Prenatal exposure to polychlorinated biphenyls and attention at school age.

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OBJECTIVE: To examine the relation of prenatal polychlorinated biphenyl (PCB) exposure to child performance on neuropsychological tests of attention and information processing. Study design In this prospective, longitudinal study, assessment of prenatal PCB exposure was based on umbilical cord serum and maternal serum and milk concentrations. The children were tested in their homes at age 11 years. Multiple regression was used to examine the relation of this exposure to performance on 15 neuropsychological tests after controlling for a broad range of potential confounding variables. RESULTS: Adverse effects were seen primarily in children who had not been breast fed. Among these children, prenatal PCB exposure was associated with greater impulsivity, poorer concentration, and poorer verbal, pictorial, and auditory working memory. There was no evidence of visual-spatial deficit or increased hyperactivity. CONCLUSIONS: These findings are consistent with earlier reports of greater vulnerability to prenatal PCB exposure in children who were not breast fed. It is not clear whether the protection offered by breast-feeding is caused by nutrients in breast milk or better quality of intellectual stimulation often provided by breast-feeding mothers.

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