TRUTH AND ILLUSIONS REGARDING OMIGA-3 FATTY ACIDS IN RELATION TO HUMAN HEALTH

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ABSTRACT (Overview)

Several hundred research papers can be found in open access journals that deal with basics and benefits of long chain omega-3-poly unsaturated fatty acids (PUFAs) i.e.: Alpha linolenic (ALA), eicosapentaenoic (EPA) and Docosahexaenoic acids (DHA).

In reviewing these papers, it was found that some of them are not meta-analyzed and thus need more work to confirm their findings. The purpose of this presentation is to distinguish between the results of the meta-analyzed data and the others. Two separate sketches were designed for this purpose.

A number of health organizations have recommended these fatty acid formulations as a remedy for a number of diseases attacking human beings. However, no limitation for using them in daily nutrition is recorded.

It also is worth noting that ALA is prevalent in seeds of a number of higher plants including flax (Linseed) while EPA and DHA are commonly found in the fat of marine animals such as krill, squid and others.

These fatty acids are <u>synthesized</u> in higher plants and in phytoplankton and algae (food sources of marine animals) and also can be commercially extracted.

Key words: ω-3 Fatty acids, structure, source, benefit history, types, importance krill, fish, flax seeds

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ω-3 Fatty acid and Human health

- • ω is the last letter in Greek Alphabet which start with α , β ,, ω
- Fatty acids
 - 1.Saturated
 - 2.Unsaturated (including Omiga-3)

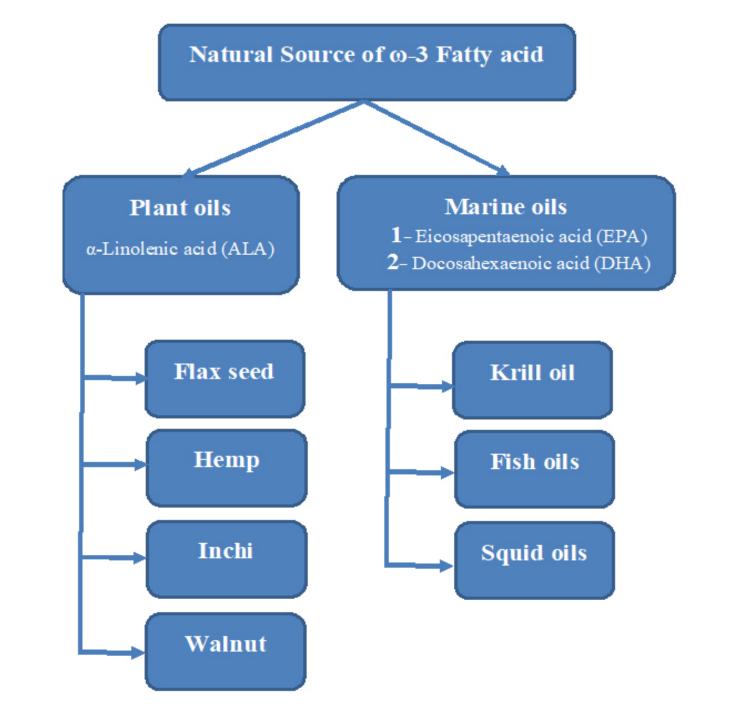
The fatty acid has 2 terminals: 1st is COOH and the other (tail) is CH3 which is omega carbon

The 3 types of ω -3 Fatty acids involved in human health are:

• α-Linolenic acid (ALA) is found in plant oil (short chain consists of 18 carbon and 3 double bonds).

• Eicosapentaenoic acid (EPA) is abundant in marine animal oil (20 carbon atoms and 5 double bonds).

• Docosahexaenoic acid (DHA) is abundant in marine animal oil (22 carbon atoms and 6 double bonds).



Relive vasomotor symptoms in menopausal Help in Anxiety and Depression treatment women (Regulate the level of serotonin & Dopamine) Management cardiovascular risk Keep physical performance and blood (Keep arteries smooth, prevent the plaque formation) immune system Reduce serum triglycerides by nearly 15-30% Anti-inflammatory and higher HDL Omega-3-fatty acids Prevent the blood platelet adhesion Lower blood pressure (Systolic & diastolic) (ALA, EPA, DHA) Prevent the "First hit" of developing fatty Improve the efficacy and tolerability of liver and maintain healthy digestion of food chemotherapy Help in Neurogensis and neural Lower or prevent headache development in children Meta analysis (verified) in relation to human health

Fig. 3: Evidence based benefits,

Treat mental disorders (Schizophrenia and Improve bone and joint health bipolar disorder) Decrease Age-related mental decline and Prevent rheumatoid arthritis Alzheimer's disease Relive menstrual pain Reduce risk of many autoimmune diseases Lower LDL in blood (The bad cholesterol) Reduce asthma in children and young adults Omiga-3-Fatty acids Treat lupus, diabetes, ulcerative colitis Treatment of cancer crohn's disease and psoriasis Arrhythmia suppression Improve sleep Reduce central obesity and insulin Good for skin (Soft skin) (Need more work and Meta-analysis) resistance

Fig. 4: Not confirmed benefits

Thank yoy