Lactomega Softgels: For Overall Human Health Helps to Prevent Risk of Chronic Diseases

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ABSTRACT

Omega-3 fatty acids are considered as essential fatty acids: They are necessary for human health but the body can’t make them. Research shows that omega-3 fatty acids reduce inflammation and may help lower risk of chronic diseases such as heart disease, cancer, arthritis etc Omega-3 fatty acids are highly concentrated in the brain and appear to be important for cognitive (brain memory and performance) and behavioral function. In fact, infants who do not get enough omega-3 fatty acids from their mothers during pregnancy are at risk for developing vision and nerve problems. Symptoms of omega-3 fatty acid deficiency include fatigue, poor memory, dry skin, heart problems, mood swings or depression, and poor circulation. This present paper emphasizes the role of Lactomega soft gels for overall human health.

Introduction

Fish oil is oil derived from the tissues of oily fish. Fish oils contain the omega-3 fatty acids eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA), precursors of certain eicosanoids that are known to [1]-[2] have health benefits. Fish do not actually produce omega-3 fatty acids, but instead accumulate them by consuming either microalgae or prey fish that have accumulated omega-3 fatty acids, together with a high quantity of antioxidants such as iodide and selenium, from microalgae, where these antioxidants are able to protect the fragile polyunsaturated lipids from peroxidation [3]-[5].

Fatty predatory fish like sharks, swordfish, tilefish, and albacore tuna may be high in omega-3 fatty acids. Marine and freshwater fish oil varies in contents of arachidonic acid, EPA and DHA [8]. Various species range from lean to fatty and their oil content in the tissues has been shown to vary from 0.7-15.5% [9]. They also differ in their effects on organ lipids [8]. Studies have revealed that there is no relation between total fish intake and estimated omega3 fatty acid intake from all fish and serum omega3 fatty acid concentrations [10]. Only fatty fish intake,
particularly salmonid, and estimated EPA + DHA intake from fatty fish has been observed to be significantly associated with increase in serum EPA + DHA [10].

The omega-3 fatty acids in fish oil are thought to be beneficial in treating hyper triglyceridemia, and possibly beneficial in preventing heart disease [11]. Fish oil and omega-3 fatty acids have been studied in a wide variety of other conditions, such as clinical depression [12]-[13], anxiety [14]-[16], cancer, macular degeneration, although benefit in these conditions remains to be proven [11].

LACTOMEGA softgels

LACTOMEGA Soft gels contains Ultrapure-Concentrated EPA (Eicosapentanoic acid) and DHA (Decosahexanoic acid), easy to swallow soft gel capsules that promotes cardiovascular health, promotes a healthy immune response, supports joint function and mobility, provides natural vitamin E and C, potential antioxidants, promotes healthy cognitive function.

Studies show that during pregnancy, Omega-3 fatty acids in LACTOMEGA are required to prevent premature rupture of cervical membrane and thus prevent pre-term delivery. Also, it improves brain development in fetus.
Health benefits of Lactomega softgels

Cancer

Several studies report possible anti-cancer effects of n-3 fatty acids found in fish oil (particularly breast, colon and prostate cancer) [21]-[23]. Among n-3 fatty acids (omega-3), neither long-chain nor short-chain forms were consistently associated with reduced breast cancer risk. High levels of docosahexaenoic acid, however, the most abundant n-3 polyunsaturated fatty acid (omega-3) in erythrocyte membranes, were associated with a reduced risk of breast cancer [24]. A recent study of 35,000 middle-aged women found that the women who took fish oil supplements had a 32% lower risk of breast cancer, although the authors stress the result is preliminary and falls short of establishing a causal relationship [25]. Omega-3 fatty acids reduced prostate cancer growth, slowed histopathological progression, and increased survival in genetically engineered mice [26]. However the effects of fish oil consumption by humans on prostate cancer is not conclusive [27]. There is a decreased risk with higher blood levels of DPA, but an increased risk of more aggressive prostate cancer with higher blood levels of combined EPA and DHA [28].
Cardiovascular

The American Heart Association recommends the consumption of 1g of fish oil daily, preferably by eating fish, for patients with coronary heart disease although pregnant and nursing women are advised to avoid eating fish with high potential for mercury contaminants including mackerel, shark, or swordfish [29]. Note that optimal dosage relates to body weight.

The US National Institutes of Health lists three conditions for which fish oil and other omega-3 sources are most highly recommended: hypertriglyceridemia, secondary cardiovascular disease prevention and high blood pressure. It then lists 27 other conditions for which there is less evidence. It also lists possible safety concerns: "Intake of 3 grams per day or greater of omega-3 fatty acids may increase the risk of bleeding, although there is little evidence of significant bleeding risk at lower doses. Very large intakes of fish oil/omega-3 fatty acids may increase the risk of hemorrhagic (bleeding) stroke" [11].

