

# Omega Three Fatty Acids

## Introduction

I chose to do my project on Omega 3 because of positive feedback I have heard from others. I personally am a bit of a health freak, so I felt like if this was as amazing as others say why haven't I researched it at all, or better yet why am I not taking this supplement? This project gave me a reason to research this supplement. As part of my research I decided to start taking fish oil so I would be able to personally confirm or deny the accusations I have found.

## Section 1: Background and Problem Statement

- **Web site #1 Name:** Florida Health Finder
- **Web address:** <http://www.floridahealthfinder.gov/health-encyclopedia/Health%20Illustrated%20Encyclopedia/2/19302.shtml>
- **Background Information:**

Omega 3 fatty acids are essential fatty acids that are a form of polyunsaturated fat from foods. They are considered essential because they are beneficial to your health, omega 6 and 9 are also two more essential fatty acids. Omega 3 can be found in cold water fish (such as salmon) and dark green vegetables, flax seed (oils), and some vegetable oils.

- **Web site #2 Name:** University of Maryland – Medical Center
- **Web address:** <http://www.umm.edu/altmed/articles/omega-3-000316.htm>
- **Background Information:**

Omega 3 fatty acids cannot be made by the human body they can only be obtained through food. Omega 3 fatty acids play a crucial role in brain function, growth, and development. There has been research done showing that Omega 3 can help with anything from menstrual cramps to cancer.

- **Web site #3 Name:** American Heart Association
- **Web address:** <http://www.americanheart.org/presenter.jhtml?identifier=4632>
- **Background Information:**

Omega 3 fatty acids are extremely beneficial for the heart. It has been shown to decrease abnormal heart beats, triglyceride levels, slow the growth of plaque, and slightly lower blood pressure. The American Heart Association recommends eating at least two serving of fish a week.

## Section 2: Research

- **Web site #1 Name:** Omega Research
- **Web address:** <http://www.omega-research.com/researchview.php?ID=490&catid=10>
- **Summary of the research:**

The aim of this study was to see how effective fish oil and exercise were at reducing body fat. The study contained overweight volunteers, one was put on fish oil, another on fish oil and exercise, another on sunflower oil (as a control), and another on sunflower oil and exercise. Each group walked 3 d/wk for 45 min at a 75% age predicted maximal heart rate. Their plasma lipids, blood pressure,

and arterial function were assessed at 0, 6, and 12 weeks. The study found that fish oil supplements and regular exercise improved cardiovascular and metabolic health through lowering triglycerides, increasing HDL and improving arterial compliance.

- **Web site #2 Name:** Omega Research
- **Web address:** <http://www.omega-research.com/researchview.php?ID=922&catid=7>
- **Summary of the research:**

A study was conducted to see if Omega 3 (EPA) affected depression;. 70 patients who had ongoing depression treatment were randomized into taking either a placebo or omega 3 (EPA) supplement at doses of 1,2, or 4 grams per day for 12 weeks. Their levels of depression were assessed with the Hamilton Depression Rating Scale, Montgomery Asberg Depression Rating Scale, and the Beck Depression Inventory. The study found that patients who were given 1 gram per day of omega 3 (EPA) were significantly less depressed than those who were given placebos, 2 or 4 grams of omega 3.

- **Web site #3 Name:** Omega Research
- **Web address:** <http://www.omega-research.com/researchview.php?ID=918&catid=21>
- **Summary of the research:**

Animal studies suggest that high levels of omega 6 (corn and safflower oils) may be a precursor to cancers; whereas omega 3 can inhibit these

effects. A study was done where breast adipose tissue was collected from 73 breast cancer patients and 74 controls. The women who had higher levels of omega 6 were found to have breast cancer. Omega 3 fatty acids counterbalance the effects of omega 6, thus they have a protective effect.

### Section 3: Statistics

- **Web site #1 Name:** The Journal of the American Medical Association
- **Web address:** <http://jama.ama-assn.org/cgi/content/abstract/287/14/1815>
- **Summary of the statistics:**

In 1980 84,688 female nurses (aged 34-59) enrolled in the Nurses Health Study. The objective of this study was to see if omega 3 fatty acids lowered the risk of coronary heart disease. These women completed surveys in 1980, 1984, 1986, 1990, and 1994. The study showed the 1513 of these women had CHD. They found that women who ate fish 1-4 times a week had a 95% less chance of getting CHD than women who rarely consumed fish.

