

Air pollution from wildfires may ignite heart hazards

July 15 2015

Air pollution from wildfires may increase risk for cardiac arrests, and other acute heart problems, according to new research published in the *Journal of the American Heart Association*.

"While breathing wildfire smoke is linked to <u>respiratory problems</u> such as asthma, evidence of an association between wildfire smoke exposure and heart problems has been inconsistent," said Anjali Haikerwal, B.Sc., M.B.B.S., M.P.H., study author and a <u>doctoral candidate</u> at the School of Public Health & Preventive Medicine at Monash University in Melbourne, Australia.

In the new study, researchers examined the association between wildfire related tiny particulate pollutant exposure and the risk of heart-related incidents in the state of Victoria, Australia, in December 2006 and January 2007. During these two months, smoke reached cities far from the blazes and on most days during the wildfire the levels of fine particulate air pollutant exceeded recommended air quality limits.

The particles studied by researchers are smaller than 2.5 thousandths of a millimeter in diameter, which is much smaller than a speck of dust or 1/30th diameter of a human hair, and typically not visible to the human eye.

Using Victoria health registry data during the wildfire period, researchers found that for an increase from the 25th to 75th percentile in particle concentration over two days, after adjusting for temperature and



humidity, there was a:

- 6.9 percent increase in out-of-hospital cardiac arrests, with a stronger association between pollution and cardiac arrests in men and people 65 and older;
- 2.07 percent increase in emergency department visits for ischemic heart disease; and
- 1.86 percent increase in hospitalizations for ischemic heart disease, with a stronger association in women and people 65 and older.

"These particles may act as a trigger factor for acute cardiovascular health events," Haikerwal said. "Do not delay seeking medical help if you experience symptoms of heart problems during smoke episodes from wildfires."

Fine particulate matter may be a common and hazardous type of air pollutant. Besides burning wood, it also comes from burning coal, car exhaust and other sources.

Given the increase in frequency and intensity of <u>wildfires</u> experienced worldwide in recent years, Haikerwal said it's important to understand the impact of wildfire smoke exposure on acute health effects in the community.

"During a fire, please take precautionary measures as advised by <u>public</u> <u>health</u> officials," Haikerwal said. "This is especially important for older adults who are at higher risk of adverse health effects during wildfire smoke exposure."

More information: jaha.ahajournals.org/content/4/7/e001653.full



Provided by American Heart Association

Citation: Air pollution from wildfires may ignite heart hazards (2015, July 15) retrieved 2 May 2024 from <u>https://medicalxpress.com/news/2015-07-air-pollution-wildfires-ignite-heart.html</u>

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