

"Omega-3 fatty acids have a role in prevention of coronary heart disease" Omega-3 fatty acids have a role in prevention of coronary heart disease

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The long chain omega-3 fatty acids EPA and DHA are found in seafood, especially fatty fish. Supplemental forms of EPA and DHA from fish oil, algal oil, krill oil and concentrates are also available. In the absence of consumption of fatty fish or supplements, intakes of EPA and DHA are low and well below what is recommended. Most recommendations are based upon the reported beneficial effects of omega-3 fatty acids with regard to cardiovascular diseases particularly coronary heart disease (CHD). The benefits of EPA and DHA were first identified in Inuit populations who had a very high intake but low mortality from CHD. Studies in the Japanese showed similar findings. Data from several large prospective cohort studies (e.g., Nurses Health Study; Physicians Health Study) showed inverse associations between dietary intake of EPA and DHA or blood levels of EPA and DHA and risk of CHD, CHD morbidity and CHD mortality. A meta-analysis published in 2014 (Choudhury et al.) identified a significantly lower risk of coronary outcomes in those with high compared to low dietary intake of EPA+DHA and in those with high compared to low blood levels of EPA, DHA or EPA+DHA. More recently, del Gobbo et al. reported lower risk of fatal CHD in those with higher blood or tissue status of EPA or DHA. These findings provide robust evidence that dietary intake of long chain omega-3 fatty acids, which results in higher blood and tissue levels, is linked to lower risk of CHD. The explanation for this protective effect is the beneficial impact of EPA and DHA on a range of risk factors for CHD, demonstrated in numerous individual trials and in a number of meta-analyses. Older studies (e.g. GISSI, GISSI-HF, JELIS) also reported that long chain omega-3 fatty acids could be used in secondary prevention to reduce mortality in individuals who already had advanced CHD. More recent studies have failed to replicate the earlier findings. Meta-analyses of mortality in such at-risk patients report a range of findings depending upon which studies are included. The 2017 AHA advisory supports the use of long chain omega-3 fatty acids in secondary prevention. Thus, while evidence for the role of EPA and DHA in (primary) prevention of CHD is robust, their role in secondary prevention is less certain and remains hotly debated.