UC researcher discovers links to lead, crime
The higher the levels, the more likelihood for delinquent behavior
BY SHARON COOLIDGE | ENQUIRER STAFF WRITER

Researchers knew lead poisoning could be deadly to children and cause brain damage in the late 1970s.

What impact that had on the children's behavior was unclear.

That's why Kim Dietrich, a professor of environmental health at the University of Cincinnati, spent from 1979 to 1984 recruiting 305 children with lead in their blood from Cincinnati's poorest neighborhoods for a study that's allowed him to study the children as they grew.

Now, 22 years later, one thing is clear: The more lead in a person's system when they're young, the more likely they are to engage in delinquent behavior such as assaults, property crimes and disturbing the peace - acts that carry the risk for arrest, experts say.

"We all know there is a relationship between lead and lower IQ, but there is an extension to criminal activity," said Dietrich, who is director of UC's division of epidemiology and biostatistics program and conducted the study with a team of four others. "And this has terrible implications for not only the individual, but for society as a whole."

While the National Institute of Health estimates that lead-poisoned children cost the county an estimated $17.2 billion every year just in medical costs, lost work days and reduced productivity, Dietrich's research means it also potentially costs millions more in criminal justice costs and medical care for crime victims.

Dietrich's findings, based on a look at his study group when its members reached age 16 and 17, were published in 2001.

Dietrich and the study's others authors have monitored the group at ages 20 through 22, and found the trend continues. "Those exposed to higher levels of lead more likely to engage in criminal activities, some that resulted in convictions and incarceration," he said.

"I was interested in this because we know lead attacks areas of children's brains that are involved in aggression and impulse control," Dietrich said. "It was logical to examine this relationship between lead exposure and incidents of delinquent behaviors."
Pittsburgh researcher Herbert Needleman, using his own group of children who had lead poisoning, reached similar conclusions. He found juvenile delinquents are five times more likely than other children to have elevated lead levels.

Lead exposure in early childhood may have played an important role in the national epidemic of violent crime in the late 20th century and the dramatic decline of crime rates over the past decade, said Rick Nevin, an economist for the National Center for Healthy Housing in Washington.

Nevin, hired by the Department of Housing and Urban Development in the early 1990s to do a cost-benefit analysis of removing lead paint from public housing, said he was stunned to discover a strong relationship between the use of leaded gasoline and violent crime. "The statistics show lead has had a significant impact on crime," he said.

Dietrich knows skeptics might say, "Well, the people grew up in Over-the-Rhine and the West End, so they're more likely to commit crimes." But he said the study was adjusted for social class, quality of care they got as children, nurturing they received and their mother's use of alcohol, drugs and cigarettes.

Children in the highest lead group on average said they committed five more act of delinquency over the last year than children with the lowest levels.

"There are a lot of causes of crime," Dietrich said. "These children are already living in environments with social forces that are conducive to crime. Then, on top of that, their central nervous systems are being attacked by lead, which reduces their ability to resist those forces.

"The city needs to act when they are children, not when they're adults committing crime," he said.

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