Educational Errors in "Effect of Vitamin D and Omega-3 Fatty Acid Supplementation on Kidney Function in Patients with Type 2 Diabetes" published in JAMA 2019
Alex Vasquez DO ND DC FACN

Context
Major medical journals publish bogus pro-drug and anti-nutrition research in order to 1) groom medical audiences for pharmaceutical purchases, 2) defend and please their pharmaceutical advertisers (who—in addition to spending hundreds of millions of dollars on advertising—commonly purchase article reprints for millions of dollars/$, euros/£, pounds/€), 3) maintain the financial and sociopolitical dominance of the medical profession, 4) deter the general public from seeking and using nonmedical treatments, and 5) misinform physicians and policymakers so that laws, public funds, policies, and research monies will be directed in favor of the medical profession, including medical schools (that produce consecutive generations of pharmacologically indoctrinated and nutritionally illiterate clones) and drug researchers who use public funds to create privatized drugs that escalate profit of the pharmaceutical industry. While such has always been the inherent bias of the medical publishing industry, some of us noted a new wave of remarkable exacerbations of this bias including overt deceptions and ethical departures published in the biomedical research starting in 2018.2,3 The cyclical-reciprocal feeding of misinformation from medical journals and drug companies to medical students, physicians, policymakers, the media (e.g., television, magazines, and newspapers—all of which receive millions of $/€/£ in drug company advertising) creates the pro-pharma “echo chamber” which—when repetition becomes consensus becomes practice becomes sales becomes profit for bribing politicians to write pro-pharma laws forcing the population to receive mandatory drugs4—becomes the pro-pharma “power vortex” with each aspect reinforcing the other, ultimately leading to medical profluting, political dominance, censorship of information, blockade of criticism, and restriction of free speech, including banning of books, blockade of documentary films, censorship of individuals, and aggressive and structured attacks against medical professionals to “destroy, neutralize, discredit” them.5

Headline-making workshops, magazine, and television programs in pro-drug information to the delight of their drug advertisers. Proactive news about drugs and vaccines is treated and featured with adulatory information about harm is unavailable or treated with skepticism. Medicine-positive information features “medical heroes” reinforcing medical authority, medical dependency, and the drug-as-exception paradigms. News stories highlighting free-of-education diseases serve to maintain constant fear, medical dependency, and —amongst the medical profession—the taxes, e.g., US Pharma.

Financial and political gain by politicians and political parties creates an echo vortex to foster bias and ban information, including the clearance of science and popular media become an echo chamber for biased pro-drug propaganda drug companies pay US politicians to promote pro-drugs law, mandatory spending, prevent drug companies from paying (by National Childhood Vaccine Injury Act of 1980, and promote international expansion study drugs). US politicians and drug companies are influential in the promotion of drug or medical treatments and when receiving the money or actively promoting the medication on behalf of the drug company. Anti-vaccine movies (Vaccinated from Amazon) after CNN’s Business report

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Critique en breve
On November 8 of 2019, JAMA—Journal of the American Medical Association published “Effect of
Vitamin D and Omega-3 Fatty Acid Supplementation on Kidney Function in Patients With Type 2 Diabetes” (doi:10.1001/jama.2019.17380); this is yet another pathetic “nutrition study” which was so poorly designed and misrepresentative of the practice of clinical nutrition that it was sure to provide the desired “negative” results for JAMA’s medical audience and the resulting headlining news distributed to millions of professionals, policymakers, and patients. As a matter of course, the story was rapidly echoed by pro-pharma Medscape (and numerous other medial magazines) in the expected uniformed and adolescent commentary. My initial critiques of this publication are as follows:

1. **Authors and Editors failed integrate previous data:** In order for science to advance and avoid repeating the same errors and wasting misappropriated effort (i.e., repeatedly recreating the wheel in the age of air and space travel), research authors and journal editors have the responsibility to competently maintain awareness of the current **state of the art** so that research and publications reflect advancement in the field. Clearly in the case of this publication, neither the authors nor the editors represented the current state of the art in nutritional management the conditions discussed herein. The numerous nutritional interventions previously shown to provide positive benefit for this condition were ignored in this publication to support what appears to have been the predetermined conclusion and goal.

2. **Nobody really thinks this would work:** This investigation was mostly a wild goose chase, a strawman fallacy. No Naturopathic or Clinical Nutrition student would intervene in such a complex condition as diabetes with pending renal insufficiency by solely using *underdosed* fish oil and *underdosed* vitamin D; as such this intervention represents clinical incompetence more so than the competent clinical practice of Nutrition and any of its related variants (e.g., Functional Medicene, Naturopathic Medicine, Functional Inflammology, etc.).

3. **The investigators used inadequate doses of both nutrients in order to ensure failure of the intervention:** The authors used <50% of the proper dose of vitamin D for healthy patients, let alone a proper dose for diabetic patients which is more commonly in the range of 10,000 IU per day. The authors used 44% of the proper dose of EPA+DHA; obviously, under-dosing the treatments is expected to lead to lackluster results and *much ado about nothing*.

4. **The investigators intentionally hid the identity of the placebo so that readers would not know what really happened:** The authors failed to provide the identity of the "placebo" so that doctors and policymakers would not know that they used olive oil as the placebo in order to undercut the perception of any clinical benefit; olive oil is one of the most potent antiinflammatory and cardioprotective oils known to biomedical science. Using olive oil as a “placebo” is inappropriate in an intervention testing the efficacy of a cardioprotective and renoprotective intervention.

