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## Conclusive Evidence of the Benefit of Omega 3

**Mozaffarian, D. et al. Plasma Phospholipid Long-Chain n-3 Fatty Acids and Total and Cause-Specific Mortality in Older Adults. *Ann Intern Med.* 2013; 158:515-525**

I wanted to provide a review of the above study because it contains several important points that further support the paradigm and protocols of Innate Choice. These points also serve as valuable explanations regarding the seemingly contradictory findings regarding the benefits of omega 3 fish oil supplementation that have been circulating in recent months. They also serve to elucidate why recent claims denouncing the importance of omega 3 fish oil are scientifically invalid and represent a complete lack of understanding of the available research data and the methodologies used to gather it.

First, and thank goodness, this paper mentions the crucial difference between primary and secondary prevention studies. They point out, as I have so many times in the past, that observational studies looking at secondary prevention (slowing the progression of already diagnosed illnesses like heart disease) are not valid measures of the health benefits of fish oil - or any intervention aimed at increasing health and function rather than treating disease. This is because omega 3 fatty acids from fish oil are NOT a treatment for diseases; they are essential nutrients that, if not consumed in sufficient amounts, make it impossible to genetically express homeostatic cellular function and health.

When you are deficient in essential nutrients you are, by definition, sick, regardless of whether or not you have a diagnosed illness or risk factor. When a person deficient in essential nutrients becomes sufficient they become, by definition, healthier, whether they have a diagnosed illness or not and whether or not a diagnosed illness they already have gets cured or slowed in progression.

Some have tried to suggest that an inability of omega 3 fatty acids to slow the progression of diagnosed heart disease or to effectively "treat" those with diagnosed heart disease is an indication of a lack of valid health effects of omega 3 fish oil. Nothing could be further from the truth. The value of supplementation with an essential nutrient cannot be validly determined by the effects on disease. The value of supplementation with an essential nutrient can only be validly determined by the effects on health and cellular function. This type of effect is best indicated in observational studies that look at primary prevention (preventing sickness before it is diagnosed). If you look at the research data you will see that the omega 3 fatty acid primary prevention data, like all data from studies looking at creating sufficiency of an essential nutrient, demonstrates an unequivocal health benefit. Think about it, how could providing people with sufficient amounts of a nutrient that is scientifically proven to be essential for cellular function and health not improve cellular function and health?

The fact is that any nutrient that has been defined as essential is, by definition, required for health and cellular function and a deficiency of said nutrient will, by definition, result in diminished health and cellular function. This is exactly why Innate Choice only offers essential nutrients; they are the only supplements that are evidence-based for restoring and maintaining health!

An often quoted paper regarding the lack of benefit of omega 3 fatty acids from fish oil is the 2012 review published in the *Journal of the American Medical Association* (Rizos, E. et al. Association Between Omega-3 Fatty Acid Supplementation Risk and Risk of Major Cardiovascular Disease Events. *JAMA.* 2012;308(10):1024-1033). If you actually read the paper, which is a meta analysis review paper analyzing results from previously conducted studies, you will see that the vast majority of studies included in the review were secondary prevention studies - studies asking if omega 3 fatty acids could slow the progression of already diagnosed heart disease or prevent cardiac events or death in people already diagnosed with heart disease. This is not how one determines whether or not omega 3 fatty acids have a health benefit or,

for that matter, even a heart health benefit. The fact is that omega 3 fatty acids are essential for the function of heart cells and every other cell. Further, there are many other factors that can lead to heart disease and death from heart disease that supplementation with omega 3 fatty acids could not validly be expected to resolve or overcome.

If individuals got heart disease because of eating unhealthy foods, being sedentary, and being under chronic emotional stress how could it be scientifically valid to suggest that if supplementation with omega 3 fatty acids doesn't slow disease progression or prevent death in these individuals that it has no benefit? It couldn't and to suggest that it could is scientifically absurd.

What is even more interesting if you read this paper is that they actually discuss the fact that in the pre-statin drug era studies such as the DARTI trial and the GISSI trial the data showing the beneficial effects of omega 3 fatty acids were actually very powerful even for secondary prevention. In later trials every patient was on statin (cholesterol lowering) drugs (usually also antihypertensive and antithrombotic drugs), and the effects of omega 3 fatty acids for secondary prevention diminished. Perhaps rather than assuming that the benefits of omega 3 magically diminished they might ask themselves if the addition of these drugs might be blocking or masking these benefits. Regardless, the entire premise of determining the benefit of supplementation of an essential nutrient based on secondary prevention is scientifically invalid. Ask the wrong question, get the wrong answer.