There is also some evidence that fish oil may have a beneficial effect on some forms of cardiac dysrhythmia [30]-[31]. A 2008 meta-study by the Canadian Medical Association Journal found fish oil supplementation did not demonstrate any preventative benefit to cardiac patients with ventricular arrhythmias [32]. A 2012 meta-analysis published in the Journal of the American Medical Association, covering 20 studies and 68680 patients, found that fish oil supplementation did not reduce the chance of death, cardiac death, heart attack or stroke [33].

Hypertension

There have been some human trials that have concluded that consuming omega-3 fatty acids slightly reduces blood pressure (DHA could be more effective than EPA). It is important to note that because omega-3 fatty acids can increase the risk of bleeding, a qualified healthcare provider must be consulted before supplementing fish oil [34].

Mental health

Studies published in 2004 and 2009 have suggested that the n-3 EPA may reduce the risk of depression and suicide. One study [35] compared blood samples of 100 suicide-attempt patients and to those of controls and found that levels of Eicosapentaenoic acid were significantly lower in the washed red blood cells of the suicide-attempt patients. A small American trial in 2009 suggested that E-EPA, as monotherapy, might treat major depressive disorder but failed to achieve statistical significance [36]. Studies [37]-[38] were conducted on prisoners in England where the inmates were fed seafood which contains omega-3 fatty acids. The higher consumption of these fatty acids corresponded with a drop in the assault rates. Another Finnish study found that prisoners who were convicted of violence had lower levels of omega 3 fatty acids than prisoners convicted of nonviolent offenses. It was suggested that these kinds of fatty acids are responsible for the neuronal growth of the frontal cortex of the brain which, it is further alleged, is the seat of personal behavior.

A study from the Orygen Research Centre in Melbourne suggests that omega-3 fatty acids could also help delay or prevent the onset of schizophrenia. The researchers enlisted 81 'high risk' young people aged 13 to 24 who had previously suffered brief hallucinations or delusions and gave half of them capsules of fish oil while the other half received placebo. One year on, only three percent of those on fish oil had developed schizophrenia compared to 28
percent from those on placebo [39]. A study conducted at Sheffield University in England reported positive results with fish oil on patients suffering from schizophrenia. Participants of the study had previously taken anti-psychotic prescription drugs that were no longer effective. After taking fish oil supplements, participants in the study experienced progress compared to others who were given a placebo [40]-[41].

The largest controlled study to date found no cognitive benefit after two years in the elderly [42]-[43].

**Alzheimer's disease**

According to a study from Louisiana State University in September 2005, Docosahexaenoic acid, an omega-3 fatty acid often found in fish oil, may help protect the brain from cognitive problems associated with Alzheimer's disease [44]. A Cochrane meta-analysis published in June 2012 found no significant protective effect for cognitive decline for those aged 60 and over and who started taking fatty acids after this age. A co-author of the study said to *Time*, "Our analysis suggests that there is currently no evidence that omega-3 fatty acid supplements provide a benefit for memory or concentration in later life" [45].

**Lupus**

In a study conducted in Northern Ireland, lupus disease activity, especially in the skin and joints, was significantly reduced in patients who received fish oil supplements at both 12-week and 24-week follow-up periods versus patients who received placebo. There were also changes in the blood platelets of the patients who took the fish oil supplements, with an increase in proteins that are considered anti-inflammatory and a decrease in proteins that promote inflammation; these changes were not evident in the group that took placebo.

The fish oil group showed an increase in flow-mediated dilation, which the researchers took as a sign that the omega-3 oils were helping the cells in the blood vessel walls to remain healthy [46]-[47].

**Parkinson's disease**

A study [48] examining whether omega-3 exerts neuroprotective action in Parkinson's disease found that it did exhibit a protective effect in mice. The scientists exposed mice to either a control or a high omega-3 diet from two to twelve months of age and then treated them with a neurotoxin commonly used as an experimental model for Parkinson's disease.

The scientists found that high doses of omega-3 given to the experimental group prevented the neurotoxin-induced decrease of dopamine that ordinarily occurs. Since Parkinson's is a disease caused by disruption of the dopamine system, this protective effect exhibited could show promise for future research in the prevention of Parkinson's disease [48].

**Depression**

Evidence regarding the efficacy of fish oil supplements as a treatment for depression is inconclusive. Whereas several methodologically rigorous studies have reported statistically significant positive effects in the treatment of depressed patients, other studies have found effects to be insignificant. In 1999 a team of researchers lead by the Harvard psychiatrist Andrew Stoll published a preliminary placebo-controlled double blind trial which found
Omega 3 fatty acids "improved the short-term course of illness" of bipolar disorder [49]-[50]. He credits Donald O. Rudin for pioneering this view in 1981 [51]-[52].