5. **This study does not represent the modern practice of Clinical Nutrition:** Half-baked ideas presented as reasonable intervention are still half-baked ideas; this study is inappropriate in its design, implementation, and reporting. This study does nothing to inform the practice of Medicine, and—in fact by misrepresenting a flawed study as a legitimate study—this publication simply misleads healthcare professionals, policymakers, and the general public.

6. **As expected, this low-quality research was repeated throughout the pro-pharma echo chamber:** The inaccurate summary of this meaningless publication resounded via various pro-medical and pro-drug websites internationally. The commentary published by Medscape concluded, “This was a high quality trial that tells us that we don’t need to focus our energies here [on using vitamin D and fish oil]. Only a novice or ignoramus would consider this “a high quality [sic] trial” and describing it as such does more than mislead the reader about this particular topic but also by extension about the very nature of clinical research, ethics, and investigational study design.

"A red herring is something that misleads or distracts from a relevant or important question. It may be either a logical fallacy or a literary device that leads readers or audiences toward a false conclusion." from Wikipedia

**Conclusion**

This publication "Effect of Vitamin D and Omega-3 Fatty Acid Supplementation on Kidney Function in Patients with Type 2 Diabetes" published in JAMA 2019 is a disservice to physicians, policymakers, and patients and should be retracted from the biomedical record. This investigation intentionally underdosed both interventions, withheld the identity of the placebo, and attempted to apply these interventions in an inappropriate manner that was unlikely to benefit patients and was nearly ensured to produce negative results which would then be inappropriately generalized in news and other media outlets; as such this publication is a red herring—a piece of information which is or is intended to be misleading or distracting. Journal editors and trial authors should consult with legitimate nutrition experts prior to the design and publication of research outside their scope of training, knowledge, and experience.
“DrV” has also written...

Citations:
4. “Critics of Senate Bill 277, which would eliminate the private belief and religious exemptions for schoolchildren, accuse the measure’s supporters in the Legislature of doing the bidding of donors who make vaccines and other pharmaceuticals. Receiving more than $95,000, the top recipient of industry campaign cash is Sen. Richard Pan, a Sacramento Democrat and doctor who is carrying the vaccine bill. In addition, the industry donated more than $500,000 to outside campaign spending groups that helped elect some current members last year. Leading pharmaceutical companies also spent nearly $3 million more during the 2013-2014 legislative session lobbying the Legislature, the governor, the state pharmacists’ board and other agencies, according to state filings.” Miller J. Drug companies donated millions to California lawmakers before vaccine debate. *Sacramento Bee* 2015 Jun https://www.sacbee.com/news/politics-government/capitol-alert/article24913978.html
5. “Merck made a "hit list" of doctors who criticized Vioxx, according to testimony in a Vioxx action case in Australia. The list, emailed between Merck employees, contained doctors' names with the labels "neutralize," "neutralised" or "discredit" next to them. According to The Australian, Merck emails from 1999 showed company execs complaining about doctors who disliked using Vioxx. One email said: We may need to seek them out and destroy them where they live..." Edwards J. Merck Created Hit List to "Destroy," "Neutralize" or "Discredit" Dissenting Doctors. 2009 May https://www.cbsnews.com/news/merck-created-hit-list-to-destroy-neutralize-or-discredit-dissenting-doctors

