Researchers with the Emory Maternal Substance Abuse and Child Development (MSACD) Project, Department of Psychiatry and Behavioral Sciences, Emory University School of Medicine, have documented effects on physical development in their longitudinal study of individuals affected by prenatal alcohol exposure. The study included children whose mothers reported using alcohol during pregnancy and children whose mothers did not. Mothers were recruited during a prenatal visit at a hospital serving a primarily African-American, low income population.

The researchers found that infants of mothers who drank throughout pregnancy were smaller in weight, length, and head circumference than infants whose mothers did not drink at all. In addition, alcohol-exposed infants could be identified at birth through assessment of growth and specific physical features associated with prenatal alcohol exposure such as small eye openings or a thin upper lip. These features and growth indicators have been included in a measure called the Dysmorphia Checklist (Link here) that has been used by the researchers throughout the study.

Children’s growth and physical features were examined later in development, too—at about age seven, in adolescence, and again in young adulthood. Effects of prenatal alcohol exposure on growth could be identified at birth, in childhood, and in adulthood. No effect on growth occurred in adolescence, which may be related to individual differences in when growth changes related to puberty begin and how quickly the changes occur.

Because the researchers collected information on the amount of alcohol the mothers reported drinking during pregnancy, they were able to examine whether the amount of alcohol consumed was related to the child’s dysmorphia score. A positive relationship was identified.
The more the mother drank, the higher the dysmorphia score. This relationship occurred from birth through adulthood. It is called a dose-response relationship.

In summary, prenatal alcohol exposure affects growth and development of specific physical features. Effects can be seen not only in infancy, but also at later points in development. When amount of alcohol consumed was related to physical dysmorphia in offspring, a dose-response relationship was found. This result suggests that the amount of alcohol consumed is directly related to the physical effects on the child.

References:


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