Combined measures of maternal drinking can predict resulting problems in children

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While many people are aware that drinking during pregnancy can lead to a range of Fetal Alcohol Spectrum Disorders (FASDs), including the serious Fetal Alcohol Syndrome (FAS), linkages between maternal-drinking measures and child outcomes have been inconsistent. Researchers have now designed a "metric" or combination of measures that appear better able than individual measures to predict prenatal neurobehavioral dysfunction and deficits in children.

Results will be published in the April issue of *Alcoholism: Clinical & Experimental Research* and are currently available at Early View.

"The number of children being born with FAS remains unnecessarily high," said Lisa M. Chiodo, a researcher at Wayne State University and corresponding author for the study. "In part this is because it is difficult to identify patterns of drinking during pregnancy that put women's children at risk for FAS and other FASDs."

Chiodo said that although there are several measures of maternal drinking during pregnancy, their ability to predict child outcomes - particularly cognitive and behavioral problems - has been inconsistent. "We thought that combining many of the clinical and research measures of alcohol drinking into a single metric might help us find every child in our study who had been exposed to levels of alcohol that put them at risk," she said.

Only one other group has constructed a composite metric meant to

identify women who were at risk of having a child with FASDs, Chiodo added, and the current metric differs from that one by focusing on problems related to alcohol drinking and not including other health concerns or risky behaviors.

The author of that other metric was Claire D. Coles, professor of psychiatry and behavioral sciences at the Emory University School of Medicine. "It is imperative that health-care professionals ask pregnant women about their alcohol and drug use in order to provide appropriate care for the women, and to provide anticipatory guidance for their children," she said. "Knowing that a woman has a substance-abuse problem or is an alcoholic is likely to be highly related to later developmental problems in the children."

Researchers examined a sample of 75 African-American mothers as well as their four- to five-year-old offspring. The mothers self-reported peri-conceptional and repeated in-pregnancy maternal drinking in response to a number of semi-structured interviews and standard screening instruments, which were then used to construct a metric of "maternal prenatal risk drinking." The offspring were tested for IQ, attention, memory, visual-motor integration, fine motor skills, and behavior. The metric was then assessed against these outcomes.

The metric identified more than 62 percent of the mothers as drinking at risk levels; 23 percent more than the individual selection criterion identified.

"We had good reason to think that risk drinking was more common than thought," said Chiodo, "so detecting more risk drinkers was not that surprising. The real surprise was how successful the metric was in predicting deficits and problems in the children. In fact, our metric predicted poor child cognition and behavior problems better than any of the individual measures of maternal alcohol consumption or screens for

problem drinking alone."

"These combined measures of substance abuse were more predictive than alcohol-volume metrics," observed Coles. "Generally, alcohol-volume measures are less effective probably … due to self-reporting issues. I think that the strength of this paper is its reinforcement of the idea that alcohol use, particularly at levels that would define a woman as an alcohol abuser or alcoholic, is dangerous during pregnancy. For the clinician, it reinforces the idea that pregnant women should be questioned about their drug and alcohol use and that there are reliable and quick methods for identification of those at risk."

"Clinicians must be able to identify risk levels of drinking in their pregnant patients because that is a critical time for possible treatment and prevention," said Chiodo. "After the children are born, we also need to be able to identify which children were exposed to 'risky' alcohol levels during pregnancy to allow correct diagnosis of, and early intervention with, children with FASDs. We do not know how or if our current metric might be adapted in practice for clinicians. However, our results suggest that it might be useful for health-care providers to use more than one measure of drinking in a more thorough examination of risk patterns and problem drinking."

Source: Alcoholism Clinical and Experimental Research