About the author and presenter: Alex Kennerly Vasquez DO ND DC (USA), Fellow of the American College of Nutrition (FACN), Overseas Fellow of the Royal Society of Medicine: An award-winning clinician-scholar and founding Program Director of the world’s first fully-accredited university-based graduate program in Human Nutrition and Functional Medicine, Dr Alex Vasquez is recognized internationally for his high intellectual and academic standards and for his expertise spanning and interconnecting many topics in medicine and nutrition. Dr Vasquez holds three doctoral degrees as a graduate of University of Western States (Doctor of Chiropractic, 1996), Bastyr University (Doctor of Naturopathic Medicine, 1999), and University of North Texas Health Science Center, Texas College of Osteopathic Medicine (Doctor of Osteopathic Medicine, 2010). Dr Vasquez has completed hundreds of hours of post-graduate and continuing education in subjects including Obstetrics, Pediatrics, Basic and Advanced Disaster Life Support, Nutrition and Functional Medicine; while in the final year of medical school, Dr Vasquez completed a Pre-Doctoral Research Fellowship in Complementary and Alternative Medicine Research hosted by the US National Institutes of Health (NIH); Dr Vasquez is the author of many book chapters, including Integrative Orthopedics (2004, 2007, 2012); Functional Medicine Rheumatology (Third Edition, 2014), Musculoskeletal Pain: Expanded Clinical Strategies (commissioned and published by Institute for Functional Medicine, 2008), Chiropractic and Naturopathic Mastery of Common Clinical Disorders (2009), Integrative Medicine and Functional Medicine for Chronic Hypertension (2011), Brain Inflammation in Migraine and Fibromyalgia (2016), Mitochondrial Nutrition and Endoplasmic Reticulum Stress in Primary Care, 2nd Edition (2014), Antiviral Strategies and Immune Nutrition (2014), Mastering mTOR (2015), Autism, Dysbiosis, and the Gut-Brain Axis (2017) and the 1200-page Inflammation Mastery 4th Edition (2016) also published as a two-volume set titled *Textbook of Clinical Nutrition and Functional Medicine*. “DrV” has also written approximately 100 letters and articles for professional magazines and medical journals such as *TheLancet.com, British Medical Journal (BMJ), Annals of Pharmacotherapy, Nutritional Perspectives, Journal of Manipulative and Physiological Therapeutics (JMQT), Journal of the American Medical Association (JAMA), Original Internist, Integrative Medicine, Holistic Primary Care, Alternative Therapies in Health and Medicine, Journal of the American Osteopathic Association (JAOA), Dynamic Chiropractic, Journal of Clinical Endocrinology and Metabolism, Current Asthma and Allergy Reports, Complementary Therapies in Clinical Practice, Nature Reviews Rheumatology, Annals of the New York Academy of Sciences, and Arthritis & Rheumatism*, the Official Journal of the American College of Rheumatology. Dr Vasquez lectures internationally to healthcare professionals and has a consulting practice and service for doctors and patients. DrV has served as a consultant, product designer, writer and lecturer for Biotics Research Corporation since 2004. Having served on the Review Boards for *Journal of Pain Research, Autoimmune Diseases, PLOS One, Alternative Therapies in Health and Medicine, Neuropeptides, International Journal of Clinical Medicine, Journal of Inflammation Research, BMC Complementary and Alternative Medicine* (all PubMed/Medline indexed), *Integrated Blood Pressure Control, Journal of Biological Physics and Chemistry, and Journal of Naturopathic Medicine* and as the founding Editor of *Naturopathy Digest*, Dr Vasquez is currently the *Editor (2013-) of International Journal of Human Nutrition and Functional Medicine and Editor (2018-present) of Journal of Orthomolecular Medicine*, published for more than 50 consecutive years by the International Society for Orthomolecular Medicine.
International Journal of Human Nutrition and Functional Medicine is a peer-reviewed evidence-based clinically-oriented publication produced quarterly with periodic special releases in print and/or digital formats (per author request/permission and Editor judgment), available as pay-per-issue, free/open access, or as a membership benefit (included or discounted), in English and/or other languages. As the title of the journal indicates, the focus of the journal is human nutrition (i.e., we publish only human-referent information, not animal studies; however, we will publish translational summaries of new animal research) and functional medicine, a broad clinical and conceptual discipline that seeks to protect, restore, and optimize human health by appreciating human physiology’s systems biology construct and thus the necessity of addressing the totality of factors that influence health and disease outcomes in the psyche and soma of individual patients as well as the social corpus of local and international groups of persons. The journal is dynamic and adaptive; updated information about the journal is available on-line at the website ICHNFM.ORG/journal. Statement of Social Responsibility: Due to the recent mis-use of science and the misuse of prominent positions to mis-direct public opinion away from science and logic, ICHNFM has found necessity in forming a statement of social responsibility. ICHNFM requires—starting in 2015—that educational materials be socially contextualized with a humanistic emphasis; humanism is a philosophical and ethical stance that emphasizes the value and agency of human beings, individually and collectively, and requires critical thinking and evidence (rationalism, empiricism). In direct opposition to any notion that science and intellectual work are and should be separate from the goal of benefiting human life (i.e., financial profiteering, or political misuse of science), we affirm that work in the sciences, healthcare, and medicine should hold preeminent the goal of providing benefit to humanity at large and not private or political interests, in particular what we have defined as the goals of healthcare: physical health and psychosocial freedom, both of which are required for the optimization of human potential and human culture. Likewise, faculty members and teaching staff are required to model beneficence, nonmaleficence, ethics, and justice; repeated violations of these ethical considerations will result first in conversation and if not resolved will result in termination of any working relationship because ICHNFM will maintain its ethics and integrity and will not be tainted by affiliation with faculty or presenters who are socially reckless or maleficient, regardless of the scale or medium (i.e., including private emails and public/social conversations and comments). ICHNFM will maintain the highest standards of science, clinical applicability, ethics, and social effect/influence/beneficence.

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All books available from amazon.com/author/alexvasquez
“The purpose of life is to live it, to taste experience to the utmost, to reach out eagerly and without fear for newer and richer experience.”

Eleanor Roosevelt (1884 - 1962)
doi:10.1056/NEJMoa1804989

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ASCEND showed no advantage of 1,000 mg/d marine n3 fatty acids against equally-dosed naturally occurring olive oil. Olive oil apparently reduces cardiovascular and total mortality\(^1\), while oleic acid shows direct vascular antiinflammatory, atheroprotective, and antidiabetic benefits.\(^2\) A six-week trial among overweight subjects reported that olive oil 2 g/d was more effective than equidosed fish oil for reducing fasting glucose, HgA1c, hsCRP, and IL6.3 A six-month trial among rheumatic patients showed that 6 g/d of olive oil provided analgesic and antiinflammatory benefits, leading the authors to conclude, “Olive oil can no longer confidently be used as a placebo control.”\(^4\) Using olive oil as a comparator against other antiinflammatory treatments diminishes the therapeutic differential and apparent benefit for both substances; this results in a type-2 error and underappreciation of therapeutics’ effectiveness. 10% of ASCEND subjects were taking n3 supplementation at baseline, with corresponding omega-3 indexes of 6.6% and 7.1%, remarkably higher than the average 4% typical of Western societies.\(^5\) Pretreatment plus high baseline status would reduce the clinical response to intervention with n3 and olive oil supplementation.

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On Mon, Dec 3, 2018 at 10:48 PM NEJM Letter wrote:

Dear Dr. Vasquez,

I am sorry that we will not be able to publish your recent letter to the editor regarding the Armitage article of 18-Oct-2018. The space available for correspondence is very limited, and we must use our judgment to present a representative selection of the material received. Many worthwhile communications must be declined for lack of space. Thank you for your interest in the Journal.

