

Heavy Prenatal Alcohol Ravages School-Age Kids

BY BETSY BATES
Los Angeles Bureau

SANTA BARBARA, CALIF. — The psychiatric and behavioral consequences of heavy prenatal alcohol exposure on children are abundantly clear by midchildhood and adolescence, according to studies presented at the annual meeting of the Research Society on Alcoholism.

One study found that children exposed prenatally to alcohol were far more likely than their peers to meet the diagnostic criteria for attention-deficit hyperactivity disorder (ADHD), oppositional defiant disorder, conduct disorder, tic disorders, and mood disorders by the time they were 8-14 years old.

Another study assessed social problem-solving skills and executive functioning in adolescents who were heavily exposed to alcohol in utero. Profound impairments were found in both types of skills, which are integral to academic achievement and social interaction. The studies were conducted by researchers from the Center for Behavioral Teratology at San Diego State University, and were presented in poster form.

Sarah N. Mattson, Ph.D., a senior author on the studies, said in an interview that "heavy alcohol exposure" was equivalent to about a case of beer or a fifth of hard liquor a day.

Susanna L. Fryer, a doctoral student at the center, explored childhood psychopathologies in 43 alcohol-exposed and 22 nonexposed children using structured interviews with primary caregivers. "The difference within the ADHD category was, by far, the largest [group] effect observed," she concluded.

By the numbers, 42 of 43 alcohol-exposed children met diagnostic criteria for ADHD, compared with 1 of 22 nonexposed children matched by age and socioeconomic status.

Nearly a third (13 of 43) of the alcohol-exposed children had oppositional defiant disorder, but just one nonexposed child met

the criteria for that diagnosis. Mood disorders were found in eight alcohol-exposed children, tic disorders in four, and conduct disorder in five. No child in the control group met the diagnostic criteria for any of those illnesses.

"Certain psychiatric disorders may be more prevalent than others in fetal alcohol spectrum disorders; disruptive psychopathologies were particularly common in our sample, while anxiety disorders were not," wrote Ms. Fryer. Similarly, children exposed to alcohol prenatally were no more likely than controls to have simple phobias.

Christie L. McGee, who is also a doctoral student at the center, reported on social problem-solving deficits in 43 adolescents aged 13-18 years, 24 of whom were prenatally exposed to heavy alcohol use. The adolescents completed the Revised Social Problem-Solving Inventory (SPSI-R), which measures an individual's ability to resolve the problems of everyday living. The teenagers' parents or

caregivers completed the Behavior Rating Inventory of Executive Function (BRIEF), which includes subscales on such characteristics as a child's emotional control, working memory, and ability to plan and organize. Responses were anonymous.

Very large differences were found between the alcohol-exposed and nonexposed adolescents, with effect sizes ranging from 1.32 to 1.41 for problem solving skills and 1.96 to 4.61 for executive functioning.

Those exposed to alcohol in utero "approached problems with a pessimistic orientation and indicated a low frustration tolerance," said Ms. McGee.

"[They] rated themselves as less effective at identifying problems, generating solutions, making decisions, and implementing and verifying the chosen solution ... [and they were] more likely to endorse an avoidant, careless, or impulsive approach to solving their everyday problems," she continued. ■

In adolescents, profound impairments were found in two kinds of skills integral to academic achievement and social interaction.

Defusing Attitudes About Drug-User Moms

ST. PETE BEACH, FLA. — Attending a specialized clinic for pregnant women with substance-use disorders helped medical students in a recent study feel more comfortable and less judgmental when working with such patients.

A total of 104 consecutive third-year students rotating on an 8-week obstetrics-gynecology clerkship were enrolled in the study and randomized to attend or not to attend the half-day clinic. Responses to a 36-item survey administered at the start of participants' clerkship and midway through the clerkship showed significant improvements in the comfort level of clinic attendees in regard to talking with patients about smoking, alcohol use, and other substance use,

William A. Ramirez-Cacho, M.D., of the University of New Mexico, Albuquerque, and colleagues reported in a poster at the annual meeting of the Teratology Society.

The responses also demonstrated that the clinic attendees were significantly less judgmental of patients with substance-use disorders and significantly more aware of multidisciplinary therapy approaches for treatment. Control students' survey responses indicated a significant decline in comfort level when it came to discussing patients' habits, and a significant decline in awareness regarding how common substance-use disorders are in this population, the investigators noted.

