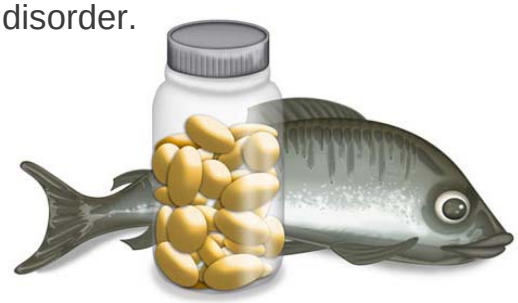
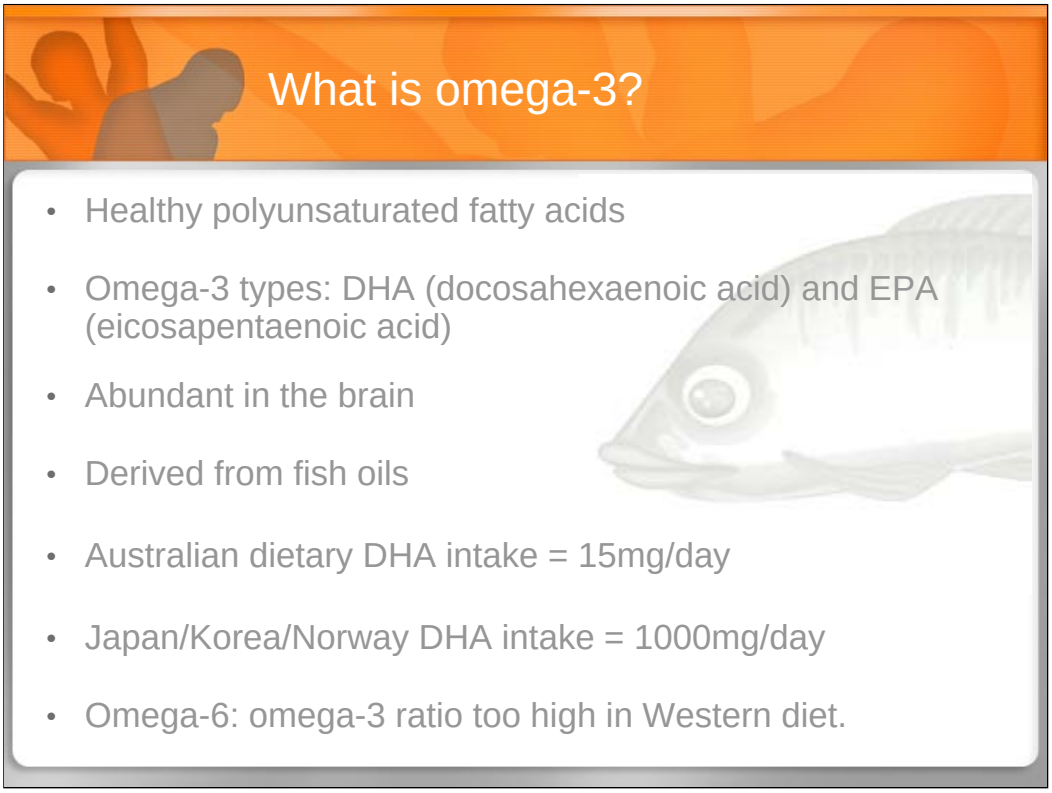
The role of omega-3 fatty acids as a treatment for bipolar disorder

