

Disparities in lung function found worldwide may impact health

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A global study led by McMaster University researchers has found large differences in lung function between healthy people from different socioeconomic and geographical regions of the world which could impact their health.

The highest [lung function](#) was found in individuals from North America and Europe. This was followed by South America, Middle East, China, sub-Saharan Africa, Malaysia and South Asia. South Asians had the lowest lung function, by 30% compared to North Americans and Europeans.

The large differences in lung function could not be accounted for by variations across regions in height, weight, age, gender, education levels and rural or urban location.

The study, published today in the journal, *The Lancet Respiratory Medicine*, is from the international team of researchers who conducted the PURE (Prospective Urban Rural Epidemiological) study.

"Our findings have important public health implications. There is a well known link between low lung function and increased mortality," said Dr. MyLinh Duong, lead author of the paper and an assistant professor of medicine of the Michael G. DeGroote School of Medicine at McMaster University.

"These differences may be genetically determined, but more likely most

relate to the socio-economic, nutritional and [environmental exposures](#) of people in the different regions. These are all conditions that could be modified or improved."

Respirologist Dr. Paul O'Byrne said: "These findings are of great importance, as we need separate standards for what is considered normal in different parts of the world and may lead us to rethink how to define those with abnormal lung function." He is a co-author of the paper and professor and chair of the Department of Medicine at McMaster.

The research, the only multi-country study of its kind, was lead by the Population Health Research Institute of McMaster and Hamilton Health Sciences. Dr Salim Yusuf is the executive director and the principal investigator of PURE.

The study included 154,000 adult non-smokers between 35 and 70 years old from 17 countries from four continents.

Some of the factors such as nutrition and pollution levels will be explored in future analysis of the PURE study.

Provided by McMaster University

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