

Math Problems Identified in Children Exposed to Alcohol in Pregnancy

Fetal Alcohol Syndrome (FAS) and partial FAS (pFAS) result from heavy exposure to alcohol during pregnancy. In addition to birth defects and lower birth weight, there can be specific effects on learning and development in these children. The Maternal Substance and Child Development Laboratory, Department of Psychiatry and Behavioral Sciences, Emory University School of Medicine, has been investigating the relationship between prenatal alcohol exposure and specific learning problems. Most recently, the academic achievement of 41 alcohol-affected adolescents was compared to that of two contrast groups in order to better understand how they are functioning in school. The two contrast groups were a group of 52 teens from the same low socioeconomic status (SES) population whose mothers did not drink in pregnancy and a group of 76 students who are receiving special education services in Metro Atlanta school systems who volunteer to participate in this study. The majority of teens in all groups were African-American and both girls and boys participated.

Results were very clear. Prenatal alcohol exposure significantly affected overall ability (that is, IQ scores) as measured by the Weschsler

Intelligence Scale for Children (3rd Ed) (WISC-III). Both contrast groups scored significantly higher on this test than those with FAS. Academic achievement was measured using the Weschler Individual Achievement Test (WIAT). This test gives a summary score for overall achievement as well as individual scores for Reading, Spelling and three measures of math skills, Numerical Operations, Math and Math Reasoning. On the WIAT, the learning disabled Special Education Group was significantly lower on all measures than the Control group of typically developing children. However, the FAS group showed specific deficits in all the measures of math while performing more like the Control group on the Reading and Spelling measures. These outcomes suggest that alcohol exposure produces specific problems in understanding and using Math and that this area should be a focus of concern when children are known to have had prenatal exposure.

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