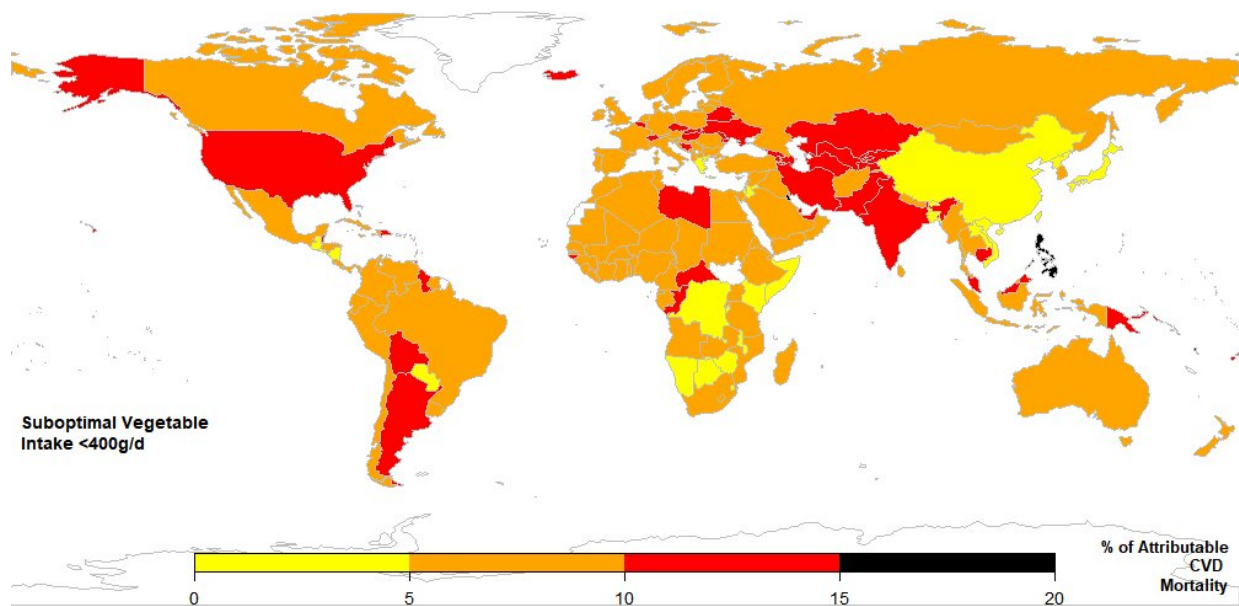


Millions of cardiovascular deaths attributed to not eating enough fruits and vegetables

June 8 2019



Percentage of cardiovascular deaths (cardiovascular disease mortality) attributable to suboptimal vegetable intake (less than 400 grams per day) in countries around the world. Credit: Global Dietary Database 2010/Friedman School of Nutrition Science & Policy at Tufts University

Preliminary findings from a new study reveal that inadequate fruit and vegetable consumption may account for millions of deaths from heart disease and strokes each year. The study estimated that roughly 1 in 7 cardiovascular deaths could be attributed to not eating enough fruit and 1

in 12 cardiovascular deaths could be attributed to not eating enough vegetables.

Low [fruit](#) intake resulted in nearly 1.8 million cardiovascular deaths in 2010, while low [vegetable](#) intake resulted in 1 million deaths, according to researchers. Overall, the toll of suboptimal fruit intake was almost double that of vegetables. The impacts were most acute in countries with the lowest average intakes of fruits and vegetables.

