

Study shows HIV-exposed children at high risk of language delay

January 10 2012, By Robert Bock and John McGrath

(Medical Xpress) -- Children exposed to HIV before birth are at risk for language impairments, according to a study by researchers at the National Institutes of Health and other institutions.

Moreover, children exposed to HIV before birth may benefit from [routine screening](#) for language impairment, even if they don't have any obvious signs of a language problem, the researchers said.

The researchers found that 35 percent of a group of school-age children born to women with an HIV infection during pregnancy have difficulty understanding spoken words and expressing themselves verbally. On a standard series of tests of language ability, children exposed to HIV before birth scored, on average, within the lowest 21 percent of all children who have taken the test.

Children exposed to HIV before birth tended to have language delays, regardless of whether or not they later became infected with HIV.

"Our results show that children exposed to HIV have more than twice the chance of having a language impairment than do children in the general population," said George K. Siberry, M.D., M.P.H., of the Pediatric, Adolescent and Maternal AIDS Branch of the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), one of eight NIH institutes that supported the research.

The study could not determine if the high rates of language impairment

in the HIV-exposed children can be attributed to HIV exposure or to other unidentified factors, such as their family status, maternal substance use, environment, or social or economic background.

Funding for the study was also provided by the National Institute on Alcohol Abuse and Alcoholism, the National Institute of Allergy and Infectious Diseases, the National Institute on Drug Abuse, the National Institute on Deafness and Other Communication Disorders, the National Heart Lung and Blood Institute, the National Institute of Mental Health, and the National Institute of Neurological Disorders and Stroke.

First author Mabel L. Rice, Ph.D., of the University of Kansas, Lawrence, collaborated with Dr. Siberry and other researchers participating in the NICHD-funded Pediatric HIV/AIDS Cohort Study.

Their findings appear in the *Journal of Development and Behavioral Pediatrics*.

The 468 children in the study were 7 to 16 years old. A total of 306 were HIV-infected, while the remaining 162 were exposed to HIV during pregnancy but did not become HIV-infected. In addition to evaluating the children's language ability, the researchers analyzed their medical records, tested their hearing and evaluated their general cognitive development.

Based on the results of this analysis, the children were classified into three groups:

- Those with no language impairment, 65 percent
- Those with a concurrent language impairment (also having a hearing or cognitive impairment), 24 percent
- Those with a primary language impairment (no hearing or cognitive impairment), 11 percent.

Among HIV-positive students, those with a severe or poorly controlled HIV infection were about three times more likely than students with HIV who responded to treatment to experience language delays associated with cognitive impairments or hearing loss.

The researchers encouraged those caring for children exposed to [HIV](#) in the womb to provide early treatment for language impairments. Children who don't use language well not only are at risk for school failure, but may have difficulty communicating with their peers and establishing friendships. Signs of potential [language impairment](#) include difficulty following instructions, appearing distracted or uninterested, difficulty understanding puns and plays on words, and difficulty with rhyming.

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