

Clear evidence for a link between pro-inflammatory diets and 27 chronic diseases

22 April 2021, by Meghan Hockey and Wolfgang Marx



Dietary patterns that contain lots of calorie-dense, ultra-processed foods can contribute to inflammation and increase your risk of certain chronic diseases. Credit: Shutterstock

[Almost half of all Australians](#) live with a chronic disease, which contribute to some [90% of deaths](#).

It's no secret our diet can have a major impact on our health. But our new umbrella review, published [this week in Advances in Nutrition](#), provides compelling evidence that pro-inflammatory diets increase the risk of 27 chronic diseases and premature death. An umbrella review is a review of multiple reviews, and is among the highest levels of evidence.

What's more, reducing inflammation by eating better could cut our risk of developing certain chronic diseases.

Clear evidence

A pro-inflammatory diet is one that, over the long-term, may lead to increased inflammation in the body. Such a diet often includes high amounts of commercially baked goods, fried foods and fatty

meats, and at the same time is low in fruits, vegetables and other healthy foods.

We reviewed and pooled data from 15 [meta-analyses](#), which is a type of study that summarizes data from lots of individual studies. All up, we looked at 38 health outcomes from four million people from across the world.

We found strong evidence for a link between pro-inflammatory diets and heart attacks, premature death and certain cancers including bowel cancer, pancreatic cancer, respiratory cancers and oral cancers. There was also evidence pro-inflammatory diets were linked with depression.

By bringing together data from populations all over the world, we were able to provide a comprehensive and reliable overview of the research to date. We also looked at the strength of the evidence of studies and found that for most outcomes, evidence was limited, highlighting the need for more research.

Because of the type of study we did, we were unable to determine cause and effect, so we can't conclusively say pro-inflammatory diets *cause* these chronic diseases yet. But we found clear evidence a pro-inflammatory diet is linked with an *increased risk* of developing certain [chronic diseases](#) and premature death.

But what is inflammation, and what role does our diet play?

Inflammation is part of our body's natural defense processes. It's our immune system's response to an irritant, be that an infection or injury, and is often a welcome sign our body is working to protect us. For example, swelling when you roll your ankle delivers resources to help repair the damage.

But when inflammation can't be turned off, this process may start to work against us.

Persistent low levels of inflammation (known as chronic inflammation) can be problematic and is linked to [premature death](#) and conditions including coronary heart disease and [depression](#), to name a few.



A Mediterranean diet full of oily fish, fruit, vegetables and legumes has been linked with lower levels of inflammation. Credit: Shutterstock

We can detect whether chronic inflammation exists by a simple blood test that looks at levels of inflammatory markers in the blood. Our diet is one factor that influences levels of these inflammatory markers, among many.

Take the "Western diet," for example, which consists of calorie-dense, [ultra-processed foods](#) and is low in fruits, vegetables and other plant-foods. This type of dietary pattern has been linked to [higher levels of inflammation](#).

Conversely, healthy dietary patterns have been linked to [lower inflammatory markers](#). This includes the Mediterranean diet, which is high in fruits, vegetables, legumes, olive oil and oily fish, and low in ultra-processed, refined foods.

The potential for diets to be pro- or anti-inflammatory can be measured using a tool known as the Dietary Inflammatory Index.

The index takes into account a number of nutrients,

compounds, and foods that have been identified in research as having either anti- or pro-inflammatory properties.

Using foods to fight inflammation

Despite promising marketing claims you might see online, there's no magic supplement or superfood to combat all our inflammation woes.

Instead, you should focus on improving your overall diet quality, rather than on a single [food](#) or nutrient. This is because many nutrients and foods interact with one another and can work together to improve inflammation.

As for what to eat?

1. Load up your plate with a wide variety of plant foods such as fruits, vegetables, wholegrains and legumes, like chickpeas and lentils. These foods are high in anti-inflammatory nutrients, such as fiber and a range of vitamins. They also contain unique "phytochemicals," such as polyphenols which are plant compounds that have potential antioxidant and [anti-inflammatory effects](#)
2. Flavor your food liberally with herbs and spices, and sip on tea and coffee regularly. These are also great sources of polyphenols
3. Enjoy oily fish regularly, such as salmon, sardines and mackerel, which are rich in anti-inflammatory omega-3 fatty acids
4. Reduce your intake of foods that may fuel [inflammation](#). These include foods high in trans and saturated fats, found in commercially baked goods, fried foods and fatty meats.

Given almost half of us live with a chronic disease, and many more are likely at risk, adopting an anti-inflammatory [diet](#) could be very beneficial for your health, and may help you live longer too.

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