

MSA NEWSLINE

Up-to-date Information on Maternal Substance Abuse and Child Development

Smoking Tobacco in Pregnancy and Later Outcomes

Smoking Tobacco During Pregnancy Increases Risk for Complications

NIDA estimates that 20 percent or more of women smoke while they are pregnant.

Women who smoke during pregnancy are at increased risk for **miscarriages** and **spontaneous abortions**.

According to the CDC women who smoke during pregnancy are 36-47 percent more likely to deliver prematurely than nonsmoking women. **Premature delivery** has an adverse effect on birthweight.

Infants carried to term by a smoking mother are also at increased risk for **lower birth weight**. There appears to be a relationship between the amount a woman smokes and infant birth weight: the more cigarettes smoked, the greater the deficit in weight.

Prenatal Tobacco Smoke Exposure Affects Sound Perception

Research on the effects of maternal smoking during pregnancy has suggested that children of women who smoke may have poorer learning skills and problems in their ability to process sounds. This question was addressed in a study conducted at Emory's Child Development Laboratory in collaboration with the Centers for Disease Control and Emory School of Public Health. Babies' learning abilities were assessed using the Bayley Scales of Infant Development-II (BSID-II) and two information processing tasks.

Psychologists use changes in heart rate to measure infants' attention and their learning rates. In this study, two tests were used to measure response to sounds and sights - these were sounds (tone pairs) and pictures. Typically, babies' heart rates slow down when they are paying attention and learning about something new. These changes happen within seconds of first seeing or hearing something new. How quickly the heart rate slows down and the amount of change in heart rate reveals how the baby responded to the sight or sound.

"... infants of mothers who smoked in pregnancy have a deficit in auditory perception ..."

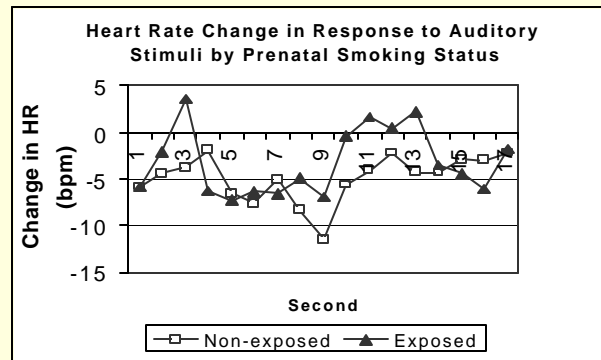
After controlling for important family lifestyle variables and mother's intake of alcohol and caffeinated beverages, maternal smoking predicted poorer language scores on the BSID-II and less effective response to the

News Briefs Drug Abuse and Conduct Disorder Linked to Prenatal Tobacco Exposure

Researchers at Columbia University followed 147 mother-child pairs through adolescence and early adulthood. Study evidence revealed an increased risk for drug abuse and conduct disorder in children whose mothers smoked during pregnancy.

The study revealed striking gender differences, with girls at increased risk for substance

auditory (sound) stimulus while there was no effect on visual stimuli. Maternal smoking was not related to the overall development or to the babies' physiological reactions to the pictures. This suggests that infants of mothers who smoked in pregnancy have a specific deficit



in auditory perception and early language development. These findings may have implications for later reading and overall academic performance.

abuse and boys at increased risk for conduct disorder.

Risk for drug abuse in adolescent girls was more than 5-fold higher if their mothers smoked significant amounts during pregnancy. Seventy percent of girls who abused drugs, abused more than one substance.

Among boys whose mothers smoked significant amounts during pregnancy, the risk for conduct disorder was increased 4-fold.



Maternal Substance Abuse and
Child Development Project
1256 Briarcliff Rd., NE Suite 323W
Emory West Campus
Atlanta, GA 30306

The *Maternal Substance Abuse and Child Development Project* is dedicated to the study and prevention of the effects maternal substance abuse. Since 1978, the project has studied the development of children exposed to alcohol and other drugs prenatally and their caregivers and provided training for Prevention statewide. For additional information call (404) 712-9800.