Sincerely,
G. -- M.D.
Deputy Editor
New England Journal of Medicine
10 Shattuck Street
Boston, MA 02115
(617) 734-9800
Fax: (617) 739-9864
nejm.org

From: Dr Alex (Kennerly) Vasquez ICHNFM
Date: Wed, Dec 12, 2018 at 1:37 PM
Subject: Re: New England Journal of Medicine 18-12067
To: nejm


Problems with your published article include the following:
1. Under-dosed fish oil: described below
2. Inappropriate placebo: The ASCEND study used an inappropriate placebo against underdosed fish oil, ultimately to pave the way for greater acceptance of the late-year launch of “purified prescription fish oil”...how convenient: AHA: Prescription Fish Oil Wins for CV Prevention, November 10, 2018 https://www.medpagetoday.com/meetingcoverage/aha/76252
3. Bad research in support of a new pharmaceutical drug launch: per above
4. Supervision of the trial authors by the drug company paying the authors: what a joke of an article
5. Complete failure to disclose conflicts of interest among the authors in the published paper.
6. Plenty of space: NEJM clearly has 250 words of space to publish these concerns, so only an imbecile would think that the journal "does not have space" to publish my critique. The original article had approximately 6,970 words (per computerized count) so that 250 words in a letter such as mine is less than 4% of the original article.

To see an accurate review of your garbage research, please see my video review: https://vimeo.com/287650812

Sincerely,
Dr Alex (Kennerly) Vasquez

Confidential: Destroy when review is complete.
Introduction: Hello everyone. This is Dr. Alex Vasquez with the short version of my “Critique of the Effects of Omega 3 Fatty Acids Supplements in Diabetes Mellitus” recently published as the Ascend Study in the New England Journal of Medicine, 2018 August. If you’d like to see the longer and more detailed version of this review, please see ichnfm.org/18 for my videos from 2018.

This was not a placebo-controlled study: This is a randomized and supposedly “placebo-controlled” trial of 15,000 subjects. The intervention included either omega-3 fatty acids or olive oil—so this was not a placebo-controlled study. This was a comparison of relatively low-dose EPA and DHA against low-dose olive oil—so again, this is not a placebo-controlled study.

This study used two active interventions. One was fish oil and the other was olive oil, both of which are notably anti-inflammatory and cardioprotective. As such, the conclusion from this study that fish oil does not benefit diabetic patients is completely invalid. Furthermore, neither of the two active treatments were independently tested for their components and both of the treatments were provided by a drug company that has a financial interest in the failure of these treatments.

The drug company, Mylan, specifically paid 19 of the authors, oversaw the study design and supervised its paid consultants at key meetings, provided the treatment and the active comparator, neither of which again were independently tested, and also makes the main competing drug in this category of cardioprotection, in this case the statin drug, simvastatin.
This trial is invalidated by the use of an active treatment erroneously described as “placebo.” It may be randomized, but it is not placebo-controlled.

They started this study in 2005 and at that time they already knew that olive oil was cardioprotective. In fact, that had been published in The New England Journal of Medicine in 2003, two years prior to the start of this study. Their claim that they used olive oil as a placebo is completely absurd because olive oil is well known to have anti-inflammatory and cardio-protective benefits, and more specifically, olive oil is known to be one of the most health-promoting and heart-protecting dietary components available.

The cardioprotective benefits of olive oil have been suggested in the research since the 1950s, were more established by 1986 in a key study, and have since been validated clinically and mechanistically.

In my more than 20 years of looking at biomedical research I have never seen a drug company so well entrenched within a study design including supervising key meetings and paying 19 of the authors. In the text of the article the authors describe themselves as “independent investigators” despite the fact that 19 of them received payment from various drug companies intimately involved with the study.

Furthermore, again, the drug company provided both the active treatment and its comparator. Authors were paid by the drug companies, but these conflicts of interest were not published in the article, products were not independently tested. The Omega-3 index was tested in 152 subjects; this is less than 1% of the study population, and I found that to be rather weak.

I also noted that their baseline Omega-3 index was abnormally high and their response to the Omega-3 supplementation was also abnormally high considering that they used only one-half of the typically effective dose.

Now let’s take a quick look at some examples from the disclosure forms. Again, these were not printed in the article, but they are, of course, highly relevant considering that 19 of the authors were paid by drug companies including Bayer on four different occasions, also Solvay Pharmaceuticals, Abbott Pharmaceuticals and Mylan Pharmaceuticals.

You’ll see that this pattern was recurrent among 19 of the authors of this study, and perhaps even more impressive is the fact that this was not published in the article. One has to go to The New England Journal of Medicine website to find this documentation.

What can be done about this is that we all have to become better critical thinkers and careful readers so that we can spot these gross errors in biomedical research publications.
What clinicians should do is to continue using fish oil supplements generally at a dose of 1900 milligrams per day if the goal is to optimize the Omega-3 Index to approximately 10%.

Thank you very much for looking at this brief presentation. If you’d like to see the full version, please go to ichnfm.org/18. Those are the videos I’ve produced in 2018, and what you’ll see there is the complete video as well as a pdf transcript.

