



SUPPLEMENT

The role of nutrition in the prevention of iron deficiency anemia

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Abstract

Background: The prevalence of iron deficiency anemia (IDA) among children under five is approximately 25%. IDA is characterized with low hemoglobin levels and depleted iron stores, commonly due to inadequate intake, increase requirement, malabsorption, or chronic blood loss. IDA has significant implications for growth, cognitive development, and immunity.

Method: This presentation reviewed the importance of incorporating iron rich food into complementary feeding. Iron can be obtained from animal and plant-based protein. Animal-based is superior due to presence of porphyrin ring, which protect from iron chelation and enhance bioavailability. To improve iron absorption from plant-based, the addition of ascorbic acid or vitamin C is recommended. Another strategy included fortified growing-up milk (GUM) to increase iron intake. A study involved 177 children aged 1–3 years in Jakarta, where the intervention group received iron and vitamin C- fortified GUM along with nutritional education, while the control group received nutritional education alone.

Result: Children in intervention group showed a significant increase in hemoglobin level and weight after 4 months compared to control. The fortified GUM served as a bioavailable source of iron, with vitamin C enhancing absorption, addressing common deficiencies in this age group. This approach demonstrated both hematological and growth benefits.

Conclusion: Enhancing iron intake from food source along with vitamin C is essential during complementary feeding, especially in children under five. The use of GUM fortified with iron and vitamin C could be viable strategy to prevent IDA. Incorporating such strategies into public health nutrition programs is essential to combat childhood anemia and support optimal development, particularly in resource-limited settings.

Keywords: iron, vitamin C, growing-up milk

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