

# Obesity, type 2 diabetes epidemics spreading to developing world as more own TVs, computer

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Lower income countries may soon be facing the same obesity and diabetes epidemics as their higher income counterparts. Ownership of televisions, cars and computers was recently found to be associated with increased rates of obesity and diabetes in lower and middle income countries, according to an international study published in *CMAJ (Canadian Medical Association Journal)*.

"Although we found no trend between household devices ownership and [obesity](#) or [diabetes](#) in high income countries, there was a stronger relation as the level of country income decreased. This relation was most prominent in low income countries, such that the prevalence of obesity increased from 3.4% for no devices owned to 14.5% for 3 devices ... .The prevalence of diabetes also increased (no devices: 4.7%; 3 devices: 11.7%)," writes lead author Dr. Scott Lear, Faculty of Health Sciences, Simon Fraser University, and Division of Cardiology, Providence Health Care, Vancouver, British Columbia.

Although the global increases in rates of obesity and [type 2 diabetes](#) have largely been among high income countries, these rates are expected to increase in low and middle income countries as they become more developed and industrialized.

A team of international researchers looked at data on 153 996 adults in 107 599 households from 17 countries enrolled in the Prospective Urban Rural Epidemiology study. Of these, 10 000 participants came from Canada—more than a quarter of them from the Vancouver area. The other countries included:

- Sweden, United Arab Emirates (high income)
- Argentina, Brazil, Chile, Malaysia, Poland,

- South Africa, Turkey (upper-middle income)
- China, Columbia, Iran (lower-middle income)
- Bangladesh, India, Pakistan, Zimbabwe (low income)

Participants were asked about [physical activity](#), sitting time and diet, and whether they owned a TV, computer or car, or had diabetes. Their height and weight were measured.

Televisions were the most common device owned by households; 78% of households owned at least 1 television, followed by 34% that owned a computer and 32% a car. More people in urban areas of middle and low income countries owned devices as compared with those in rural areas. In low income countries, owning all 3 devices was associated with a 31% decrease in physical activity, 21% increase in sitting and a 9-cm increase in waist size compared with those who owned no devices.

"Although we found a significant positive association between owning household devices and obesity or diabetes in [low income countries](#), we were unable to detect a relationship at the high income country level. The associations in the upper-middle and lower-middle income countries were intermediate between the high and low risk countries," write the authors.

The authors suggest that this may be because the negative impact of these devices on health have already occurred and are already reflected in the high rates of obesity and type 2 diabetes in highincome countries.

"With increasing uptake of modern-day conveniences—TVs, cars, computers—low and [middle income countries](#) could see the same

obesity and diabetes rates as in high income countries that are the result of too much sitting, less physical activity and increased consumption of calories," states Dr. Lear. "This can lead to potentially devastating societal health care consequences in these countries."

**More information:** Paper:

[www.cmaj.ca/lookup/doi/10.1503/cmaj.131090](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.131090)

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