Omega 3 Fatty Acids and Mental Health



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Summary: Omega-3 fatty acids are found in our food. They are essential to health and wellness. Studies show they may also be helpful in preventing and treating medical conditions that affect the brain, heart and other organs.

For healthy youth and adults, experts recommend eating fish (particularly fatty fish like salmon, mackerel, lake trout and sardines) at least two times per week (AHA, 2017) or to take 250 mg/day of omega-3 fatty acids as a supplement (USDA, 2010; WHO, 2008).

For youth and adults who suffer from depression or other mental health conditions, experts recommend taking 1,000-2,000 mg/day of EPA, one of the more common omega-3 fatty acids. (Peet, 2005; Bozzatello, 2016; CANMAT, 2016; Sarris, 2016).

What are Omega-3 Fatty Acids?

Omega-3 fatty acids are fats found in the diet that are essential to the human body for:

- The brain (and nervous system).
- The skin, joints and soft tissues.
- The heart.

There are three different types of omega-3 fatty acids:

- EPA (eicosapentaenoic acid) - decreases inflammation in the body. It is important for general health.
- DHA (docosahexaenoic acid) - helps our cells communicate with each other. It is an important omega-3 fatty acid for the brain, eyes and heart.
- ALA (alpha-linolenic acid) - used by the body as energy. Taking DHA and/or EPA is usually recommended over taking ALA.

In past centuries, omega-3 fatty acids were high in our diet. Many changes in modern society now make it difficult for the average North American child or adult to consume enough omega 3-fatty acids to provide health benefits (Papanikolaou, 2014). This may be a factor in the increase we have seen in the past century in certain medical, like heart disease and diabetes.

What are the Symptoms of Low Omega-3?

Most of the time, people who have a diet low in omega-3 will not have any signs or symptoms.

Nonetheless, symptoms that can be seen include:

- Physical symptoms: excessive thirst, frequent urination, rough or dry 'bumpy' skin, dry, dull or 'lifeless' hair, dandruff and soft or brittle nails.
- Allergy symptoms: eczema, asthma, hay fever.
- Visual symptoms: poor night vision, sensitivity to bright light or visual disturbances when reading.
- Attention/concentration problems: distractibility, poor concentration or difficulties with memory.
- Mood problems: depression, mood swings or anxiety.
- Sleep problems: especially difficulty settling at night or waking in the morning.

If you have any of the above, it is possible that this could be from a low diet in omega-3 fatty acids. You should consult your family physician for more information, since you may benefit from taking an omega-3 supplement.

What's the Evidence about Omega-3?

In 2016, the Canadian Network for Mood and Anxiety Treatments (CANMAT) published a review of complementary/alternative health medicines for the treatment of mental health disorders in the Canadian Journal of Psychiatry. Use of omega-3 fatty acids was found by CANMAT to be helpful when added to other treatments for some mental health disorders like depression.

A major review in the American Journal of Psychiatry (Sarris, 2016) also showed supplementation with omega-3 fatty acids was helpful to patients suffering from mood disorders.
A meta-analysis by McIntyre and colleagues states: "Current evidence supports the finding that omega-3 PUFAs with EPA ≥ 60% at a dosage of ≤1 g/d would have beneficial effects on depression." (Liao, 2019).

How Much Omega-3 is Recommended?

The following table provides the recommended dosage of omega-3 in various mental health disorders:

Condition	**Dosage daily**	**References**
Depression in youth/adults	1,000-2,000 mg EPA	Bozzatello, 2016 CANMAT, 2016 Sarris, 2016
ADHD in children/youth		
● Patients 16-25 kg	500 mg EPA	Belanger, 2009
● Patients 26-35 kg	750 mg EPA	Belanger, 2009
● Patients 36-45 kg	1,000 mg EPA	Belanger, 2009
ADHD Study with EPA/DHA		
● Boys aged 8-14	650 mg EPA / DHA	Bos, 2015
Schizophrenia	Not recommended due to insufficient data	Bozzatello, 2016
Bipolar Disorder as add-on therapy	1,000-2,000 mg EPA	Bozzatello, 2016
Anxiety	Not recommended due to insufficient data	Bozzatello, 2016

In Canada, one of the challenges with herbal and alternative medicines, including omega-3 fatty acids, is that, unlike medications, there is no organization overseeing their production to make sure that they are safe, effective or contain the medicines claimed on the label. So, it is important to purchase these medicines from a reputable retailer, like your community pharmacy, and to consult an expert health care professional, including your family physician, nurse practitioner, pharmacist or dietitian.

