

Epidemic of obesity and overweight linked to increased food energy supply

June 30 2015



Credit: Peter Häger/Public Domain

Obesity - a global health problem - is increasing in many countries in step with increases in the food energy supply, according to a study published in the *Bulletin of the World Health Organization* today.

The study, by [authors](#) based in New Zealand and the United States of

America (USA), analysed increases in the [food energy supply](#) and [obesity](#) in 69 countries (24 high-, 27 middle- and 18 low-income) and found that both [body weight](#) and food energy supply had increased in 56 (81%) of them between 1971 and 2010.

In 45 (65%) countries, the increase in available calories was enough or more than enough to explain the concurrent increase in body weight.

"We know that other factors have also changed over these decades such as increased urbanization, car dependence and sedentary occupations, which are also contributing to the global obesity epidemic," said lead author Stefanie Vandevijvere, senior research fellow in global health and food policy at the University of Auckland, New Zealand.

"However, our study shows that oversupply of available calories is a likely driver of overconsumption of those calories and can readily explain the weight gain seen in most countries," she said.

Average increases in food energy supply varied by country and some of these levels were strikingly high. For example in Canada food energy supply increased by 559 calories per person per day between 1971 and 2008, In the USA and Fiji, it was 768 and 550 calories over a similar time period.

These increases were far in excess of what was required to explain the weight gain experienced by each country, suggesting that food waste had also increased substantially.

"Much of the increase in available calories over the decades has come from ultra-processed food products, which are highly palatable, relatively inexpensive and widely advertised, making overconsumption of [calories](#) very easy," Vandevijvere said.

The study is important because it provides more evidence that governments need to implement policies to make the food supply healthier and, in turn, reduce obesity, which is a risk factor for many health problems, including diabetes, heart disease, stroke and some cancers.

WHO's 194 Member States agreed on the Global Action Plan for the Prevention and Control of Noncommunicable Diseases at the World Health Assembly in May 2013.

One of the plan's nine voluntary targets is to "halt the rise in diabetes and obesity". It also proposes measures that countries can take to tackle obesity, including managing food subsidies and taxes to promote a healthy diet.

"Countries need to look at how they guide the food system. This means working across several sectors including agriculture, the food production, distribution and retail industries, health, social welfare and education," said Dr Francesco Branca, director of the Department of Nutrition for Health and Development at WHO.

A combination of policies is needed, including restriction of the marketing of unhealthy foods to children, front-of-pack supplementary nutrition labelling, food pricing strategies, and improving the nutritional quality of foods in schools and other public sector settings.

"We also need to consider how trade and investment agreements and agricultural policies affect domestic food environments, people's diets, and the disease patterns in countries," said Vandevijvere.

Vandevijvere and her colleagues compared data on food energy supply and average adult body weight in the 69 countries from the United Nations Food and Agriculture Organization (FAO) database and several

databases on average adult weight, including the World Health Organization (WHO) global database on body mass index (BMI), between 1971 and 2010.

The FAO estimates the food supply of countries by balancing local production, country-wide stocks and imports with their exports, agricultural use for livestock, seed and some components of waste. Waste on the farm and during distribution and processing are usually taken into account but not losses of edible food, such as domestic animal feed, plate-waste and other food that is thrown away.

Between 1980 and 2013, the proportion of adults globally who were overweight - i.e. those with a BMI of 25 kg/m² or more - increased from 28.8% to 36.9% in men, and from 29.8% to 38% in women. A person with a BMI of 30 or more is considered obese.

Provided by Bulletin of the World Health Organization

Citation: Epidemic of obesity and overweight linked to increased food energy supply (2015, June 30) retrieved 19 September 2024 from <https://medicalxpress.com/news/2015-06-epidemic-obesity-overweight-linked-food.html>

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