

Traffic pollution and wood smoke increases asthma in adults

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(Medical Xpress)—Asthma sufferers frequently exposed to heavy traffic pollution or smoke from wood fire heaters, experienced a significant worsening of symptoms, a new University of Melbourne led study has found.

The study is the first of its kind to assess the impact of traffic pollution and wood smoke from heaters on middle-aged adults with asthma.

The results revealed adults who suffer asthma and were exposed to heavy traffic pollution experienced an 80 per cent increase in symptoms and those exposed to wood smoke from wood fires experienced an 11 per cent increase in symptoms.

Asthma affects more than 300 million people worldwide and is one of the most [chronic health conditions](#).

Dr John Burgess of the School of Population Health at the University of Melbourne and a co-author on the study said "it is now recommended that adults who suffer asthma should not live on busy roads and that the use of old wood heaters should be upgraded to newer heaters, to ensure their health does not worsen."

In the study, a cohort of 1383 44-year old adults in the Tasmanian Longitudinal Health Study were surveyed for their exposure to smoke from wood fires and traffic pollution. Participants were asked to rate their exposure.

The survey asked for exposure to the frequency of heavy traffic vehicles near homes and the levels of ambient wood smoke in winter.

Results were based on the self-reporting of symptoms and the number of flare-ups or exacerbations in a 12-month period. Participants reported from between two to three flare-ups (called intermittent asthma) to more than one flare-up per week (severe [persistent asthma](#)) over the same time.

Traffic exhaust is thought to exacerbate asthma through [airway inflammation](#). Particles from heavy vehicles exhaust have been shown to

enhance allergic inflammatory responses in sensitised people who suffer asthma.

"Our study also revealed a connection between the inhalation of wood smoke exposure and asthma severity and that the use of wood for heating is detrimental to health in communities such as Tasmania where use of wood burning is common," Dr Burgess said.

"Clean burning practices and the replacement of old polluting wood stoves by new ones are likely to minimise both indoor and outdoor wood smoke pollution and improve people's health," he said.

"These findings may have particular importance in developing countries where wood [smoke exposure](#) is likely to be high in rural communities due to the use of wood for heating and cooking, and the intensity of air pollution from vehicular traffic in larger cities is significant."

The study revealed no association between [traffic pollution](#) and [wood smoke](#) and the onset of asthma.

It was published in the journal *Respirology*.

Provided by University of Melbourne

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