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TV viewing before the age of 2 has no cognitive benefit, study finds

Environmental factors found to be more influential

Boston, Mass. -- A longitudinal study of infants from birth to age 3 showed TV viewing before the age of 2 does not improve a child's language and visual motor skills, according to research conducted at Children's Hospital Boston and Harvard Medical School. The findings, published in the March issue of *Pediatrics*, reaffirm current guidelines from the American Academy of Pediatrics (AAP) that recommend no television under the age of 2, and suggest that maternal, child, and household characteristics are more influential in a child's cognitive development.

"Contrary to marketing claims and some parents' perception that television viewing is beneficial to children's brain development, no evidence of such benefit was found," says Marie Evans Schmidt, PhD, lead author of the study.

The study analyzed data of 872 children from Project Viva, a prospective cohort study of mothers and their children. In-person visits with both mothers and infants were performed immediately after birth, at 6 months, and 3 years of age while mothers completed mail-in questionnaires regarding their child's TV viewing habits when they were 1 and 2 years old. It was conducted by researchers in the Center on Media and Child Health at Children's and the Department of Ambulatory Care and Prevention at Harvard Medical School and Harvard Pilgrim Health Care.

The study is the first to investigate the long term associations between infant TV viewing from birth to 2 years old and both language and visual-motor skill test scores at 3 years of age. These were calculated using the Peabody Picture Vocabulary Test III (PPVT III) and Wide-Range Assessment of Visual Motor Abilities (WRAVMA) test. The PPVT measures receptive vocabulary and is correlated with IQ, while WRAVMA tests for visual motor, visual spatial, and fine motor skills.

The researchers controlled for sociodemographic and environmental factors known to contribute to an infants' cognitive development, including mother's age, education, household income, marital status, parity, and postpartum depression, and the child's gender, race, birth weight, body mass index, and sleep habits. Using linear regression models, the researchers equalized the influences of each of these factors and calculated the independent effects of TV viewing on the cognitive development of infants. Once these influences were factored out, associations in the raw data between increased infant TV viewing and poorer cognitive outcomes disappeared.

"In this study, TV viewing in itself did not have measurable effects on cognition," adds Schmidt. "TV viewing is perhaps best viewed as a marker for a host of other environmental and familial influences, which may themselves be detrimental to cognitive development."

While the study showed that increased infant TV exposure is of no benefit to cognitive development, it was also found to be of no detriment. The overall effects of increased TV viewing time were neutral. TV and video content was not measured, however, only the amount of time exposed. The researchers acknowledge follow-up studies need to be done, and they are quick to warn parents and pediatricians that the body of research evidence suggests TV viewing under the age of 2 does more harm than good.

"TV exposure in infants has been associated with increased risk of obesity, attention problems, and decreased sleep quality," adds Michael Rich, MD, MPH, the pediatrician who directs the Center on Media and Child Health and contributing author on this study and the current AAP Guidelines. "Parents need to understand that infants and toddlers do not learn or benefit in any way from viewing TV at an early age."

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The Center on Media and Child Health (CMCH) is an interdisciplinary center of excellence in research, clinical intervention, and education on the effects of media on the physical, mental, and social health of children. CMCH makes research and tips for parents and teachers available at: www.cmch.tv.

Children's Hospital Boston is home to the world's largest research enterprise based at a pediatric medical center, where its discoveries have benefited both children and adults since 1869. More than 500 scientists, including eight members of the National Academy of Sciences, 11 members of the Institute of Medicine and 13 members of the Howard Hughes Medical Institute comprise Children's research community. Founded as a 20-bed hospital for children,

Children's Hospital Boston today is a 397-bed comprehensive center for pediatric and adolescent health care grounded in the values of excellence in patient care and sensitivity to the complex needs and diversity of children and families. Children's also is the primary pediatric teaching affiliate of Harvard Medical School. For more information about the hospital and its research visit: www.childrenshospital.org/newsroom.