



## ABSTRACT

## The latent risk of iron deficiency during childhood period

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Anaemia is a serious public health concern for Indonesian children under the age of five, with a prevalence of more than 20% according to the last national health survey in 2023. Iron deficiency accounts for over half of anaemia cases, causing delayed cognitive development, weakened immune systems, and poor overall health outcomes. Inadequate dietary intake, a poor socioeconomic level, and a high prevalence of infectious diseases exacerbate the situation, necessitating targeted nutritional therapy and public health initiatives to address this prevalent issue of iron deficiency anaemia (IDA). Iron deficiency is typically characterised by depleted iron stores, detectable through low serum ferritin levels, while iron deficiency anaemia includes these features alongside reduced haemoglobin levels. Screening tools for iron deficiency anaemia (IDA) have evolved to improve early detection and management. Advances in point-of-care testing, such as portable hemoglobinometers and non-invasive devices for measuring haemoglobin and iron status, are also enhancing the accessibility and accuracy of screening for IDA in various settings.

Iron deficiency anaemia (IDA) is closely associated with stunting, a condition marked by impaired growth and development in children. Research has shown that IDA contributes to stunting by impairing cellular growth, cognitive development, and immune function. Children with IDA are at a higher risk of being stunted due to the crucial role of iron in brain development and overall physical growth.

Iron deficiency anaemia (IDA) significantly impacts cognitive development, particularly in young children, where iron plays a crucial role in brain development and function. Studies have shown that children with IDA often exhibit delayed psychomotor development and lower scores on intelligence tests, highlighting the long-term cognitive consequences of untreated iron deficiency.

Preventing iron deficiency anaemia could be done firstly by food-based approaches through dietary improvement, including food fortification. It is recommended to consume a variety of foods with balanced nutrition to fulfil the requirements.

**Keywords:** nutrition, paediatrics, intestinal failure, management

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