I Don’t Want to Take Supplements… What About Eating More Fish?

For healthy youth and adults, the American Heart Association recommends eating fish two times per week for the prevention of heart disease. There is no information to support taking omega-3 fatty acids to prevent heart disease or diabetes (AHA, 2017).

For the treatment of mental health disorders, including depression and ADHD, most experts feel it's probably better to get most of your omega-3 fatty acids from a supplement. The problem with eating enough fish for omega 3-fatty acids is that many fish sources also contain mercury. To get enough omega 3 fatty acids, one could be exposed to dangerous levels of mercury. The good news about fish supplements is they do not contain mercury. (McNamara, 2013)

If you do eat fish, the Environmental Working Group provides regularly updated information on the mercury content of various fish and seafood sources: http://www.ewg.org/research/ewg-s-consumer-guide-seafood/seafood-calculator.

I Can't Do Fish... What About Flaxseed oil?

For the healthy person looking to increase their intake of omega-3, it makes sense to eat more flaxseed oil.

Dosage

- Flaxseed oil 1000 mg twice a day for at least 10-weeks (Poorbaferani, 2020)

What about Omega-6 and Omega-9 Fatty Acids?

Two other important fatty acids are:

- Omega-6 fatty acids are important to our cells and our immunity. In excess, they can cause inflammation and inflammatory disease.
- Omega-9 fatty acids (e.g., oleic acid) are the most common monounsaturated fat in our diet. This fatty acid is important to control high cholesterol.

Although the human body cannot make its own fatty acids, there is a maximum amount it can use. Omega-3 and omega-6 fatty acids compete for space in the body.

Because omega-3 fatty acids reduce inflammation in the body and, at high doses, omega-6 fatty acids cause inflammation, it is important to increase the quantity of omega-3 in the body than omega-6 fatty acids.

Unfortunately, omega-6 fatty acids are much more common in the diet than omega-3 fatty acids.

To get the best out of taking omega-3 fatty acids, it is important to reduce the intake of omega-6 fatty acids in our diet (Husted, 2016).

The recommended ratio is 4:1 for omega-6 to omega-3 in our diet or better (lower omega-6 and higher omega-3).

How Can I Change My Diet to Improve Health and Wellness?

Increase Omega-3

- Take supplements recommended by a health care professional, like your doctor or pharmacist.
- Eat fish and seafood.

Decrease Omega-6

- Avoiding cooking with seed oils (e.g., corn, sunflower, canola, sesame, soybean).
- Reducing (ideally stopping) your consumption of fried foods (french fries, chips).
- Reducing your intake of dark meat from poultry (chicken and turkey).
- Reading labels on packaged food to avoid those made with seed oils.
- Eating home-cooked foods.

Any Side Effects from Omega-3 Fatty Acids?

Omega-3 fatty acids (EPA/DHA combination products) are generally safe and well-tolerated. However, they are associated with a few minor side effects, including nausea, fishy aftertaste in the mouth and an increase in low-density lipoprotein (LDL) cholesterol at high doses (greater than 4 g/day of EPA). (Bozzatello, 2016).

I’m Depressed and Taking Omega 3 and It’s Not Working

Are you taking Omega 3 for mood or anxiety problems? Unlike antidepressant medications, which usually start having an effect in 2 weeks or so, nutritional interventions seem to take longer. Take for at least several weeks to see if they may be helpful. If not helpful, then it makes sense to stop taking them.

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