

Diet guidelines biased against poor nations: study

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The latest study challenges some conventional dietary guidelines—not least on the optimum amount of fat intake—while also highlighting regional imbalances

Researchers here at ESC Congress are calling for a reconsideration of global dietary guidelines in light of new data presented today on fat intake and cardiovascular risk and mortality.

Findings from more than 135,000 individuals from 18 low, middle and

high-income countries in the Prospective Urban-Rural Epidemiology (PURE) study show that high [carbohydrate intake](#) is linked to worse total mortality and non-cardiovascular (CV) mortality outcomes, while high fat intake is associated with lower risk.

"Our findings do not support the current recommendation to limit total fat intake to less than 30 percent of energy and saturated fat intake to less than 10 percent of energy," said study investigator Dr Mahshid Dehghan, PhD, from the Population Health Research Institute, McMaster University, in Hamilton, Ontario, Canada.

"Limiting [total fat consumption](#) is unlikely to improve health in populations, and a total fat intake of about 35 percent of energy with concomitant lowering of [carbohydrate intake](#) may lower risk of total mortality. In fact, individuals with high carbohydrate intake, above 60 percent of energy, may benefit from a reduction in carbohydrate intake and increase in the consumption of fats."

PURE documented diet in 135,335 individuals, aged 35 to 70 years, from countries in North America and Europe, South America, the Middle East, South Asia, China, South East Asia and Africa.

For this analysis, consumption of carbohydrate, total fat and types of fat were recorded using country-specific, validated food frequency questionnaires, and associations were assessed with CV disease and mortality.

Among the 5,796 deaths and 4,784 major CV events over a median follow-up of 7.4 years, the researchers noted that [carbohydrate](#) intake in the highest versus lowest quintile was associated with a significant 28 percent increased risk of total mortality (hazard ratio [HR] 1.28; 95 percent CI 1.12-1.46, highest vs lowest quintile category, $P \leq 0.0001$) but not CVD risk.

Conversely, total [fat intake](#) in the highest versus lowest quartile was associated with a significant 23 percent reduction of total mortality risk, an 18 percent reduced risk of stroke, and a 30 percent reduced risk of non-CVD mortality.



The latest study seeks links between diet and cardiovascular disease, which kills some 17 million people around the world each year—80 percent of them in low- and middle-income countries—and diet is one factor which can be modified to lessen risk

Each type of fat was associated with significantly reduced mortality risk: 14 percent lower for saturated fat, 19 percent for mono-unsaturated fat, and 20 percent for polyunsaturated fat. Higher saturated [fat intake](#) was also associated with a 21 percent decrease in stroke risk.

The researchers also examined the impact of fats and carbohydrates on blood lipids in the same PURE study participants.

Consistent with other reports from Western countries, they found that while LDL (so-called "bad" cholesterol) increases with higher intakes of saturated fat, HDL ("good" cholesterol) also increases - so the net effect is a decrease in the total cholesterol/HDL ratio.

They found that LDL cholesterol (the basis of many [dietary guidelines](#)) is not reliable in predicting effects of saturated fat on future cardiovascular events. Instead, ApoB/ApoA1 provides the best overall indication of effect of saturated fat on [cardiovascular risk](#) among the markers tested.

"Focusing on a single lipid marker such as LDL-C alone does not capture the net clinical impact of nutrients on [cardiovascular risk](#)," said Dr. Dehghan.

"For decades, [dietary guidelines](#) have focused on reducing total fat and saturated fatty acid (SFA) intake based on the presumption that replacing SFA with [carbohydrate](#) and unsaturated fats will lower LDL-C and should therefore reduce CVD events."

But she said much of the evidence behind this approach has been from studies of Western populations where nutritional excess is a reality.

"PURE provides a unique opportunity to study the impact of diet on total mortality and CVD in diverse settings, some settings where over-nutrition is common and others where under nutrition is of greater concern," she concluded.

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