

Early-life nutrition may be associated with adult intellectual functioning

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Adults who had improved nutrition in early childhood may score better on intellectual tests, regardless of the number of years they attended school, according to a report in the July issue of *Archives of Pediatrics & Adolescent Medicine*.

"Schooling is a key component of the development of literacy, reading comprehension and cognitive functioning, and thus of human capital," the authors write as background information in the article. Research also suggests that poor nutrition in early life is associated with poor performance on cognitive (thinking, learning and memory) tests in adulthood. "Therefore, both nutrition and early-childhood intellectual enrichment are likely to be important determinants of intellectual functioning in adulthood."

Between 1969 and 1977, Guatemalan children in four villages participated in a trial of nutritional supplementation. Through the trial, some were exposed to atole—a protein-rich enhanced nutritional supplement—while others were exposed to fresco, a sugar-sweetened beverage. Aryeh D. Stein, M.P.H., Ph.D., of the Rollins School of Public Health, Emory University, Atlanta, and colleagues analyzed data from intellectual testing and interviews conducted between 2002 and 2004, when 1,448 surviving participants (68.4 percent) were an average of 32 years old.

Individuals exposed to atole between birth and age 24 months scored higher on intellectual tests of reading comprehension and cognitive

functioning in adulthood than those not exposed to atole or who were exposed to it at other ages. This association remained significant when the researchers controlled for other factors associated with intellectual functioning, including years of schooling.

"Nutrition in early life is associated with markers of child development in this population, and exposure to atole for most of the first three years of life was associated with an increase of 0.4 years in attained schooling, with the association being stronger for females (1.2 years of schooling)," the authors write. "Thus, schooling might be in the causal pathway between early childhood nutrition and adult intellectual functioning."

"Our data, which suggest an effect of exposure to an enhanced nutritional intervention in early life that is independent of any effect of schooling, provide additional evidence in support of intervention strategies that link early investments in children to continued investments in early-life nutrition and in schooling," they conclude.

Source: JAMA and Archives Journals

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