings



Multi-micronutrient fortification is an effective way to improve hemoglobin levels and to mitigate the risk of anemia in young children living in resource-limited settings. Long-term robust studies are required to assess the impact of multi-micronutrient fortification on growth and development.