—Sharon Worcester

Third-Trimester Alcohol Worst For Attention-Deficit Woes

BY BETSY BATES
Los Angeles Bureau

SANTA BARBARA, CALIF. — Prenatal alcohol exposure is most likely to affect children's attention problems when it occurs during the third trimester, a prospective study of 492 children determined.

There is a high degree of correlation between teacher- and parent-assessed attention deficits in children exposed to alcohol in late pregnancy, compared with alcohol exposure during the first or second trimesters, Beth Nordstrom Bailey, Ph.D., and her associates reported at the annual meeting of the Research Society on Alcoholism.

"These findings provide yet one more piece of evidence that the timing of prenatal alcohol exposure impacts child outcomes," concluded the investigators, who presented their study in a poster.

The study from East Tennessee State University in Johnson City, where Dr. Bailey serves on the department of family medicine faculty, carries substantial weight because it prospectively tracked women's substance abuse throughout pregnancy and followed their children for 6-7 years.

The cohort was from urban Detroit and was mostly made up of African Americans with a low socioeconomic status, 90% of whom agreed to participate in the follow-up study.

Caregivers—most often the children's biological mothers—completed the Achenbach Child Behavior Checklist. Classroom teachers completed the Achenbach Teacher Report Form. Both standardized tools include Attention Problems scales.

In a logistic regression analysis, third-trimester prenatal alcohol exposure independently correlated with attention problems as assessed by both caregivers and teachers. Lead levels and custody changes also correlated with attention scores as assessed by parents and caregivers. Violence exposure factored into the equation only when teachers' assessments were considered. Prenatal exposure to cocaine, cigarettes, or alcohol during the first and second trimesters failed to independently correlate with later attention problems in children.

In an interview, Dr. Bailey explained that first-trimester exposures have the potential to affect global development of the fetus, possibly resulting in physical deformities, major cognitive impairment, and diminished growth.

In the third trimester, higher-order functions are most affected. "It's a time for fine-tuning in pregnancy," she said. Alcohol exposure during this time appears to affect the specific attention and behavior functions that are readily assessed during the school-age years.

Environmental influences also contribute to such problems, but third-trimester alcohol exposure remains a strong correlate even after application of statistical controls for those factors.

"I think this study in particular makes it clear that it's never too late to quit," Dr. Bailey said. "If at any point in pregnancy a woman can reduce her alcohol consumption or quit, there is still benefit."

The Center for Healthcare Effectiveness Research at Wayne State University in Detroit contributed to the study, which was funded by the National Institutes of Health and the Children's Research Center of Michigan. ■

Passive May Be as Bad as Active Smoking for Fetus, Study Finds

BY BRUCE DIXON
Chicago Bureau

A pregnant woman's exposure to secondhand cigarette smoke may be just as risky to the fetus as is active smoking, according to a pooled data re-analysis by Stephen G. Grant, Ph.D., of the University of Pittsburgh.

"This [new] analysis shows not only that smoking during pregnancy causes genetic damage in the developing fetus that can be detected at birth, but also that passive, or secondary, exposure causes just as much damage as active smoking, and it's the same kind of damage," Dr. Grant said in a statement.

"The women who go to the trouble of quitting smoking feel they have taken care of the problem," he said in an interview. "This is a cautionary exercise in which we say women have to change their lifestyles in other ways" such as having their husbands quit smoking and not going outside with their friends

on smoke breaks even if they don't smoke themselves. "You have to protect your baby from passive exposure as much as from active smoking," he said.

The study examined data from two contradictory studies published in the mid-1990s on rates of mutation at the *HPRT* locus (a measure of in vivo mutagenesis) in newborn cord blood samples. Compared with samples from babies who had not been exposed to smoke in utero, exposed babies had significantly higher mutation rates. There were no significant differences in the levels of induced mutation among children of exposed women (active smokers, women who had quit smoking when they found out they were pregnant, and women who were only passively exposed to smoke).

In the pooled data, the median *HPRT* mutation frequencies for actively and passively smoking moms was identical at 0.87 (BMC *Pediatr.* 2005;5:20 [Epub ahead of print]). ■