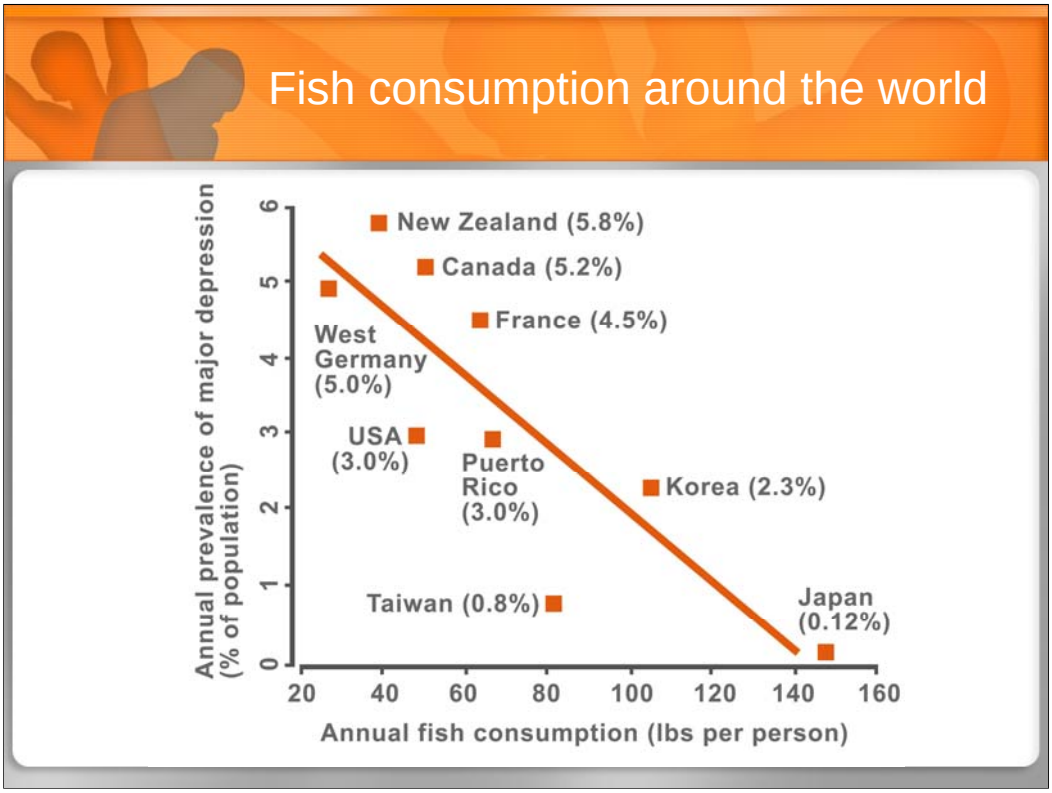
- Research into omega-3 fatty acids as a possible treatment for mood disorders is a new and interesting area of research
- Although research results appear promising, we are still in the early stages of proving that omega-3 is an effective treatment option for bipolar disorder.



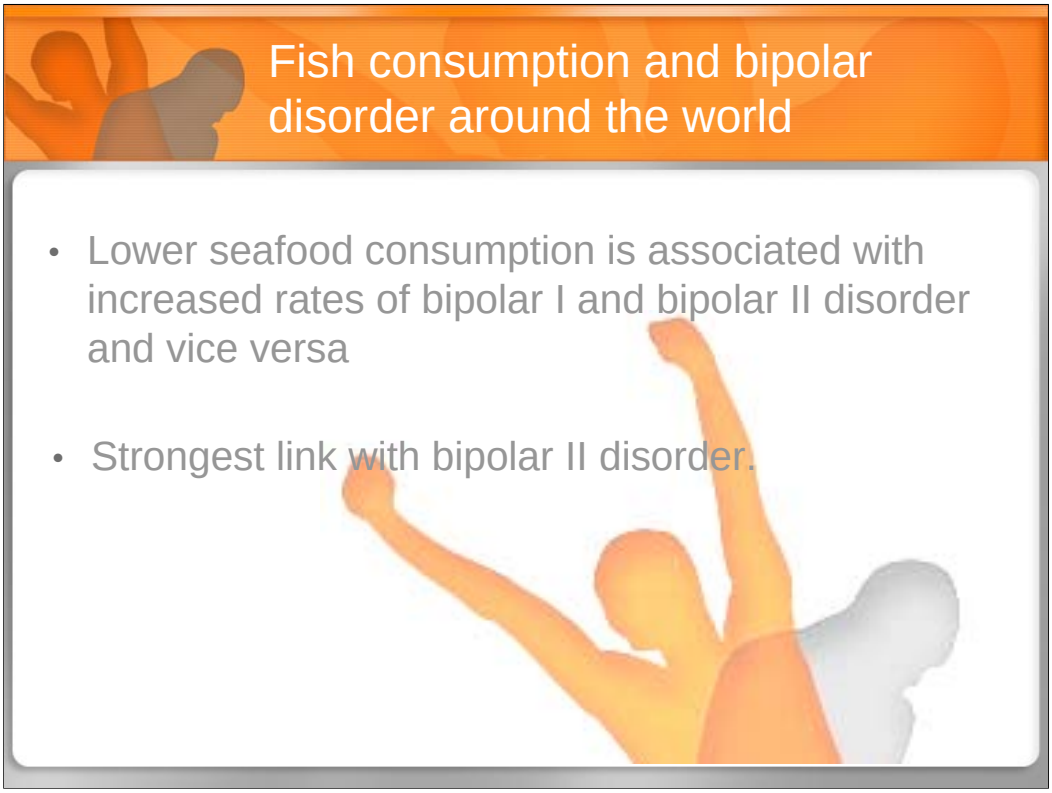
This session is about the role of omega-3 fatty acids as a treatment for bipolar disorder. It's a new and interesting area of research and although research results appear promising, we are still in the early stages of proving that omega-3 is an effective treatment option for bipolar disorder.



