

# 'Diseases of affluence' spreading to poorer countries

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High blood pressure and obesity are no longer confined to wealthy countries, a new study has found. These health risks have traditionally been associated with affluence, and in 1980, they were more prevalent in countries with a higher income.

The new research, published in *Circulation*, shows that the average [body mass index](#) of the population is now just as high or higher in [middle-income countries](#). For blood pressure, the situation has reversed among women, with a tendency for blood pressure to be higher in poorer countries.

Researchers at Imperial College London, Harvard School of Public Health, and worldwide collaborators studied data from 199 countries between 1980 and 2008 on the prevalence of risk factors related to heart and [circulatory disease](#). In 1980, a country's income was correlated with the population's average blood pressure, cholesterol and body mass index (BMI).

By 2008, there was no relationship between national income and blood pressure in men, and in women blood pressure was higher in poorer countries. BMI was still lowest in the [poorest countries](#), but higher in middle-income countries than the wealthiest countries. Cholesterol remained higher in higher-income [Western countries](#).

Fasting blood sugar, which is linked to diabetes, was only weakly related with income and affluence, but correlated with obesity.

Professor Majid Ezzati, from the School of Public Health at Imperial College London, who led the research, said: "This study shows that non-communicable diseases are no longer 'diseases of affluence'. They've shifted from being epidemic in rich countries to become a truly international pandemic.

"If current trends continue, developing countries will be confronted with a [rising tide](#) of obesity, diabetes and high blood pressure. Meanwhile, developed countries will continue to face an epidemic of diabetes and [high cholesterol](#)."

The study also found that BMI has consistently been related to the proportion of the population living in cities, suggesting that urban lifestyles might be playing an important role in the obesity problem, now and in the past.

The researchers suggest that the change in relationship between national income and blood pressure might be caused by improved diagnosis and treatment of [high blood pressure](#) in wealthier countries, and perhaps changes in diet and lifestyle.

"Developed countries have succeeded in reducing blood pressure," said Dr. Goodarz Danaei, one of the lead authors of the study from Harvard School of Public Health. "We need to replicate that success in developing countries by improving primary health care services, lowering salt intake and making fresh fruit and vegetables more available.

"High cholesterol is still linked to national wealth, probably because of the relatively high cost of meat and other animal products. Lower income countries should encourage the use of unsaturated fats over saturated fats to avoid the problems that richer countries have.

"Heart and circulatory diseases impose a huge cost on healthcare systems in high and middle income countries. Redirecting some of these resources to prevention might lead to savings in the long run."

**More information:** G Danaei et al. 'The Global Cardiovascular Risk Transition: Associations of Four Metabolic Risk Factors with Macroeconomic Variables in 1980 and 2008.' *Circulation*, 2013; 127: 1493-1502. [doi: 10.1161/CIRCULATIONAHA.113.001470](https://doi.org/10.1161/CIRCULATIONAHA.113.001470)  
[circ.ahajournals.org/content/127/14/1493.abstract](http://circ.ahajournals.org/content/127/14/1493.abstract)

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