Omega-6 fatty acids associated with lower risks of heart disease and death

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Two international groups of researchers have independently studied the effects of omega-6 fatty acids on the risks of death and coronary heart disease, respectively. For both studies it was concluded that the risks were lowered with high intake of linoleic acid, the main omega-6 fatty acid, widely present in vegetable oils.

It is generally recommended that people should reduce their intake of saturated fat, and increase their consumption of polyunsaturated fat, including omega-6 and omega-3 fatty acids*, in order to lower their risk of heart disease and stroke. However, more recently, the protective role of omega-6 fatty acids has been challenged by some researchers and media, leaving consumers confused.¹

The claimed negative effects of high omega-6 fatty acid diets are mostly based on an assumption that these fatty acids reduce the beneficial effects of omega-3 fatty acids, increasing inflammation in the body. Evidence supporting claims that omega-6 fatty acids may increase cardiovascular risk comes mostly from small intervention studies in patients with existing cardiovascular disease (CVD).¹

Two recent studies by researchers from the US and Australia¹, and the US, Iran and Singapore² provide evidence for a protective role of omega-6 fatty acids and therefore support current dietary recommendations. Their findings were published in Circulation, a journal of the American Heart Association.

The first study investigated the associations of omega-6 fatty acids and mortality.¹ Almost 2,800 elderly men and women free of CVD were followed from 1992 to 2000. The researchers used plasma levels of linoleic acid (LA) as an objective measure for its intake. They found that people with the highest plasma levels of LA (22.9% of total plasma fatty acids) had a 13% lower risk of death compared to those with the lowest levels (16.6%).

When looking at different causes of death, those with the highest levels had a 22% lower risk of dying from CVD and a 58% lower risk of dying from respiratory disease. Further analysis showed that those with the highest levels of LA and omega-3 fatty acids combined had a 54% lower risk of death and a 64% lower risk of CVD death, than people with the lowest levels of both. According to the researchers, these findings provide no evidence of an interaction between LA and omega-3 fatty acids, but support their independent benefits.

When looking at other omega-6 fatty acids in blood, including arachidonic acid (AA), the researchers found no association with total or CVD mortality. AA is produced from LA and has been associated with increased inflammation. This has been used by some researchers as an argument to support the theory that a high intake of omega-6 fatty acids is associated with inflammation, which in turn may increase cardiovascular
disease risk. However, according to the researchers of the current study, the lack of an association between plasma AA levels and risk of CVD deaths does not appear to support this hypothesis.¹

The second study examined the relationship between dietary LA intake and coronary heart disease risk (CHD).² The researchers carried out a systematic review of existing literature and a meta-analysis of prospective cohort studies** to investigate this relationship. Studies of patients with existing CHDs were excluded.

The researchers found that increased LA consumption reduced the associated risks of CHD events and CHD-related deaths, independently from other dietary factors including omega 3 fatty acids. Those with the highest LA consumption had a 15% lower risk of CHD events and a 21% lower risk of CHD death, compared to those with the lowest intake. The researchers were able to calculate from the data that for every increase of 5% in energy coming from LA, replacing the same caloric amount of saturated fatty acids, was associated with a 9% lower risk of CHD events and a 13% lower risk of CHD death. When intake was replaced with carbohydrates, the same increase in LA was associated with a 13% lower risk of both CHD events and deaths.

Overall, these recent findings provide support for current recommendations of increasing consumption of polyunsaturated fatty acids, both omega-6 and omega-3 types. Concerns that increasing the intake of omega-6 fatty acids increases CVD risk or mortality are not supported by these studies.

*For more information on types of fatty acids and their food sources, please read the EUFIC review ‘Facts on Fats - the Basics’

For further information please see:
