

Clean cookstoves lead to 40% reduction in child burns

October 26 2016

Initial results from the Liverpool School of Tropical Medicine (LSTM)-led Cooking and Pneumonia Study (CAPS) in Malawi indicate that cooking with cleaner burning biomass-fuelled cookstoves reduced the risk of burns in children under the age of five by over 40% compared to traditional open fire cooking.

The two year study was the largest of its kind anywhere in the world, with more than 10,000 children enrolled across randomised villages in Chikhwawa and Chilumba in Malawi. Half of the families involved were given two cleaner burning [cookstoves](#) to see if the new stoves, which can reduce emissions by up to 90%, would stop the children getting pneumonia, a major cause of death in this group. The study found that while the cookstoves were well liked, required less fuel and were quicker to cook over, there was no effect on the risk of pneumonia.

Co-Principal Investigator Dr Kevin Mortimer, Reader at LSTM and Respiratory Consultant at Liverpool's Aintree University Hospital will announce the key findings on the opening day of the 47th Union World Conference on Lung Health on Wednesday 26th October, as part of a series of events in the Community Commons programme. Dr Mortimer said: "Household air pollution kills more than 4 million people worldwide including half a million children who die from pneumonia. The results of our study suggest that by themselves, cleaner burning biomass-fuelled cookstoves are not sufficient to reduce the risk of pneumonia in the under 5s. They do, however, appear to be substantially safer by reducing the risk of [burns](#) in young children. Effective solutions

to the problem of household - and outdoor - air pollution are urgently needed. It is likely that cleaner burning cookstoves will be part of the solution but as part of a package of interventions that deliver clean air rather than as standalone solutions. Such a package will need to address issues including the burning of rubbish—a common source of smoke exposure in our study—and tobacco smoking which is an increasing problem even in the world's poorest and most vulnerable populations"

The results will be announced as part of a wider programme of events on Wednesday including a live display at the piazza outside the conference centre where, with the help of students from the Liverpool Life Sciences University Technical College, Operation Florian, Merseyside Fire and Rescue Service, and the African Clean Energy company Dr Mortimer will demonstrate the very real dangers of cooking with an open fire as miniaturised replica housing will be set alight. "What was particularly striking about our results was the large reduction in burns within the households using the cookstoves." Dr Mortimer continued: "out of 10,000 children we saw over 1,500 burns during the study, 19 of which were very serious and one which proved fatal, so while further work certainly needs to be carried out to deliver solutions for household air pollution, the safety aspects of the cleaner-burning cookstoves are compelling."

Provided by Liverpool School of Tropical Medicine

Citation: Clean cookstoves lead to 40% reduction in child burns (2016, October 26) retrieved 6 May 2024 from <https://medicalxpress.com/news/2016-10-cookstoves-reduction-child.html>

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