

The Long-term Effects of Folate and B12 Given in Infancy on Cognition 6-9 Years Later

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The importance of early brain development has been a topic of many studies and editorials in our journal. No one will argue that doing whatever can be done to give a child the best start possible for brain development is essential and that necessitates an adequate diet and proper nutrients. Kvestad et al ([10.1542/peds.2019-2316](#)) have been studying the short and long-term cognitive effects of providing infants and toddlers (6 to 30-months-old) with six months of nutrient supplementation with

folic acid and vitamin B₁₂ through a randomized double-blind placebo-controlled trial involving 1000 children in northern India. The authors reported after three years improvements in cognitive testing in those children who had gotten the folate and B₁₂, ([10.3945/ajcn.111.032268](#)) but what about 3 to 6 years later? Fortunately, 791 of the original 1,000 children were available for cognitive testing using various validated tests of intelligence. The study also looked for markers of B vitamins at that age to see if they were increased in those children who had gotten the supplementation 6 years previously. The results may surprise you in that no differences in cognitive performance were seen in the intervention group, which they had observed 3 years previously.

Does this mean there is no value in giving children these nutritional supplements during infancy or toddlerhood? Not necessarily according to an important accompanying commentary on this study by Drs. Leila Larson and Beverly Biggs from the University of Melbourne ([10.1542/peds.2019-3827](#)). Drs. Larson and Biggs provide some alternative explanations for these findings as well as potential limitations to the study methodology (e.g. doses and timing of when nutrients were given combined with other social determinants affecting outcomes) that will help us better understand the findings as well as the importance of long-term and not just short-term follow-up on an interventional study like this one. There is a lot of food for thought in this study and commentary, so link to them and digest the thought-provoking findings they have to offer.

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