A 2003 double blind placebo controlled study published in journal *European Neuropsychopharmacology* found that among 28 patients with major depressive disorder, "patients in the omega-3 PUFA group had a significantly decreased score on the 21-item Hamilton Rating Scale for Depression than those in the placebo group" [12]. Another study in the *American Journal of Psychiatry* reported that the addition of fish oil supplements to regular maintenance anti-depression therapy advised "highly significant" benefits by the third week of the trial [16].

A 2005 randomized double-blind placebo-controlled study conducted under the auspices of the New Zealand Institute for Crop and Food Research found "no evidence that fish oil improved mood when compared to placebo, despite an increase in circulating Ï‰-3 polyunsaturated fatty acids"[53]. Another study published in October 2007 found that fish oil supplements conferred no additional benefits beyond those conferred by standard treatment [54]. However, both of these studies used omega-3 primary consisting of DHA, not EPA.

A 2008 Cochrane systematic review found that limited data is available. In the one eligible study, omega-3s were an effective adjunctive therapy for depressed but not manic symptoms in bipolar disorder. The authors found an "acute need" for more randomised controlled trials [55].

A 2009 metastudy found that patients taking omega-3 supplements with a higher EPA: DHA ratio experienced less depressive symptoms. The studies provided evidence that EPA may be more efficacious than DHA in treating depression. However, this metastudy concluded that due to the identified limitations of the included studies, larger, randomized trials are needed to confirm these findings [56].

**Psoriasis**

Diet supplemented with cod liver oil have shown beneficial effects on psoriasis [59].

**Pregnancy**

Omega-3 polyunsaturated fatty acids (commonly found in fish oil) protect against fetal brain injury and promote fetal and infant brain health [60]. Some studies reported better psycho motor development at 30 months of age in infants whose mothers received fish oil supplements for the first four months of lactation [61]. In addition, five-year-old children whose mothers received modest algae based docosahexaenoic acid supplementation for the first 4 months of breastfeeding performed better on a test of sustained attention.

This suggests that docosahexaenoic acid intake during early infancy confers long-term benefits on specific aspects of neurodevelopment [61]. Docosahexaenoic acid supplementation has also been found to be essential for early visual development of the baby [62].

However, the standard western diet is severely deficient in these critical nutrients. This omega-3 dietary deficiency, a nutrient found in fish oil, is compounded by the fact that pregnant women become depleted in omega-3s, since the fetus uses omega-3s for its nervous system development. Omega-3s are also used after birth if they are provided in breast milk [63]. In addition, provision of fish oil during pregnancy may reduce an infant sensitization to common
food allergens and reduce the prevalence and severity of certain skin diseases in the first year of life. This effect may persist until adolescence with a reduction in prevalence and/or severity of eczema, hay fever and asthma [64]. Omega-3 fatty acid supplementation is also beneficial to the mother [60]. It has been shown to prevent pre-term labor and delivery [63]. It is recommended that women who are breastfeeding consume fish oil at least twice a week, although the American Heart Association recommends pregnant and nursing women are to avoiding eating fish with high potential for mercury contaminants including mackerel, shark, or swordfish [64].

Indications

- Promotes cardiovascular health.
- Promotes a healthy immune response.
- Supports joint function and mobility.
- Potent antioxidants.
- Promotes healthy cognitive function.
Prevent premature rupture of cervical membrane & thus prevents pre-term delivery. Improves brain development in fetus.

**LACTOMEGA softgels plays an important role in Heart Health, Coronary heart disease, Arrhythmias**

- Have a beneficial effect on heart rate, a major risk factor for sudden cardiac death.
- Reduce risk of arrhythmia, a risk factor for sudden cardiac death.
- Reduce triglyceride levels, which is an independent risk factor for coronary artery disease.
- Minimize the risk of angina, heart attack, and stroke.

**LACTOMEGA softgels helps minimize these symptoms**

- Depression.
- Schizophrenia.
- Developmental coordination disorder/dyspraxia.
- Dementia.
- Huntington disease.

**LACTOMEGA softgels has a positive effect on Brain Cognitive Health and Development**

- Normal development of the brain, retina (eyes), and nervous system of the fetus.
- Cognitive development of infants.
- Duration of gestation and infant size at birth.
- Postpartum depression.
- Alzheimer’s disease.

**LACTOMEGA softgels provides benefit as Anti-Inflammatory, Joint Pain and Digestion**

- Reducing tender joints.
- Reducing the duration of morning stiffness.
- Alleviating symptoms for ulcerative colitis, an inflammatory bowel disease (IBD).
- DHA & EPA influence inflammatory balance.

**LACTOMEGA softgels provides benefit in Asthma**

- Promote respiratory health & lesser the effects of oxidative stress for patients who have Asthma.
- Low intake of Vitamin E & omega 3 fatty acids had an increased risk of chronic bronchitis, wheezing and Asthma.
Dosage

1-2 Softgel capsules daily.

Declarations

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Competing Interests Statement

The authors declare no competing financial, professional and personal interests.

Consent for publication

Authors declare that they consented for the publication of this research work.

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