

High intake of dietary fibre and whole grain foods reduces risk of non-communicable diseases 16

January 2019

Media Release - University of Otago - Friday 11 January 2019

University of Otago researchers have found a link between higher intakes of dietary fibre and whole grain foods and a reduction in the risk of a wide range of non-communicable diseases and their risk factors.

Their series of systematic reviews and meta analyses of observational studies and clinical trials conducted over nearly 40 years show a 15 to 30 per cent decrease in deaths and incidence of coronary heart disease, stroke, type 2 diabetes and colorectal cancer, when comparing the highest dietary fibre consumers with the lowest.

Lead author Dr Andrew Reynolds, of the Department of Medicine and the University's Edgar Diabetes and Obesity Research Centre, says the results provide convincing evidence that we should increase our dietary fibre intake and replace refined grains with whole grains.

"Our research indicates we should have at least 25 to 29 grams of fibre from foods daily, although most of us currently consume less than 20 grams of fibre daily," Dr Reynolds explains.

"Practical ways to increase fibre intake is to base meals and snacks around whole grains, vegetables, pulses and whole fruits."

For every 1,000 participants in the studies, the impact of consuming higher fibre intakes translates into 13 fewer deaths and six fewer cases of coronary heart disease when compared to those consuming lower fibre diets.

Co-author Professor Jim Mann, from the Department of Medicine and Co-director of the Edgar Diabetes and Obesity Research Centre, says the study findings are significant.

"This study is essential as there is increased public confusion over what to base our meal choices on, and the impact our dietary choices have on our risk of certain diseases," Professor Mann says.

"While we all knew that dietary fibre was good for us we didn't know the extent to which the old mantra was true," he says.

The study, published today in the prestigious international journal *The Lancet*, looked at 58 clinical trials and 185 prospective studies from all over the world that considered the role of fibre, whole grains, dietary glycaemic index, and glycaemic load on health.

Professor Mann says the study is unique in that it has examined a range of indicators of carbohydrate quality and many disease outcomes, whereas previous studies have generally looked at one indicator and a single or small number of diseases.

The researchers found people who increased the amount of fibre in their diet had lower bodyweight, and total cholesterol.

"We also found an overwhelmingly positive effect, with high fibre diets being protective against heart disease, diabetes, cancers and measures of mortality," Professor Mann says.

The results also showed diets with a low glycaemic index and low glycaemic load provided limited to no

benefit. Foods with a low glycaemic index or low glycaemic load can also contain added sugars, saturated fats and sodium. Professor Mann says this may account for the links to health being less clear.

Dr Reynolds says the team also looked at whole grain intake, which showed protective benefits.

“There is no surprise there, as wholegrains such as oats and chunky whole grain bread can be major sources of fibre in the diet,” Dr Reynolds says.

“Fibre and whole grains are important physiologically, metabolically, and even to gut microbiome. Eating high fibre and whole grain foods is of a clear benefit to our health by reducing the occurrence of a surprisingly broad range of important diseases,” he says.

The study was commissioned by the World Health Organization to inform the development of new recommendations for optimal daily fibre intake and to determine which types of carbohydrate provide the best protection against non-communicable diseases and weight gain.

It was also funded by the Health Research Council of New Zealand, the Riddet Institute of Research Excellence, the Healthier Lives National Science Challenge, the University of Otago and the Otago Southland Diabetes Research Trust.

Co-authors were Professor John Cummings of the University of Dundee, Scotland and Ms Nicola Winter, Ms Evelyn Mete, and Dr Lisa Te Morenga from the University of Otago.

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