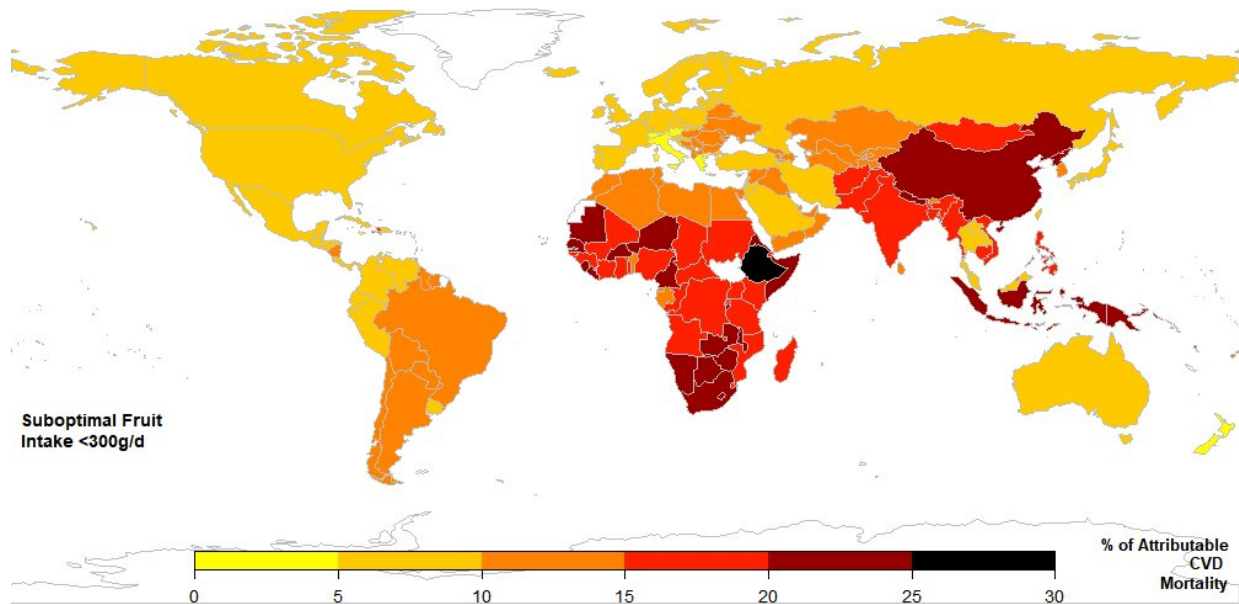
"Fruits and vegetables are a modifiable component of diet that can impact preventable deaths globally," said lead study author Victoria Miller, a postdoctoral researcher at the Friedman School of Nutrition Science and Policy at Tufts University. "Our findings indicate the need for population-based efforts to increase fruit and [vegetable consumption](#) throughout the world."

Miller will present the [research findings](#) at Nutrition 2019, the American Society for Nutrition annual meeting, held June 8-11, 2019 in Baltimore.

Fruits and vegetables are good sources of fiber, potassium, magnesium, antioxidants and phenolics, which have been shown to reduce blood pressure and cholesterol. Fresh fruits and vegetables also improve the health and diversity of good bacteria in the digestive tract. People who eat more of these foods also are less likely to be overweight or obese, lowering their risk of cardiovascular disease.

"Global nutrition priorities have traditionally focused on providing sufficient calories, vitamin supplementation and reducing additives like salt and sugar," said senior study author Dariush Mozaffarian, dean of the Friedman School of Nutrition Science and Policy at Tufts University. "These findings indicate a need to expand the focus to increasing availability and consumption of protective foods like fruits,

vegetables and legumes—a positive message with tremendous potential for improving global health."



The percentage of cardiovascular deaths (cardiovascular disease mortality) attributable to suboptimal fruit intake (less than 300 grams per day) in countries around the world. Credit: Global Dietary Database 2010/Friedman School of Nutrition Science & Policy at Tufts University

Based on dietary guidelines and studies of cardiovascular risk factors, the researchers defined optimal fruit intake as 300 grams per day, equivalent to roughly two small apples. Optimal intake of vegetables, including legumes, was defined as 400 grams per day, equivalent to about three cups of raw carrots.

The researchers estimated average national intakes of fruit and vegetables from diet surveys and food availability data representing 113 countries (about 82 percent of the world's population), then combined this information with data on causes of death in each country and data on

the cardiovascular risk associated with inadequate fruit and vegetable consumption. The work is part of the Global Dietary Database project funded by the Bill & Melinda Gates Foundation.

Based on data from 2010, the scientists estimated that suboptimal fruit consumption results in nearly 1.3 million deaths from stroke and more than 520,000 deaths from [coronary heart disease](#) (narrowing of the heart's arteries) worldwide each year. Suboptimal vegetable consumption was estimated to result in about 200,000 deaths from stroke and more than 800,000 deaths from coronary heart disease.

The impact of inadequate fruit and vegetable intake was greatest in countries with the lowest fruit and vegetable consumption. Countries in South Asia, East Asia and Sub-Saharan Africa had low fruit intake and high rates of associated stroke deaths. Countries in Central Asia and Oceania had low vegetable intake and high rates of associated [coronary heart disease](#).

In the United States, suboptimal vegetable intake may account for 82,000 cardiovascular deaths while suboptimal fruit intake accounted for 57,000 deaths. Cardiovascular disease is the number one cause of [death](#) in the United States and worldwide.

By age group, suboptimal fruit and vegetable intake had the greatest perceived proportional impact on cardiovascular disease deaths among younger adults. By gender, suboptimal fruit and vegetable intake had the greatest proportional impact on cardiovascular disease deaths in men, likely because women tend to eat more fruits and vegetables, Miller noted.

More information: Victoria Miller will present this research on Saturday, June 8, at 9:35 a.m. in the Baltimore Convention Center, Poster Theater 1 ([abstract](#)).

Provided by American Society for Nutrition

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