



NEW RESEARCH SHOWS TREE NUTS REDUCE LIFESTYLE DISEASES

Seven new research studies on the health effects of tree nut consumption released this month show there is a strong link between tree nuts and a reduced risk of lifestyle diseases such as type 2 diabetes, and heart disease.

The research, which includes three meta-analyses, a systematic review and three randomised controlled studies, reinforces the message of a healthy handful (30g) of nutsⁱ per day, which is recommended by Nuts for Life.

“The recent release of several new pieces of research reinforces that a handful of nuts a day is a necessary part of a healthy diet,” said Nuts for Life Dietitian and Program Manager, Lisa Yates.

“Enjoying nuts regularly as part of a healthy diet has been shown to benefit the heart, lower cholesterol and may reduce the risk of developing type 2 diabetes and help with weight management.”

1. Effect of walnuts on people at high risk of diabetes

Research published in the online journal *BMJ Open Diabetes Research & Care*ⁱⁱ found a daily handful of walnuts was linked to better overall diet quality and an improvement in certain risk factors among people at high risk of diabetes.

Researchers studied the effect of both adding a serve (56g) of walnuts to the daily diet, and avoiding walnuts all together on 112 people aged between 25 and 75 - who were all at high risk of developing diabetes - for three months on each diet.

After taking account of influential factors, they found that adding walnuts to the diet was associated with **overall improved diet quality** and **improvements in** blood vessel cell wall function (**endothelial function**) and **total and LDL cholesterol** reducing their risk of heart disease but had no impact on blood pressure or blood glucose levels.

2. Effect of tree nuts on reducing risk of heart disease

Published in the *British Journal of Nutrition*,ⁱⁱⁱ a Canadian team of researchers from the Department of Clinical Epidemiology and Biostatistics at McMaster University conducted a systematic review and meta-analysis of 20 nut and cardiovascular disease studies and found regular nut consumption (a daily handful of nuts) is associated with reduced mortality and a reduced risk of heart disease.

The research, which pooled 467,389 participants, compared the highest consumers of nuts with the lowest consumers of nuts and found the people who ate nuts had a:

- 34% reduced risk of coronary heart disease,
- 30% reduced death rate from coronary heart disease,
- 47% reduced risk of sudden cardiac death,
- significantly lower risk of all-cause mortality by 20%, and
- cardiovascular disease (heart disease and stroke) mortality reduced by 27%

Coronary Heart Disease remains Australia's leading cause of death, with around 20,000 Australians dying from the disease in 2013 – more men than women^{iv}. But three times more women die from heart disease than breast cancer^v.

3. Effect of tree nuts on lowering blood fats

Published in the prestigious American Journal of Clinical Nutrition^{vi}, a large meta-analysis by the Friedman School of Nutrition Science and Policy at Tufts University found that **eating around two handfuls of nuts a day (56g)** lowered total cholesterol, triglycerides, LDL or bad cholesterol and its primary apolipoprotein, ApoB in adults. These blood fats are risk factors for heart disease.

The meta-analysis compiled the results of 61 controlled trials with 2,582 people without heart disease, where the studies ranged from 3 weeks to 6 months in length, and around 56g nuts per day (range 5-100g/day) were added to various types of diets including a habitual diet, a low fat diet, the American Heart Association diet and the Mediterranean diet.

By standardising the dose to a handful of nuts a day (30g), this reduced:

- **total cholesterol by 5%** (-0.12mmol/L; 95% CI-5.3,-4.0)
- **LDL cholesterol by 5%**
- **Apolipoprotein B** by 4% – the main protein found in LDL cholesterol was even further reduced in those with type 2 diabetes
- **Triglycerides by 2%**
- **Together researchers predicted a drop in CVD risk by 5%**

“ApoB can provide even better information about risk of heart disease than LDL concentrations. Our new findings suggest that eating nuts may be especially important for lowering cardiovascular risk in the setting of diabetes or insulin resistance,” stated Dr Dariush Mozaffarian, senior author and Dean of the Friedman School of Nutrition Science and Policy at Tufts University.

4. Effect of tree nuts and reducing risk and effects of type 2 diabetes

Studies conducted by the PREDIMED study team, the University of Toronto in Canada, and the Human Nutrition Unit from Rovira I Virgili University in Spain – revealed eating tree nuts had positive effects on glucose and insulin levels among those with diabetes and pre-diabetes.

- The long term PREDIMED study, which followed participants for nearly five years, found that following a Mediterranean diet, with **30g of nuts a day, reduced the incidence of diabetes by 52%** among people with high cardiovascular risk, aged between 55-80 years, who were non-diabetic when the study began^{vii}.
- Researchers at the University of Toronto performed a meta-analysis of 12 studies and found eating roughly **two handfuls (57g) of tree nuts a day significantly decreases blood triglycerides and fasting blood glucose** and helps glycemic control in those with type 2 diabetes^{viii}.
- More specifically, researchers at Rovira I Virgili University who studied the link between pistachio consumption and glucose metabolism and insulin resistance, found eating roughly **two handfuls (57g) of pistachios each day** by those with pre-diabetes had a significant effect on **decreasing fasting glucose and insulin levels** as well as measures of insulin resistance^{ix}.

In Australia, an estimated 849,000 adults aged 18 years and over (4.7%) reported that they had type 2 diabetes in 2011-12^x. Measurements of blood glucose and HbA1c (haemoglobin A1c) levels showed a further 5% of people were at an increased risk of diabetes^{xi}.

It is estimated by 2035, there will be almost 600 million people worldwide with type 2 diabetes, and almost 900 million with pre-diabetes. There are currently 400 million people with type 2 diabetes worldwide^{xii}.

The Australian Dietary Guidelines recommend Australians eat a handful (30g) of nuts and note that Australian adults need to increase nut consumption by 350%^{xiii}. Currently just 4% of Australians eat 30g of nuts a day^{xiv}, with the 2011-13 Australian Health Survey showing on average, Australians reported eating just 5-6g of nuts each day^{xv}.

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Issued on behalf of Nuts For Life, Australia's leading nutrition authority on tree nuts. The nutrition education initiative, funded by the Australian Tree Nut Industry and Horticulture Innovation Australia Ltd, aims to educate Australians about the nutrition and health benefits of regular tree nut consumption.

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