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Editorial

Vitamins Against Viruses: Implausible Pro-Vaccine Publications Contrasted Against Ignored Public Health Campaigns and Double-Blind Placebo-Controlled Clinical Trials

Introduction

As an author, presenter, editor, and careful reader of research and public policy, I have been concerned for several years about potentially false attribution of efficacy to vaccines during public health campaigns and major infrastructure investments that concurrently provided access to education, improved sanitation, improved diet (alongside immune-enhancing nutritional supplementation, most commonly with vitamins A and D, zinc, and iron), relocations of millions of people along with changes in their living and working circumstances (which would be expected to change infectious disease patterns, e.g., relocating people away from farms obviously reduces their exposure to *Clostridium tetani* [the anaerobic bacillus of tetanus] which is found primarily in soil contaminated by fecal material from [especially ruminant] animals such as cattle, sheep, and goats). With the April 2019 publication of several very unusual articles stemming from the *British Medical Journal (*BMJ*)*, the time arrived to explore some of these concerns in a structured and public format. A legitimate concern is that science and public opinion are being inappropriately manipulated to favor a pharmaceutical/vaccination paradigm while lower cost, more widely available, safer and more efficacious nutritional interventions are being sidelined or intentionally ignored. In the current instance, overzealous endorsement and praise was given to a pharmaceutical intervention while a nationwide nutritional supplementation program supported by double-blind placebo-controlled trials was completely—and perhaps intentionally and strategically—ignored, then blocked by the journal from further discussion.

Pro-pharma echo chamber resounds: I first became aware of the two new (April 2019) BMJ publications (article by Palmer et al[1] and editorial by Brotherton[2]) via the derived "news" article published on 4 April in *The Guardian* titled "HPV rates tumble after routine vaccination" by Sarah Boseley, the publication's "Health Editor." With review of their website I found that The Guardian has published an impressive number of pro-vaccine articles devoid of critical thought or balanced analysis, including "Cervical cancer could be eliminated in most countries by 2100 – Millions of cases could be prevented with high HPV vaccine and screening coverage" (20 Feb 2019), "Teenage boys to be vaccinated against cancer-causing HPV: Inoculation program will be expanded to cover 12- and 13-year-old boys in England" (24 Jul 2018), "Boys should get HPV jab to protect against cancer, health advisers say: Ministers urged to take swift action to extend immunization under a gender-neutral program" (18 Jul 2018), "Cervical cancer deaths in over-50s predicted to rise sharply in England – Rates of diagnoses and death set to rise in women not vaccinated against HPV, but likely to be almost eradicated in younger women" (19 Dec 2017), and "HPV vaccination should be extended to gay men" (12 Jun 2012). One could hardly envision a more pro-drug publication, regularly producing "news articles" that function as infomercials, glorifying any real or imagined benefits of drugs while making zero or minimal mention of any adverse effects, or refuting adverse effects, but without sufficient substantiation, as in "Cervical cancer vaccination 'most unlikely' to have caused girl's death" (29 Sep 2009). Likewise, the BMJ article was re-reported and exalted throughout print and video media in the United States by outlets such as Fox News' "UK's HPV vaccination program 'dramatically' reduces risk of cervical cancer"[3] and the physician-oriented Medscape.[4] Such articles obviously serve to direct public and political opinion in favor of medicalization to the delight of the pharmaceutical and mainstream medical industries; the combined reach of the original articles and their echo-chamber derivatives is certainly in the tens of millions if not hundreds of millions of people. With regard to the recent article, the imbalanced praise and absence of rational concerns published in favor of the vaccine appeared quite biased; I soon accessed the original research, as discussed below.

BMJ's landmark publications in erroneous conclusions: Anyone who has studied research design is aware of different types of clinical investigations and the limitations inherent in each. The "gold standard" of clinical research has been the randomized double-blind placebo-controlled clinical trial, preferably with a large population-representative cohort, preferably with a cross-over design if practical depending

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on the logistics of the intervention. In any placebo-controlled trial, the placebo needs to be an inert substance, not—as is common with pharmaceutical and especially vaccine studies—a mislabeled "placebo" capable of causing harm and therefore reducing and obfuscating the relative risk (RR) compared to the active/test agent. Science is corrupted when unscrupulous researchers use active agents misbranded as "placebos" in order to make a given intervention look comparatively safe and effective (when compared against a harmful placebo, such as the recent studies using high-cost high-dose prescription fish oil against a false placebo of petroleum mineral oil)[5] or comparatively dangerous or ineffective (when compared against a safe and therapeutically active placebo, such as the recent reviews comparing low-dose fish oil against low-dose olive oil, both of which are antiinflammatory and cardioprotective).[6] Thus, the strategic use of inappropriate placebos and/or the intentional ignoring of confounding variables (such as population-wide health campaigns) serves to glorify the preselected pharmaceutical victor while providing the necessary "evidence of effectiveness" and justification for widespread implementation and multimillion $/£/ € purchase. To the extent that such publications obfuscate the data and minimize appreciation of effective nutritional interventions, doctors and patients are inappropriately corralled into drug dependency while nutritional interventions with lower cost, wider availability, greater safety and efficacy—along with the numerous collateral benefits typically seen with nutritional supplementation—are withheld from general consideration. As detailed below, BMJ published a retrospective population-wide study that impossibly ascribed efficacy (by design, such studies cannot determine efficacy) to the HPV vaccine while ignoring the time-synchronized national public health campaign to improve vitamin D nutriture, whereas the latter has numerous lines of evidence supporting its clinically important efficacy against various types of HPV infection.

