

Higher fiber saves lives, but food processing may remove benefits

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Eating more fiber can improve life expectancy for those with diabetes, Otago researchers say.

Type 2 diabetes has reached epidemic proportions worldwide, is associated with serious medical complications, and increases the risk of dying from COVID-19.

Two recent studies from University of Otago researchers have shown eating more dietary fiber improves [life expectancy](#), although [food](#) processing may remove these benefits.

One study, a review published in *PLOS Medicine*, used data collected from 8300 adults with type 1 or type 2 diabetes to show that those with a higher fiber intake faced a significant reduction in premature mortality compared to those eating the least fiber.

Lead author Dr. Andrew Reynolds, National Heart Foundation Fellow of the Department of Medicine, says compared with the New Zealand average of 19 grams of fiber per day, those consuming 35g per day have a 35 percent reduced risk of dying early.

His advice to increase fiber intakes by eating more [whole grains](#), legumes, vegetables, and whole fruit applies to people across the globe, Dr. Reynolds says.

"Try a few different ways to increase your fiber intake, see what works best for you.

"If you eat white refined bread or rolls, try changing to wholegrain bread or rolls. Try [brown rice](#), try brown pasta, try adding half a tin of legumes to meals you already make.

"Try an extra veggie with your main meal—fresh, frozen, or canned without sodium are all good choices."

The research team also analyzed 42 trials with 1789 participants where

adults with prediabetes, type 1 or type 2 diabetes were given more fiber and whole grains for at least six weeks.

They found consistent improvements in blood glucose control, [cholesterol levels](#) and reductions in [body weight](#) when adults with prediabetes, type 1 or type 2 diabetes increased their fiber or wholegrain intake.

Senior author Professor Jim Mann, from the Department of Medicine and Director of the Healthier Lives National Science Challenge, has been involved in diabetes research for over 40 years and led the first controlled trials of high fiber diets in diabetes in the 1970s.

"When our controlled studies confirmed the benefits of dietary fiber four decades ago, we never suspected that they would be quite so impressive," he says.

"It has taken forty years of research and these meta analyses to be able to show that this dietary treatment can have an effect as striking as that produced by medications."

In the second study, researchers found not all foods that contain fiber are created equal—while whole grains are an important source of fiber, their benefits may be diluted when heavily processed.

For this study, to be published in *Diabetes Care*, Dr. Reynolds and Professor Mann led a trial in adults with type 2 diabetes living in Dunedin to consider the effects of [food processing](#) on the health benefits of whole grains.

Participants ate minimally-processed wholegrain foods such as wholegrain oats and chunky grainy bread for one fortnight, then more processed wholegrain foods such as instant oats and wholemeal bread for

another fortnight.

"Wholegrain foods are now widely perceived to be beneficial, but increasingly products available on the supermarket shelves are ultra-processed," says Professor Mann.

Researchers used cutting edge glucose monitors to record participant blood glucose levels over the day and night during the two-week intervention periods.

Results showed improved blood glucose levels after meals and reduced variability of blood glucose levels throughout the day when participants consumed the minimally processed whole grains.

The results were most striking after breakfast, as that was when most of the whole grains were consumed.

Researchers also observed something unexpected.

Although participants were asked not to lose weight by eating less during the trial, results showed their average weight increased slightly after two weeks of eating processed whole grains, and decreased slightly after eating minimally processed whole grains.

These two studies, along with previous research, confirm choosing high fiber foods like whole grains, whole fruit, dark leafy greens or legumes is good for everyone, and important in managing diseases such as type 1 or type 2 [diabetes](#), Dr. Reynolds says.

"However we are now beginning to understand that how foods are processed is also important, and for whole [grains](#) when you finely mill them you can remove their benefits," he concludes.

More information: Andrew N. Reynolds et al. Dietary fibre and whole grains in diabetes management: Systematic review and meta-analyses, *PLOS Medicine* (2020). [DOI: 10.1371/journal.pmed.1003053](https://doi.org/10.1371/journal.pmed.1003053)

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