

Lead Poisoning - Behavior Difficulties and Violence

Childhood Lead poisoning can affect segments of the brain that control mood swings, actions and the decision making process. In young adults, it can be connected to criminal activity and violence. There are many other issues connected to childhood lead poisoning including learning difficulties, behavior problems, lowered IQ, aggression and hyperactivity, all contributing to school suspensions, drop-out rates and delinquency.

Findings

Exposure to lead during pregnancy and lead poisoning when children are young are connected to more arrests and/or arrests for violent offenses in a study of 250 individuals that looked at them from birth to ages 19-24 years old. The more lead in a child's blood at 6 years old, the higher are the child's chances of being arrested for a violent crime as a young adult. (1)

Lead poisoning in children in preschool increased the amount of crime over several decades in nine countries, including the U.S. The impact of childhood lead poisoning is also seen in the increase of arrest and incarceration over these years. This study further suggests that crimes involving violence could be especially connected to the more severe cases of childhood lead poisoning. (2)

A study of 195 inner-city teenagers over a period of 6 years found that children exposed to lead before or after birth showed more delinquent and antisocial behavior, including marijuana use. The study took into account other reasons known to affect delinquency. (3)

A comparison of 194 delinquent children with 146 non-delinquent children found that delinquent children were four times more likely to be lead poisoned than the non-delinquent youth. This was the result even after looking at other problems that affect delinquency, including the level of parent education and employment, single-parent households, number of children living in the home, and neighborhood crime rates. (4)

The numbers of children ages 1-6 years old who were lead poisoned dramatically decreased from the late 1970's through the early 1980's, mainly due to gasoline with lead no longer being allowed in cars, and the laws no longer allowing the sale of paint with lead in it. The smaller amounts of lead found in children may explain the significant declines in violent crime in the 1990's as those children became adults. The study finds that the benefits to reducing violent crimes far outweigh the costs incurred by prohibiting the sale of gasoline with lead. (5)

Source(s)

(1) Wright JP, Dietrich KN, Ris MD, Hornung RW, Wessel SD, Lanphear BP, HO M, Rae MN. *Association of prenatal and childhood blood lead concentrations with criminal arrests in early adulthood* in PLoS Medicine Vol.5, No. 5, e101 2008. Doi: 10.1371/journal.pmed.0050101 (2008)

(2) Nevin R. *Understanding international crime trends: the legacy of preschool lead exposure* in Environmental Research, July 2007 104(3): 315-36.

(3) Dietrich KN, Ris MD, Succop PA, Berger OG, Bornschein RL. *Early exposure to lead and juvenile delinquency* in Neurotoxicology and Teratology 2001; 23(6): 511-18.

(4) Needleman H, McFarland C, Ness R, Fienberg S, Tobin M. *Bone lead levels in adjudicated delinquents: A case control study* in Neurotoxicology and Teratology 2002; 24: 711-717.

(5) Reyes, Jessica Wolpaw. *Environmental Policy as Social Policy? The Impact of Childhood Lead Exposure on Crime* in B.E. Journal of Economic Analysis & Policy 2007; Vol. 7: Iss. 1 (Contributions), Article 51.