Children's Environmental Health Network

CEHN Article of the Month, August 2015 Issue

Title

Ambient Heat and Sudden Infant Death: A Case-Crossover Study Spanning 30 years in Montreal, Canada

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Abstract

Background

Each year there are about 3500 sudden, unexpected deaths of infants under 1 year of age in the United States (US). Approximately 45% of these deaths are attributed to Sudden Infant Death Syndrome (SIDS). SIDS is the sudden death of an infant less than 1 year of age that cannot be explained after a thorough investigation is conducted. It is the leading cause of death in infants 1 to 12 months old. The rate of SIDS is higher among Non-Hispanic Black and American Indian/Alaska Native infants. Research indicates that one of the risk factors for SIDS is increased indoor temperatures. Association with outdoor temperatures, however, has not been well investigated.

Objective

This study was conducted to investigate whether risk of SIDS increases during hot weather.

Methods

The authors analyzed all documented cases of SIDS during warm periods recorded in metropolitan Montreal (Quebec, Canada) between 1981 and 2010. Other factors, such as humidity, were accounted for in order to ensure the results were not biased.

Results

The authors found a strong association between increased outdoor temperatures (on the day of, and on the day before, any deaths) and likelihood of SIDS, especially for infants older than 2 months of age.

Conclusion

This article indicates that infants may be more at risk of SIDS during extreme heat events. Public health messaging during extreme heat events should include potential elevated health risks to infants. Sufficient funding and capacity for local health departments is needed in order to plan for and respond effectively to extreme heat events, especially in highly vulnerable communities, such as low income communities or communities of color where a higher percentage of residents may not have access to air conditioning.

Policy Implications

Extreme heat events are expected to increase in frequency as a result of climate change and this study indicates that this may contribute to a greater proportion of SIDS in the future. In 2009 President Obama pledged that by 2020, the US would achieve reductions in greenhouse gas emissions of 17% percent from 2005 levels. Actions toward achieving this goal include the U.S. Environmental Protection Agency's (EPA) establishment of Renewable Fuel Standard program regulations and national fuel efficiency standards for cars and light trucks. EPA is also tackling the reduction of carbon emissions from power plants under its Clean Power Plan. In addition, a number of US cities and states have launched efforts to reduce emissions of greenhouse gases, including carbon caps and innovation on renewable fuels, public transportation, and energy efficiency. In the absence of comprehensive federal climate change legislation, it is essential that the US and state and local governments continue to take a strong and proactive stance on mitigation to best protect public health, especially that of our youngest and most vulnerable.

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Reference

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Keyword(s)

Sudden Infant Death Syndrome (SIDS), Climate change