The paper by Mozaffarian, D. et al., the study I am bringing to your attention in this newsletter, is a primary prevention study. These authors looked at subjects without prevalent coronary heart disease (CHD), stroke, or heart failure. These authors studied whether or not consuming more omega 3 fatty acids increased health status and prevented illness and death. Guess what they found? "Higher circulating individual and total omega 3 PUFA levels are associated with lower total mortality, especially CHD death, in older adults." Let me paraphrase. The subjects who had more sufficient dietary intake of omega 3 fatty acids lived longer and had a significantly decreased chance of dying from heart disease. However, the truth is that even if this were not the finding it would not mean that supplementation with omega 3 fatty acids was not necessary. These people could have died from heart disease or other deaths caused by factors unrelated to omega 3 fatty acids. The take home point is that if a nutrient is essential it is a requirement for health. No ands, ifs, buts, or maybes.

The second important point from this paper by Mozaffarian et al. is that they recognized the importance of DPA not just EPA and DHA fatty acids. "After adjustment for demographic, cardiovascular, lifestyle, and dietary factors (including fish intake), both individual and combined levels of EPA, DPA, and DHA were associated with lower total mortality. Across quintiles, individuals with higher EPA, DPA, and DHA levels had 17%, 23%, and 20% lower risk, respectively and those with higher total n-3 PUFA levels had 27% lower risk. For cause-specific deaths, all 3 n-3 fatty acids were associated with lower CVD mortality and their combined levels were associated with a 35% lower risk across quintiles. Among CVD subtypes, DHA seemed most strongly related to CHD death (40% lower risk), especially arrhythmic CHD death (45% lower risk) whereas DPA was most strongly related to stroke death (47% lower risk)." At Innate Choice we have been arguing this since the beginning. The beneficial effects of consuming fish are not just from the EPA and DHA components, the benefits of consuming healthy fish or healthy wild game meats are derived from the FULL COMPLEMENT of fatty acids that are contained in the whole foods. This is why Innate Choice only produces and sells FULL COMPLEMENT, unconcentrated, natural ratio, natural triglyceride form fish oil. We don't extract the other beneficial fatty acids to concentrate the amount of EPA or DHA because this was never how healthy humans consumed these essential nutrients and thus it cannot be the way we are genetically designed to consume them or to benefit from them. Offering concentrated amounts of isolated fatty acids like EPA or DHA and making claims of superiority is not only misleading it is ineffective and potentially harmful. The cells in your brain and body require these fatty acids as they are found in foods not how they are concocted in a chemical lab. The same logic applies to keeping the fish oil in the natural triglyceride form. Many fish oils are chemically converted into ethyl esters as part of the concentration process. You can read more about the dangers of ethyl esters in the FAQ section (question 18 in the Omega section) at [www.innatechoice.com](http://www.innatechoice.com) and we will be producing a newsletter on this topic soon.

The third important point made in this study is that there is a threshold of sufficiency that must be reached to see benefit. In other words the most significant factor is not how much omega 3 fatty acid is added to the diet of an individual but whether or not the total amount consumed meets a sufficiency threshold for benefit. "In particular, a potential threshold effect (4, 5) could explain why moderate consumption is associated with benefits when compared with little or no consumption in observational studies, whereas

adding higher supplement doses to already moderate background dietary intake produces smaller or no effects in trials.” No surprises here but just more support for the Innate Choice protocols which are aimed at daily doses to achieve sufficiency not mega doses to treat disease or symptoms. The only thing supplementing with an essential nutrient solves is the deficiency of that nutrient. Yes there may be symptoms and illness associated with deficiency but these symptoms and illnesses are not the reason for, or the outcome goal of supplementation. Supplementation is aimed at sufficiency because sufficiency is what is required for cellular homeostasis and health. Further, it is possible, in fact probable, that symptoms and illness are being caused by several factors so to evaluate the effectiveness of supplementation by the ability to treat symptoms or disease is unscientific. It can also cause patient and doctor to ignore the other deficiencies and toxicities that are causing symptoms and illness.

I’ll leave you with a quote from the lead author of this study, Dr. Mozaffarian from an interview in The New York Times. “If you don’t eat fish, take supplements, and if you want to take supplements in addition to eating fish, no harm in doing that.” I would add one important note. Eating fish can be unhealthy because of the toxins like PCBs and mercury that are found in most sources of wild and farmed fish. Innate Choice Omega Sufficiency omega 3 fish oil has all such toxins removed and that is why it remains the world’s premier source of omega 3 fatty acids for Everybody-Everyday-For Life!