HIV Is Tied to Poorer Cognitive and Motor Function in Children

A study conducted in Africa compared various cognitive outcomes between children with and without the virus.

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Children who contract HIV from their mothers in the womb, during delivery or through breast feeding score lower on various tests of cognitive ability, motor function and attention compared with their peers who do not have the virus.

Michael J. Boivin, PhD, MPH, a psychiatrist at Michigan State University, and colleagues conducted an observational study of 611 children at six sites in sub-Saharan Africa, including in South Africa, Zimbabwe, Malawi and Uganda.

The study was run by the International Maternal Pediatric Adolescent AIDS Clinical Trials Network (IMPAACT), which is supported by the National Institutes of Health.

Participants in the study included 246 5- to 11-year-olds who contracted HIV from their mothers and who started antiretroviral (ARV) treatment before age 3 in a previous study run by IMPAACT. Three quarters of these children had a fully suppressed viral load.

As comparison groups, the study recruited HIV-negative children matched by age with the HIV-positive children, including 183 children who were exposed to the virus in utero or during breast feeding but did not contract it, and 182 children who were not exposed to the virus.

All the children received a battery of neuropsychological tests upon entering the study and then after 48 and 96 weeks, respectively.

The study authors controlled the test results for age, sex and certain socioeconomic and family factors.

The HIV-positive children scored more poorly at all three time points than the two HIV-negative groups on tests of cognitive ability, attention and impulsivity as well as motor proficiency. On a test of planning and reasoning skills, the children with HIV showed less improvement over time than the two groups of children without the virus.

There were no differences in the test results between the two HIV-negative groups.

In their conclusion, the study authors expressed concern for how such deficits in cognitive ability and development may affect the children's capacity to care for themselves as they move through adolescence.

To read a press release about the study, click here.

To read the study abstract, click here.

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