Study examines indoor exposure to air pollution

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In an *Indoor Air* study conducted in a suburb of the city of Kuopio, Finland, relatively short-lasting wood and candle burning of a few hours increased residents' daily exposure to potentially hazardous particulate air pollution. Associations between indoor air pollutants and building ventilation or cooking were also observed.

The study found that the local outdoor levels of certain pollutants and ozone were the most important determinants of indoor levels of the same air pollutants.

"Ample burning of wood in small-scale room heaters and sauna stoves is likely to increase chronic personal exposures in the neighborhood to particulate matter that contains substantial amounts of soot and hazardous organic compounds like polycyclic organic hydrocarbons. This exposure does not take place only while staying outdoors but also indoors at home due to effective passage of the small particles through the building shield," the authors wrote. "Part of the emissions adding this type of hazardous exposure among residents, also including susceptible population groups, originates directly from the personal use of a wood-fired room heater or sauna stove. Insufficient natural ventilation in older houses further elevates the indoor levels of the hazardous particles."

More information: Taina Siponen et al, Wood stove use and other determinants of personal and indoor exposures to particulate air pollution and ozone among elderly persons in a Northern Suburb, *Indoor Air* (2019). DOI: 10.1111/ina.12538

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