

Low-carb/high-fat diets for weight loss may actually boost risk of type 2 diabetes

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The global trend towards low-carbohydrate, high-fat diets for weight loss can in fact increase a person's risk of developing diabetes by a staggering 20%, according to a 17-year study of almost 40,000 Melburnians.

Published in the journal *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, [the study](#) by Monash University and RMIT University researchers, led by Distinguished Professor Barbora de Courten OAM together with Ph.D. student Robel Kabthymmer, will likely lead to a review of dietary approaches for those wanting to lose weight and avoid diabetes.

Nearly 1.3 million, or one in twenty Australians, have diabetes, though the real figure is expected to be higher because of undiagnosed disease.

The study used data from almost 40,000 Melburnians, aged 40–69, recruited into the Melbourne Collaborative Cohort Study (MCCS) between 1990 and 1994. Their health was then reviewed in 1995–1998 and 2003–2007.

The Monash and RMIT team analyzed the percentage of carbohydrates in the diet and related it to the risk of developing type 2 diabetes later in life.

The Low Carbohydrate Score (LCD) was calculated at baseline as the percentage of energy from carbohydrates, fats and protein. The higher the score, the less the percentage of carbohydrates contributed to [energy intake](#). Specifically, the study found that those whose diet included 38% of carbohydrates had a 20% increased risk of developing type 2 diabetes compared to those whose diet included 55% of carbohydrates. The research suggests that this increased risk of diabetes is due to the increased incidence of obesity.

According to Professor de Courten, the study is the first to look at the long-term effects of a low [carbohydrate](#) diet on chronic diseases using Australian data.

"We know that high-carbohydrate diets, that are highly processed, low in

fiber, and rich in refined sugars can lead to weight gain. Furthermore, the highly refined carbohydrates can lead to increased [insulin secretion](#) and [insulin resistance](#), leading to type 2 diabetes," she said.

"But studies to date have only focused on examining low carbohydrate for managing and/or remission of type 2 diabetes. Instead, this study reveals that a low carbohydrate diet intake might increase the long-term risk of type 2 diabetes through obesity, potentially through increased eating of fats and foods low in fiber. Our study also highlights the need to look at the quality of carbohydrates, proteins and fats."

Therefore, a balanced diet with minimally processed carbohydrates rich in fiber, healthy mono- and poly-unsaturated fats with sufficient protein intake from fish and seafood, white meat, and legumes as seen in a Mediterranean diet may be the optimal eating pattern to prevent type 2 [diabetes](#).

More information: Robel Hussen Kabthymer et al, Association of low carbohydrate diet score with the risk of type 2 diabetes in an Australian population: A longitudinal study, *Diabetes & Metabolic Syndrome: Clinical Research & Reviews* (2024). [DOI: 10.1016/j.dsx.2024.103049](https://doi.org/10.1016/j.dsx.2024.103049)

Provided by Monash University

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