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Childhood Lead Poisoning

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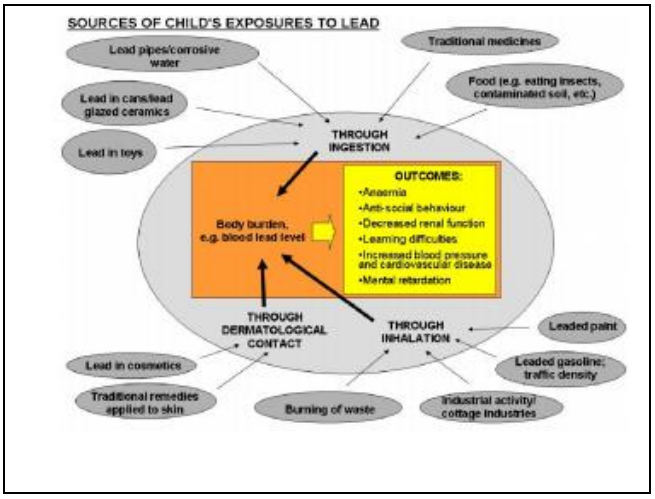
Symptoms:

Childhood lead poisoning is an environmental disease caused by open exposure to lead from a variety of outlets such as lead-based paint, ceramic glazes, drinking water systems or lead pipes, lead-contaminated or electronic waste, and lead in mining (WHO, 2010). Symptoms of the disease include developmental delays, short attention span, loss of intelligence, and behavior disruption. There are also physical symptoms like fatigue, abdominal pain, seizures, weight loss, vomiting, and muscle and joint pain (WHO, 2010). The disease is usually identified by interviewing people with a combination of gastrointestinal and central nervous system irregularities, along with behavioral abnormalities (Wani, A. L. et al., 2015). Further investigation into their environment and physical symptoms is conducted to narrow down the symptoms. Childhood lead poisoning is a global crisis, accounting for 0.6% of global diseases and is found everywhere but seen more in developing nations (WHO, 2010). A study demonstrated that there were 57 hotspot locations where childhood lead poisoning was most prevalent. Most had different reasons for the poisoning. For example, leaded gasoline as a source of disease was found most in Senegal and Bangladesh and hotspots for lead-glazed pottery was exclusive to Latin America (Clune et al., 2011).



World Health Organization. (2010). *Sources of Children's Exposure to Lead* [infographic]. Retrieved 5 May, 2018 from http://www.who.int/ceh/publications/leadguidance.pdf

Prevalence/Risk Factors:

Because of fewer safety measures and less economic provision to discontinue or get rid of lead-based materials, developing countries have more cases of children with lead poisoning; however, the issue is still pertinent in developed countries. U.S. Prevalence data shows that 76,680 children five years old and under had high BLLs, 5-9 (Raymond, J. & Brown, M., 2017). The poorest group of people in America are children, and the poorest neighborhoods tend to consist majorly of children of color (Bruner, 2017). Some of the risk factors of childhood lead poisoning include poverty, living in older housing, and being iron deficient. All these risk factors are more likely to be faced by children who are impoverished than those who are not. Children in the age range of one to four years old are more likely to be affected by exposure to lead based products than children one or younger (Bruner, 2017). In the U.S., 68% of the cases of poisoning were found in the East North Central region and Mid-Atlantic region of the country (CDC, 2017).

Areas where there are lower levels of income, nationally or globally, tend to have children with higher BLLs and more risk factors because of the easy access to the exposure of lead. An example of a combination of social determinants that impact risk factors of lead poisoning is poverty, leading to living in older housing, where lead-based paint was normally used, and iron-deficiency in children, possibly due to an unbalanced diet (WHO, 2010).

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
473 (5.3)	420 (4.7)	510 (5.8)	551 (6.2)	626 (7.1)	819 (9.3)	966 (10.9)	1,008 (11.4)	1,129 (12.8)	1,053 (11.9)	717 (8.1)	584 (6.6)

Number and percentage of reported new cases of blood lead level ≥10 µg/dL among children aged <5 years, by month

Raymond, J. & Brown, M. (2017). *Number and percentage of reported new cases of blood lead levels ≥10 µg/dL among children aged <5 years, by month — Childhood Blood Lead Surveillance System, United States, 2014* [infographic]. Retrieved from https://www.cdc.gov/mmwr/volumes/66/ss/ss6603a1.htm.

Interventions/Solutions:

The CDC has taken efforts to reduce the amount of exposure to lead. The Lead Contamination Control Act of 1988 has allowed the CDC to educate the public and health care providers, have policies that prevent the exposure to childhood lead poisoning in homes, and help fund state programs that screen children's BLL levels (CDC, 2015). There has been efficient organization through the Childhood Blood Lead Surveillance System. The strengths of these major efforts are that it is effective and there is a law that supports it continuation. Since the states are ultimately responsible for the implementation of the CDC's initiatives, a weakness could potentially be states not reaching their aid throughout the whole state. Another solution could be to bring more awareness in various areas of society, like a paint business having reminders of the dangers of lead-based paint. There should also be more outreach of developed programs to programs globally to provide aid.

References

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