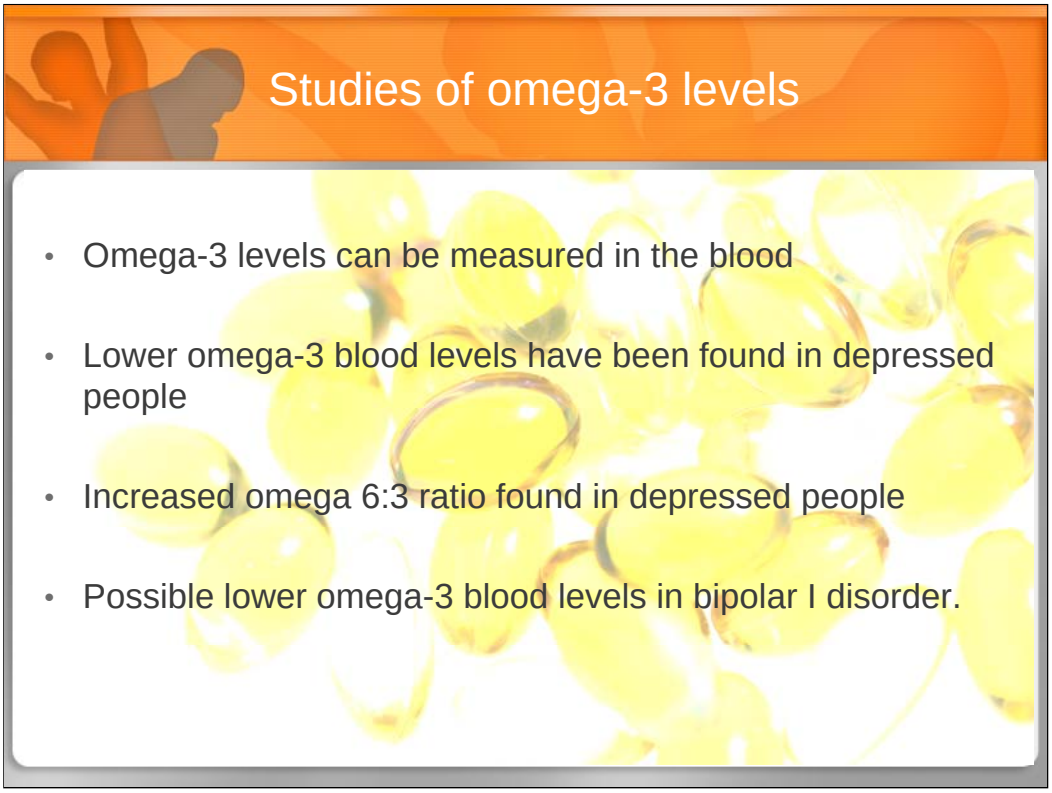
Just to explain what omega-3s are, they are the healthy, polyunsaturated fatty acids. There are different types, and most important are those commonly referred to as DHA and EPA, which are abundant in the brain and may affect chemicals associated with mood disorders. DHA and EPA are primarily derived from fish oils. There's a shortage of omega-3 in the Western diet, and countries such as Japan and Norway consume about a hundred times more omega-3 than, for example, Australians do. There is another important polyunsaturated fatty acid, in terms of mood disorders, and this is the omega-6, which is far too high in the Western diet. This presents a problem since high omega-6 levels lower the omega-3 levels even further because of the way that they compete with each other in the body. And so the omega-6 to omega-3 ratio is, therefore, high in the Western diet.