- **Web site #2 Name:** Science Direct (found through Google scholar)
- **Web address:**  
[http://www.sciencedirect.com/science?\\_ob=ArticleURL&\\_udi=B6VKN-46RF1KR-4&\\_user=10&\\_coverDate=10%2F31%2F2002&\\_rdoc=1&\\_fmt=high&\\_orig=search&\\_sort=d&\\_docanchor=&view=c&\\_searchStrId=1277760194&\\_rerunOrigin=scholar.google&\\_acct=C000050221&\\_version=1&\\_urlVersion=0&\\_userid=10&md5=6b8524220056800b866f2f91a28c7fb2](http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6VKN-46RF1KR-4&_user=10&_coverDate=10%2F31%2F2002&_rdoc=1&_fmt=high&_orig=search&_sort=d&_docanchor=&view=c&_searchStrId=1277760194&_rerunOrigin=scholar.google&_acct=C000050221&_version=1&_urlVersion=0&_userid=10&md5=6b8524220056800b866f2f91a28c7fb2)
- **Summary of the statistics:**

Western diets are deficient in omega 3, but have high levels of omega 6 which can cause disease. Past research suggests that there must be a balance of omega 3 and omega 6. The ratio between omega 6 and omega 3 intake is at a 15/1 ratio. It is found that a ratio of 4/1 was associated with a 70% the decrease in total mortality.

- **Web site #3:** Pub Med Central
- **Web address:** <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC425011/>
- **Summary of the statistics:**

The hypothesis of the study was that omega 3 had a major role in the visual development of prenatal and postnatal rhesus monkeys. It was shown that monkeys with depleted omega 3 had anywhere from a 42-6% worse chance of being less developed than the control monkeys.

- **Section 4: Consumer Information**

- **Web site #1 Name:** Food and Drug Administration
- **Web address:**

<http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/2004/ucm108351.htm>

- **Summary of the information:**

The FDA has found that a regular intake of EPA or Omega 3 will decrease one's risk for Coronary Heart Disease. Coronary Heart Disease causes over 500,000 deaths a year. The FDA recommends people intake foods that contain more omega 3 or take supplements.

- **Web site #2 Name:** Mayo Clinic

- **Web address:** <http://www.mayoclinic.com/health/cholesterol/CL00002>

- **Summary of the information:**

Research has shown that omega 3 fatty acids can reduce cholesterol and in turn reduce the risk of heart attacks or disease. Doctors recommend eating fish at least two times a week. Fish with the highest levels of Omega 3 include: mackerel, lake trout, herring, sardines, albacore tuna and salmon. If you don't like fish, take supplements or eat ground flaxseed and canola oil.

- **Web site #3 Name:** WebMD

- **Web address:** <http://www.webmd.com/healthy-aging/omega-3-fatty-acids-fact-sheet?page=2>

- **Summary of the information:**

The best type of omega supplement is a fish oil supplement that contains both DHA and EPA. Doctors recommend 1 gram a day and say that people with health issues can take up to 5 grams a day, but only under doctor supervision. High doses of fish oil can cause bleeding. Consult your doctor before taking fish oil if you are on other medicines that could interact badly.

## Section 5: Solutions to the Problem (or Issue)

- **Web site #1 Name:** American Psychological Association

- **Web address:** <http://www.apa.org/news/press/releases/2009/12/dha-omega.aspx>

- **Summary of the information:**

The American Psychological Association is a scientific and professional organization that researches psychological issues. They have published many articles in how omega 3 can help better nervous system functions and help with depression. They help by guiding people through their psychological needs by suggesting foods to eat and supplements to get the omega from.

- **Web site #2 Name:** American Pregnancy Association

- **Web address:**

<http://www.americanpregnancy.org/pregnancyhealth/PEfattyacids.html>

- **Summary of the information:**

The American Pregnancy Association is a health organization that promotes reproductive and pregnancy wellness. Omega 3 fatty acids are crucial to mothers and babies because they may lower the risk of pre-term birth and post-partum depression. Also, inadequate amounts of omega 3 have been linked to diseases and slowed cognitive growth and development.

- **Web site #3 Name:** American Heart Association

- **Web address:** <http://www.americanheart.org/presenter.jhtml?identifier=4632>

- **Summary of the information:**

The American Heart Association is a national health organization that promotes awareness of heart disease and how to prevent it. They offer many pages about foods to eat to reduce the risks of heart diseases or issues. One of these pages is about omega 3 which can be found in fish.

The AHA recommends at least 2 servings of fish a week.

## Conclusions:

I learned a lot about Omega 3 that I didn't know before. I didn't know it was so important in brain development and cognitive functions. Though I did not include much information on this I found that it is very important for pregnant woman to consume enough Omega 3 because it affects the baby's brain development. I also found that Omega 3 was beneficial in reducing emotional issues, heart disease, and cancer. I did not find too much negative information on omega 3, just that in high doses it could be dangerous and cause side effects such as excess bleeding. I began taking omega 3 supplements around a month ago and I honestly feel a difference. I have been less hungry throughout the day and I do not crave many fatty foods. I have found that any menstrual issues have seemed to be getting better than in previous months. Also, when I work out I am getting faster results. My body is responding more to the cardio and strength exercises I do. All in all I feel that it is a good supplement to take or it would be good to consume enough fish because I feel much healthier since I have been taking it. Personally, I felt that the fact sheet was not designed for a topic like mine. I had a very hard time finding statistics. It seems as though not much conclusive findings have been made with omega 3, and it is a topic that needs to be researched much more in depth for more statistics to come out.

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