

Young adult outcomes associated with lower cognitive functioning in childhood related to iron-fortified formula in infancy

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Abstract

Objective: This study examined how the lower cognitive skills in children who consumed iron-fortified formula in infancy relate to outcomes in young adulthood. **Methods:** Participants were 443 Chilean young adults (Mage = 21.2y, 55% female) who took part in a randomized controlled iron-deficiency anemia preventive trial during infancy (6-12 m). Slightly over half of participants (n = 237) received iron-fortified formula (12.7 mg/L) and 206 received a low-iron formula (2.3 mg/L). Spatial memory, IQ, and visual-motor integration were measured at age 10, and neurocognition, emotion regulation, educational level, and attainment of adult developmental milestones were assessed at age 21. **Results:** Consumption of iron-fortified formula in infancy was associated with poorer performance on neurocognitive tests in childhood, and these effects related to poorer neurocognitive, emotional, and educational outcomes in young adulthood. Dosage effects associated with consumption of iron-fortified formula were found for lower educational attainment and, marginally, slower mental processing. Those who received iron-fortified formula and had low age 10 cognitive abilities performed most poorly on neurocognitive tests at age 21. **Conclusion:** Findings suggest that the long-term development of infants who consume iron-fortified formula may be adversely affected. Clinical Trials number: NCT01166451

Palabras clave

Palabras clave de autor: [Iron supplementation](#); [neurocognition](#); [emotion regulation](#); [memory](#); [executive function](#); [Chile](#)

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