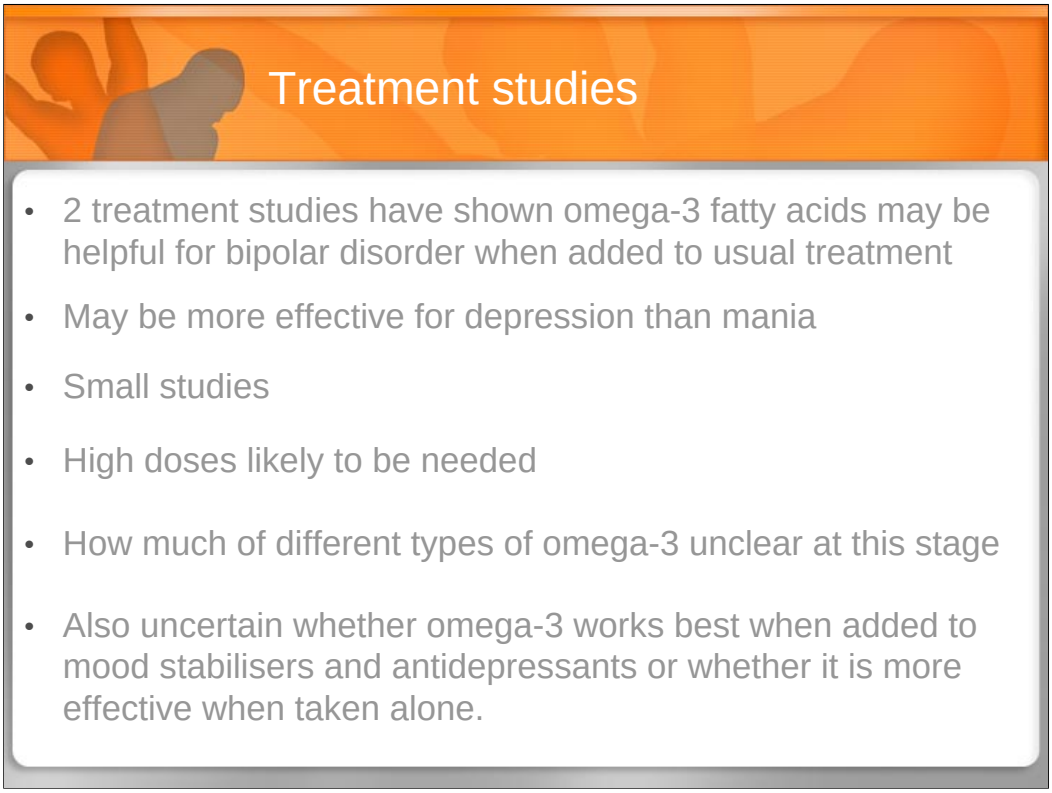
This graph represents results of an important study showing countries with high rates of depression consume lower amounts of fish.



There's a similar study in bipolar disorder showing that lower seafood consumption is associated with increased rates of bipolar I and II disorder, and vice versa. The strongest link has been shown with bipolar II disorder.



Omega-3 levels can also be measured in the blood, which is fairly unique in mental health, and lower omega-3 blood levels have been found in depressed people. And there's an increase in the omega-6 to omega-3 ratio in depressed people. And also, possibly, there are lower omega-3 blood levels in bipolar I disorder, although this is a small study at this stage.



There are two treatment studies that have shown that omega-3 fatty acids may be helpful for bipolar disorder when added to usual treatment. But it may be that omega-3 is more effective for depressive episodes than for manic episodes. These are currently small studies, but it is indicated that high doses are likely to be needed. It is also unclear as to how much of the different types of omega-3 are required and whether omega-3 works best when added to mood stabilisers and antidepressants, or whether it is most effective when taken alone.

Supplements

- Fish contain differing amounts of DHA and EPA depending on type and location of catch
- Need to balance increasing fish consumption against risk of increased mercury intake and other contaminants

- Doses vary
- EPA or DHA levels vary
- Contaminants
- Side effects
- Antioxidants.

So the issue is whether to consume more fish or take fish oil supplements. Fish contains different amounts of DHA and EPA depending on the type of fish and the location of catch, and there's the issue of increased mercury intake and other contaminants. With supplements, doses vary between different products, as may the amounts of EPA and DHA. Contaminants should not be a problem, due to the regulation of these products by the Therapeutic Goods Administration in Australia. Side-effects are few, but can include nausea, loose stool and a fishy repeat. When taking very high doses of omega-3, it may be necessary to increase antioxidant intake, for example with vitamin C and vitamin E.

Summary

- New research area
- must stay on evidence-based treatments
- need to increase omega-3 fatty acids (EPA and DHA)
- decrease omega-6: omega-3 ratio.

So, to summarise, this is a new area of research, so patients must stay on their evidence-based treatments. But there may be a need to increase omega-3 fatty acids, and also to decrease the ratio of omega-6 to omega-3.