Your questions about complementary medicines answered: fish oil

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This is the third article in a series providing evidence-based answers to common questions about complementary medicines from consumers and healthcare professionals.

What is fish oil?
Fish oil, derived from fatty fish, is an important source of omega-3 polyunsaturated fatty acids (n-3 PUFA) including docosahexaenoic acid (DHA), eicosapentaenoic acid (EPA) and docosapentaenoic acid (DPA). In Australia, it is widely used and 25.2% of respondents in the 2010 health survey reported that they had taken fish oil in the previous 24 hours. Fish oil, in the form of cod liver oil, became popular in the 19th century as a source of vitamin D for sun-deprived children in Europe. Today it is used mostly by consumers hoping to prevent cardiovascular disease and stroke. The National Heart Foundation of Australia recommends an intake of 500 mg DHA and EPA daily for the general population, and double that for patients with confirmed heart disease whereas others question this advice.

Fish oil has also been used for inflammatory conditions such as joint pains, ulcerative colitis and Crohn’s disease. There are few systematic reviews relating to indications for fish oils and controlled clinical trials continue to produce conflicting results, not only for effectiveness but also for the dose required for efficacy. Investigations across a variety of inflammatory diseases suggest efficacy is dose-dependent. Collectively, these studies indicate that the anti-inflammatory dose of fish oil requires 2.7 g or more of n-3 PUFA daily. However, this requires a daily dose of nine or more standard fish oil capsules, which typically contain 30% long chain n-3 PUFAs w/w, whereas people who self-medicate with fish oil generally take one or two capsules daily.

Who asks about fish oil?
The medicine call centres received 1067 queries from consumers about fish oil (10.4% of all complementary medicine questions) and 323 from healthcare professionals. The average age of consumers calling about fish oil was 59 years; 80% were women and most questions focused on interactions (33%), efficacy (20%) and adverse drug reactions (ADRs, 16%). Similarly, health professionals were predominantly concerned about interactions (43%) and ADRs (27%), but less about efficacy (9%).

Common consumer and health professional question
Is it safe to combine fish oil with anticoagulants or antiplatelets?
If the dose of fish oil is <3 g daily, combinations of fish oil and warfarin or antiplatelet medication (eg aspirin or clopidogrel) are considered safe. However, no studies of fish oil used in combination with the new oral anticoagulants (dabigatran, rivaroxaban) or antiplatelets (abciximab, eptifibatide, prasugrel, ticagrelor) were retrieved.

The mechanism for the anticoagulant activity of fish oil relates to changes in the ratio of phospholipids in platelet membranes, as fish oil decreases the synthesis of thromboxane A2 from arachidonic acid in platelets. Consumption of fish-rich diets or fish oil supplements may reduce platelet aggregation. Therefore, combined use of fish oil with anticoagulant or antiplatelet agents may, theoretically, increase the risk of bleeding.

In commonly used doses (<3 g daily), fish oil does not seem to increase the risk of bleeding, as previously suggested. However, the safety of higher doses (>3 g/day) is less clear. Although not confirmed in trials, bruising and minor bleeding are frequently reported by people taking fish oils, so it is wise to monitor for these potential adverse effects and reduce the dose if they occur.

Common consumer question
How does fish oil compare with aspirin for prevention of cardiovascular disease?
Currently, neither aspirin nor fish oil is well supported by high-level evidence for primary prevention of cardiovascular disease. For aspirin, this is because the harms seem to outweigh the benefits. In secondary prevention fish oil does not seem to provide any further benefit beyond modern medical therapy, particularly statins, whereas aspirin is effective in preventing further myocardial infarctions (MI) after a first cardiovascular event. In large, well-designed secondary prevention studies, fish oil did not prevent
poor neurodevelopment and ill-effects associated with reduced visual acuity, caused by low maternal intake have been is protective against these in patients at high contrast, there is ample evidence that aspirin

Common health professional question
Is it safe to take fish oil in pregnancy?

Although fish oil supplements are unlikely to be harmful in pregnancy, they are not routinely recommended for pregnant women. There is no strong evidence for benefits to the mother or child unless the mother has a deficiency of or inadequate intake of omega-3 fatty acids.19–22

A number of studies have shown a positive effect on cognitive development and intelligence quotient of children whose mothers consumed greater amounts of essential fatty acids.21,25,26 However, the Evidence Report/Technology Assessment prepared for the Agency of Healthcare Research and Quality (AHRQ) of the US Department of Health and Human Services, and other reviews conclude that, based on the small number of current well-designed studies, there is no conclusive evidence of benefit.19–22,24

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Resources

www.nps.org.au/health-professionals/health-news-evidence/2012/Fish-Oil

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