Citation: Vasquez A. Critique of "Effects of n3 Fatty Acid Supplements in Diabetes Mellitus: ASCEND Study" New England Journal of Medicine 2018 Aug: Video presentation (ichnfm.org/18) and official transcript (academia.edu/37326521) Date of this revision: September 2, 2018

About the author: Dr Vasquez holds three doctoral degrees and has completed hundreds of hours of post-graduate and continuing education in subjects including Obstetrics, Pediatrics, Basic and Advanced Disaster Life Support, Nutrition and Functional Medicine; while in the final year of medical school, Dr Vasquez completed a Pre-Doctoral Research Fellowship in Complementary and Alternative Medicine Research hosted by the US National Institutes of Health (NIH). Dr Vasquez is the author of many textbooks, including the 1200-page Inflammation Mastery, 4th Edition. (2016) also published (by popular student request) as a two-volume set titled Textbook of Clinical Nutrition and Functional Medicine. "DrV" has also written approximately 100 letters and articles for professional magazines and medical journals such as TheLancet.com, British Medical Journal (BMI), Annals of Pharmacotherapy, Nutritional Perspectives, Journal of Manipulative and Physiological Therapeutics (JMPT), Journal of the American Medical Association (JAMA), Original Internist, Integrative Medicine, Holistic Primary Care, Alternative Therapies in Health and Medicine, Journal of the American Osteopathic Association (JAOA), Dynamic Chiropractic, Journal of Clinical Endocrinology and Metabolism, Current Asthma and Allergy Reports, Complementary Therapies in Clinical Practice, Nature Reviews Rheumatology, Annals of the New York Academy of Sciences, and Arthritis & Rheumatism, the Official Journal of the American College of Rheumatology. Dr Vasquez lectures internationally to healthcare professionals and has a consulting practice and service for doctors and patients. Having served on the Review Boards for Journal of Pain Research, Autoimmune Diseases, PLOS One, Alternative Therapies in Health and Medicine, Neuropeptides, International Journal of Clinical Medicine, Journal of Inflammation Research (all PubMed/Medline indexed), Integrated Blood Pressure Control, Journal of Biological Physics and Chemistry, and Journal of Naturopathic Medicine and as the founding Editor of Naturopathy Digest, Dr Vasquez is currently the Editor of International Journal of Human Nutrition and Functional Medicine and the Director for International Conference on Human Nutrition and Functional Medicine. Dr Vasquez has also served as a consultant researcher and lecturer for Biotics Research Corporation.

Contextualizing resource — same information in different formats and contexts:
- Inflammation Mastery, 4th Edition https://www.amazon.com/dp/B01KMZZLAQ/ and

See video at http://www.ichnfm.org/18
Introductory videos:

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Persistent inadequacies in nutrition education/training among physicians

Introduction: Despite the acknowledged importance of diet in the prevention of obesity, diabetes, hypertension and other components of cardiometabolic syndrome/disease, physicians are consistently and systematically untrained in nutrition. A few exemplary citations are summarized per the following:

- What do resident physicians know about nutrition? ([J Am Coll Nutr 2008 Apr][29]): "OBJECTIVE: Despite the increased emphasis on obesity and diet-related diseases, nutrition education remains lacking in many internal medicine training programs. We evaluated the attitudes, self-perceived proficiency, and knowledge related to clinical nutrition among a cohort of internal medicine interns. METHODS: Nutrition attitudes and self-perceived proficiency were measured using previously validated questionnaires. Knowledge was assessed with a multiple-choice quiz. … RESULTS: Of the 114 participants, 61 (54%) completed the survey. Although 77% agreed that nutrition assessment should be included in routine primary care visits, and 94% agreed that it was their obligation to discuss nutrition with patients, only 14% felt physicians were adequately trained to provide nutrition counseling. … CONCLUSIONS: Internal medicine interns’ perceive nutrition counseling as a priority, but lack the confidence and knowledge to effectively provide adequate nutrition education.” These are impressive results showing that internal medicine doctors—specialists who commonly deal with diabetes, hypertension, obesity, and metabolic syndrome—do not have competence in nutrition, even by weak and basic standards.

- Relevance of clinical nutrition education and role models to the practice of medicine (Eur J Clin Nutr. 1999 May)[30]: “Yet, despite the prevalence of nutritional disorders in clinical medicine and increasing scientific evidence on the significance of dietary modification to disease prevention, present day practitioners of medicine are typically untrained in the relationship of diet to health and disease.”

- How much do gastroenterology fellows know about nutrition? ([J Clin Gastroenterol. 2009 Jul][31]): "The mean total test score was 50.04%. …CONCLUSIONS: Gastroenterology fellows think their knowledge of nutrition is suboptimal; objective evaluation of nutrition knowledge in this cohort confirmed this belief. A formal component of nutrition education could be developed in the context of GI fellowship education and continuing medical education as necessary.”

In sum: The data consistently demonstrate that healthcare providers at the doctorate level are untrained in nutrition when assessed by rather simple standards; their knowledge of functional nutrition at the level of clinical intervention in the treatment of serious disease would reasonably be expected to be approximately zero. Thus, given that doctors are trained neither in musculoskeletal management (despite the fact that all patients have musculoskeletal systems and that related disorders represent no less than 20% of general practice) nor nutrition (despite the fact that all patients eat food and that such dietary habits (and/or the use of nutritional interventions) impact nearly all known diseases in the known universe), one might wonder as to the cause and perpetuation of this systematically imposed ignorance on such topics of major importance. Consistent faults in medical education are not accidental.

Adverse effects of nonsteroidal anti-inflammatory drugs (NSAIDs), COX-2 inhibitors (coxibs)

Introduction: Nonsteroidal anti-inflammatory drugs (NSAIDs) have many common and serious adverse effects, including the promotion of joint destruction. Paradoxically, these drugs cause or exacerbate the very symptoms and disease they are supposed to treat: joint pain and destruction. In a tragic exemplification of Orwellian newspeak,[32]

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Excerpt from Inflammation Mastery, 4th Edition with author’s permission; see video at ichnfm.org/im4
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As of 2019 and for the foreseeable future, the most current versions of all major patient management and clinical treatment protocols are published in *Inflammation Mastery, 4th Edition* as a single volume of 1,182 pages available in full-color print at discounted pricing directly from ICHNFM from [https://www.ichnfm.org/im4](https://www.ichnfm.org/im4), while the digital formats are available via several different platforms, including Amazon’s Kindle (free) software, Barnes and Noble’s Nook, Apple iBook, etc as hyperlinked below. Per popular request by students who were studying (as a required textbook) only one section at a time, “IM4” was also published in two easier-to-carry separate volumes under the name *Textbook of Clinical Nutrition and Functional Medicine*, which contain chapters 1-4 (pages 1-712+index) and 5 (713-1154+index), respectively. Video access is included with IM4 and TCNFM,1+2.

Availability in print and digital formats (examples):

- [https://www.ichnfm.org/im4](https://www.ichnfm.org/im4)
Chapter and Introduction

Preamble: download free ebook sample https://www.amazon.com/dp/B01KMZZLAQ

1. Patient Assessments, Laboratory Interpretation, Clinical Concepts, Patient Management, Practice Management and Risk Reduction: This chapter introduces/reviews/updates patient assessments, laboratory interpretation, musculoskeletal emergencies, healthcare paradigms; the common and important conditions hemochromatosis and hypothyroidism are also included in this chapter since these need to be considered on a frequent basis in clinical practice

2. Wellness Promotion & Re-Establishing the Foundation for Health: Reviewed here are diet, lifestyle, psychosocial health, and—given the pervasiveness of persistent organic pollutants and their increasingly recognized clinical importance—an introduction to environmental medicine

3. Basic Concepts and Therapeutics in (Nondrug) Musculoskeletal Care and Integrative Pain Management: Nonpharmacologic management of musculoskeletal problems is preferred over pharmacologic (e.g., NSAID, Coxib, steroid, opioid) management because of the collateral benefits, safety, and cost-effectiveness associated with manual, dietary, botanical, and nutritional treatments. A brief discussion of the current crisis in musculoskeletal medicine is provided for contextualization and emphasis of the importance of expanding clinicians’ knowledge of effective nondrug treatments

4. The Major Modifiable Factors in Sustained Inflammation: Major components of the “Functional Inflammology Protocol” are reviewed here, from concepts and molecular biology to an emphasis on practical clinical applications

   1) Food & Basic Nutrition
   2) Infections: Dysbiosis* / Viral**
      *This section specific to bacterial dysbiosis was also published separately as a clinical monograph titled Human Microbiome and Dysbiosis in Clinical Disease (Discounted Black and White Printing, amazon.com/dp/1512360295) and full-color printing amazon.com/dp/0990620417
      ** This section specific to viral infections is also published separately in full-color paper printing as Antiviral Strategies and Immune Nutrition: Against Colds, Flu, Herpes, AIDS, Hepatitis, Ebola, and Autoimmunity amazon.com/dp/1502894890 and digital ebook Antiviral Nutrition amazon.com/dp/B00OPDQG4W
   3) Nutritional Immunomodulation
   4) Dysmetabolism, Mitochondrial Dysfunction, ERS/UPR, mTOR
   5) Special Considerations: Sleep, Sociopsychology, Stress, Surgery
   6) Endocrine Imbalances
   7) Xenobiotic Immunotoxicity

5. Clinical Applications

   1) Hypertension
   2) Diabetes Mellitus
   3) Migraine & Headaches*
   4) Fibromyalgia*  
      *These two sections specific to migraine and fibromyalgia were also published separately as Pain Revolution (full-color printing; amazon.com/dp/B01AR3NX0S) and Brain Inflammation in Chronic Pain, Migraine and Fibromyalgia (black-and-white printing; amazon.com/dp/B01EQ9KMH6); both versions are available in digital ebook formats for reading on phone, computer, iPad via free Kindle software
   5) Allergic Inflammation
   6) Rheumatoid Arthritis
   7) Psoriasis and Psoriatic Arthritis
   8) Systemic Lupus Erythematosus
   9) Scleroderma & Systemic Sclerosis
   10) Vasculitic Diseases
   11) Spondyloarthropathies & Reactive Arthritis
   12) Sjögren Syndrome/Disease
   13) Raynaud’s Syndrome/Phenomenon/Disorder
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12) Sjögren Syndrome/Disease
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Concerns About The Integrity of The Scientific Research Process—Focus On Recent Negative Publications Regarding Nutrition, Multivitamins, Fish Oil And Cardiovascular Disease

Alex Vasquez, DC, ND, DO; Joseph Pizzorno, ND, Editor in Chief

Abstract
The next step in reestablishing credibility seems to us honesty and recognizing we all share a common goal of the health and wellness of the human community and the planet. Everyone agrees that the current healthcare system, despite its many incredible successes, is also showing its limitations and is no longer sustainable. We believe the solution starts with us the researchers and editors. A good first step might be formally recognizing the errors and showing how we can and intend to get better.

Evidence-based medicine—by definition—requires objective, reliable and accurate research and reviews from which to make the best decisions in patient care and public policy. The causes of inaccurate information, ranging from presumably innocent mistakes all the way to apparently intentional fraud, affect all scientific and biomedical disciplines. While these accidental and intentional errors can derail our understanding of diseases and impact tens of thousands of affected patients, such inaccuracies in the field of nutrition do so globally. While a specific disease may affect a human population, the impact on nutrition research is particularly concern due to the nutritional knowledge base of healthcare professionals and the public at large. Clinical nutrition professionals in the vast majority of medical training programs are obviously in need of knowledge regarding the research in clinical nutrition. Training in clinical nutrition often proclaims itself as the same as gastroenterology or the entire territory of clinical nutrition. A major and serious problem arises when unskilled and invalid research is published by authors (including nonphysician journalists) in major journals which mischaracterizes the validity of nutrition interventions (e.g., essentially always concluding that nutritional interventions are efficacious or potentially hazardous) and then such research is used politically and in the media to disparage, restrict and regulate practitioners and nutrition supplement industry to the detriment of human health.

Several factors disrupting the integrity of nutrition research are commonly found in studies published by “elite” universities in “top-tier” journals, which are then republished and distributed as “headlining news” in newspapers, magazines, and television, a process which they influence as well. This allows governments, health policy and control groups to influence the perceptions of people. The existence of these errors and the examples of questionable or inaccurate publications, lists and guidelines allow for the development of false and dangerous solutions. Many of these problems and factors depend upon the publishing, marketing, and influence of investigative and supportive groups. The influence of these groups of clinical nutrition researchers has, in the past few decades, been a driving factor in changes of public perception and the way nutrition science is practiced. The impact of these organizations is more significant than any of the factors described above. The role of these groups is progressively increasing in the current climate of evidence-based medicine.

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- VIDEO: BRIEF Critique of “Effects of n−3 Fatty Acid Supplements in Diabetes Mellitus: ASCEND Study”  https://vimeo.com/287650812
- VIDEO: Bad Science in Medical Nutrition: Politics of Fish Oil  https://vimeo.com/314997927
Misrepresentations of Clinical Nutrition in Mainstream Medical Media: Growing Importance of Legitimate Expertise in Independent Peer-Reviewed Publications - Part 1

2018 As a Milestone in the Post-Truth Era

Among the various topics that have either interested or fascinated me throughout my youth and well into my adult years, Nutrition has certainly reigned supreme. My personal routine has been to read as much as reasonably and practically possible on the topic, while not doing so to the exclusion of other topics in biomedicine, psychosociology and philosophy. Thus, with roughly 30 years of experience in reading books and primary research in the field of Nutrition, I could not help but notice the radical departures that occurred in 2018 from the previous norms to which I had grown accustomed.

Of course, 2018 was not the first year during which “bad research” was published in mainstream medical journals and then replicated throughout the echo chamber of mass media; one could observe this periodically occurring throughout the past 50 years, starting not at least with the demonization of dietary cholesterol and the glorification of processed foods, especially refined grains and so-called vegetable oils. But in 2018 what many of us observed was not simply poorly performed research but, in studies, radical departures from any attempt to present descriptions that could be considered “reasonably” reflecting previous standard.1 Especially related to the topic of nutrition, mainstream medical journals and the media which parrots their conclusions have begun to make overt misrepresentations of Nutrition with regard for science, logic, biomedical history and more.

One has to be aware of a few key ironies that characterize mainstream medical discussions of nutrition that 1) medical physicians receive essentially no training in clinical nutrition in their graduate school education or in their post-graduate residency training2, 2) physicians and organizations publish “research” and commentaries (both of which commonly conclude that nutritional interventions are inefficacious or unsafe), despite their lack of formal education on the topic, and then 3) mainstream medical voices consistently call for “regulating the nutrition supplement industry” despite their lack of training on the topic and because of negative conclusions based on their own poorly conducted research and self-serving conclusions. As such, not only are the map-makers blind, but they mislead their blind followers, and then both groups promote themselves as expert cartographers and guides when advising the public on an area that none of them have studied or understood. We should have no surprise whatsoever when the “medical community” publishes poorly conducted and self-serving “research” on the topic of nutrition, to reach their desired conclusion that nutrition is unsafe and inefficacious, and that the profitable market needs to be managed of course by the selfsame “medical community” that is never received a decent 15 minutes on the topic of therapeutic nutrition. Pervasive and persistent ignorance on the topic of nutrition among medical physicians must be understood as intentional and strategic, because otherwise this problem would have been solved 30 years ago when it was first discussed during what was called at the time the “golden age of nutrition.”3 The easiest way to manipulate people and to keep them in a perpetual state of confusion, ineffectiveness, and dependency is to

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Mitochondrial Medicine Arrives to Prime Time in Clinical Care: Nutritional Biochemistry and Mitochondrial Hyperpermeability ("Leaky Mitochondria") Meet Disease Pathogenesis and Clinical Interventions

Alex Vasquez, DC, ND, DO, FACN

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MITOCHONDRIAL MEDICINE ARRIVES TO GENERAL PRACTICE AND ROUTINE PATIENT CARE

Mitochondrial disorders were once relegated to "orphan" status as topics for small paragraphs in pathology textbooks and the hospital-based practices of subspecialists. With the increasing appreciation of the high frequency and ease of treatment of mitochondrial dysfunction, this common cause and consequence of many conditions seen in both primary and specialty care deserves the attention of all practicing clinicians.

We all know that mitochondria are the intracellular organelles responsible for the production of the currency of cellular energy in the form of the molecule adenosine triphosphate (ATP); by this time, contemporary clinicians should be developing an awareness of the other roles that mitochondria play in (patho)physiology and clinical practice. Beyond being simple organelles that make ATP mitochondria play critical roles in inflammation, disease such as various disorders such as neurodegenerative conditions are currently assessed during evaluations of patients. Mitochondrial dysfunction contributes to various proteins, enzymes of the Krebs cycle, and mitochondrial DNA; (2) inner membrane—the largely impermeable lipid-rich convoluted/invaginated membrane that envelopes and defines the matrix and which is the structural home of many enzymes, transport systems, and important structures such as cardiolipin and the electron transport sequence—contains the enzyme complexes (and—like ATP synthase and other active and reactive components that need to be appreciated by the highest importance; just as we have come to appreciate the...
Orthomolecular Medicine, Catalytic Creativity, and the Psychosocial Ecosystem

Transitioning From One Year to the Next

Various cultures since time immemorial have marked and celebrated the winter solstice with celebrations, meals with friends and family, and time away from work; transitioning from one calendar year to the next has given people pause and a moment to reflect on the events that happened in the past year and what might be anticipated in the next. Reflection with anticipation along with the realization that the future is somewhat malleable inclines people to imagine how the future might be shaped by the exertion of some modicum of creativity and effort. Any realistic conception of how we might improve the near future must segue from our recent past; we must have an awareness of what is going on around us as we look toward the future to visualize ourselves living within it and also acting upon it. What is going on in the world and how might I act upon that trend and flow in order to improve both its transition and its destination? What should each of us do on a personal level to (in the words of Mahatma Gandhi) be, embody, and materialize the change(s) that we want to see in the world?

Salutation and Introduction From the Journal’s New Editor

Over the past few years I have reflected on several occasions how much I enjoy editing, and so I was correspondingly surprised and pleased when I was offered the opportunity to be the next Editor for the Journal of Orthomolecular Medicine. I began studying nutrition and orthomolecular concepts in my teen years and have written more diligently as I entered graduate school in the early 1990s near a book on “nutrition” that I read titled “Your Nerves” (1975) by Jonathan V. Wright, Jr., of whom would later be my teacher at the University. By the mid-1990s, Jeffrey Bland PhD had made additional contributions to the field of nutrition, which I was increasingly familiar with and personal reasons. By this time my own personal library contained several hundred books, mostly dedicated to nutrition and health with another large section on philosophy and psychology. In 1994, I joined the Review Staff of the Journal of Naturopathic Medicine, and I started publishing nutrition articles, perhaps most of which might be seen as practice in preparation of an important letter published in 1996 by the American College of Rheumatology in their journal Arthritis and Rheumatism. Since those early years and during the course of three doctorate degrees and teaching thousands of students/attendees internationally, I have reviewed for and published in a wide range of refereed journals in addition to publishing commissioned books, chapters, and independent publications and videos. Being an author and reviewer for many different publications—along with my experiences teaching internationally, treating patients in various settings, designing and directing academic programs, and producing educational videos—has given me a wide range of experiences and insights that I hope to bring to the benefit of the Journal of Orthomolecular Medicine.

We Must Work Together if We Are Going to Succeed

I have to start this conversation with a few hopes, assumptions, and beliefs, namely that you (the reader) and I (the author and new Editor) have a few things in common. On a professional level, by virtue of the fact that you are reading this essay, I will assume that you are interested or actively engaged in healthcare, medicine, nutrition, research, and/or public health. I might also imagine that some smaller percentage of our new and established readers are perhaps less inclined toward the mechanisms and more drawn to the Journal of Orthomolecular Medicine for its potential humanistic insights and social contributions; we can reasonably assume that competent healthcare (and diet/nutrition) are basic necessities. I submit a counterargument to the above of my assertions, they are more to the point, my hope is that we can share some common ground in the following:

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THE CLINICAL IMPORTANCE OF VITAMIN D (CHOLECALCIFEROL): A PARADIGM SHIFT WITH IMPLICATIONS FOR ALL HEALTHCARE PROVIDERS

Alex Vasquez, DC, ND is a licensed naturopathic physician in Washington and Oregon, and licensed chiropractic doctor in Texas, where he maintains a private practice and is a member of the Research Team at Biotics Research Corporation. He is a former Adjunct Professor of Orthopedics and Rheumatology for the Naturopathic Medicine Program at Bastyr University. Gilbert Manso, MD, is a medical doctor practicing integrative medicine in Houston, Texas. In practice for more than 35 years, he is Board Certified in Family Practice and is Associate Professor of Family Medicine at University of Texas Medical School in Houston. John Cannell, MD, is a medical physician practicing in Atascadero, California, and is president of the Vitamin D Council (Cholecalciferol-Council.com), a non-profit, tax-exempt organization working to promote awareness of the manifold adverse effects of vitamin D deficiency.

While we are all familiar with the important role of vitamin D in calcium absorption and bone metabolism, many doctors and patients are not aware of the recent research on vitamin D and the widening range of therapeutic applications available for cholecalciferol, which can be classified as both a vitamin and a pro-hormone. Additionally, we also now realize that the Food and Nutrition Board’s previously defined Upper Limit (UL) for safe intake at 2,000 IU/day was set far too low and that the physiologic requirement for vitamin D in adults may be as high as 5,000 IU/day, which is less than half of the >10,000 IU that can be produced endogenously with full-body sun exposure. With the discovery of vitamin D receptors in tissues other than the gut and bone—especially the brain, breast, prostate, and lymphocytes—and the recent research suggesting

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