Dr Vasquez replies with two "rapid responses" posted on BMJ.com: To its credit, BMJ has a "rapid response" system that allows readers to publicly respond to articles and occasionally receive replies from the original authors; from the rapid responses posted, the journal's Editors supposedly choose from among the responses those few deemed worthy of publication in the print and indexed version of the journal, as they did with my 2005 reply to an article that misused vitamin D in a clinical trial and then erroneously reported that vitamin D was inefficacious.[7] For the April 2019 BMJ publications, my first rapid response received no reply; the following two rewritten responses, both of which were posted on BMJ.com in response to the editorial and the original research, are contextualized and provided below. The complete texts of these replies are included here both for the convenience of readers and to also document these posted responses in the event that—as is common these days—the editors delete any legitimate questioning of the high-profit vaccine paradigm. At the time of this writing, my replies are posted online at "Scotland's public health programs and trends improving nutritional status should be considered when discussing HPV trends" (https://www.bmj.com/content/365/bmj.l1375/rr-4 and externally archived at https://www.academia.edu/39207517) and "Scotland's public health campaigns to improve vitamin D nutriture occurred within the same timeframe as HPV vaccination" (13 April 2019, https://www.bmj.com/content/365/bmj.l1161/rr-8, externally archived at https://www.academia.edu/39201317).

The editorial posted by the BMJ to accompany and contextualize the original research was unusual in several aspects. First, the editorial is described as "commissioned" which implies that the journal paid the author to write the piece, presumably—as noted by former BMJ Editor Richard Smith[8] –to sell reprints to the pharmaceutical industry and/or governmental and other pro-vaccine groups as "proof" in order to convince people to accept this intervention as valid and thereby promote sales and the resulting profit and political power; as such, their editorial functions as an infomercial and advertisement for vaccine sales. Second, and consistent with the view that the editorial is simply a publicity piece, the journal specifically notes that the editorial was "not peer-reviewed" which is remarkable considering that most people think that all articles in the so-called "top tier" and "big five" medical journals are legitimately processed and refereed prior to publication and indexing in Medline's Pubmed (ncbi.nlm.nih.gov/pubmed/30944088). Third, I noticed that the disclosure as posted "The BMJ has judged that there are no disqualifying financial ties to commercial companies. The authors declare the following other interests: JMLB's employer has received partial, unrestricted support (in the form of equipment) to conduct a randomised trial of primary HPV screening from Roche Molecular Systems" makes zero mention of the author's research supported by Merck, makers of the HPV vaccination being discussed, revealed elsewhere as "JMLB has been an investigator on HPV epidemiology studies that received partial, unrestricted funding from Seqirus/Merck for laboratory components" (Int J Gynecol Obstet 2017; 138 (Suppl. 1): 7–14 DOI: 10.1002/ijgo.12186) and "JMLB has been an investigator in HPV epidemiological studies that have received partial unrestricted grants to support HPV typing components (cervical cancer typing study from Seqirus Australia, recurrent respiratory papillomatosis study from Merck Sharp and Dohme) and is an investigator on the Compass trial, which has received equipment and funding from Roche Molecular Systems and Roche Tissue Diagnostics, but JMLB reports no personal financial benefits" (*The Lancet*, 2019 February thelancet.com/public-health Vol 4;e87). Fourth, Brotherton's editorial is scientifically untenable, giving outlandish praise and stretching the boundaries of biological plausibility in support of the HPV vaccination advocated by the pro-vaccination group for which she works (Victorian Cytology Service [VCS] Foundation);[9]

she states that the results "unequivocally show high vaccine effectiveness" despite the fact that they completely ignored Scotland's concurrent nationwide programs to improve vitamin D status, including giving free vitamin D supplements and advocating sunbathing. Fifth, everyone associated with this publication appears to have ignored the fact that retrospective population-wide studies cannot establish causality as can double-blind placebo-controlled trials but at best can establish temporal relationships, but only if all impactful factors are considered, which was obviously not done with this primary publication nor its glorifying editorial. Sixth, consistent with my model of the pharmaceutical echo chamber and the financial matrimony binding media with drug companies , international newspapers and other media trumpeted to the world the glory of this vaccine, failing to mention any risks, qualifications, other scientific interpretations and therapeutic possibilities. Seventh, the scientifically responsible action that the BMJ could have taken is to issue a public statement clarifying the appropriate interpretation of its published research and reigning in this unscientific hysteria; but the BMJ has failed to do so. The text of my rapid response to the Editorial posted on BMJ.com is as follows:

Scotland's public health programs and trends improving nutritional status should be considered when discussing HPV trends

Julia Brotherton's Editorial [1] accompanying the retrospective population study crediting vaccination against human papilloma virus (HPV) with reduction in HPV prevalence in Scotland [2] considers a variety of possibilities for the presumed success of the HPV vaccination program. However, her Editorial does not mention the concomitant public health programs organized by the Scottish Government and other groups to improve vitamin D nutriture throughout Scotland that occurred in the same time-frame. The Scottish Government recognized the high prevalence of vitamin D deficiency in its population and began recommending vitamin D supplementation not later than 2006. By 2009, coincident with the start of the HPV vaccination campaign in 2008, numerous vitamin D supplementation (and sun exposure) campaigns were being implemented throughout Scotland to combat the documented population-wide problem of vitamin D deficiency.

Our views of vitamin D experienced a paradigm shift in the early part of this century, with key publications starting in 1999 [3-6]. We now have increased awareness of vitamin D's safety and roles in preventive medicine and public health, including reducing the burden of infectious diseases such as viral infections. Consistent with this evidence of safety and benefit, along with evidence that the human daily requirement is an order of magnitude greater than previously believed [7], use of vitamin D supplementation began to increase slowly and then exponentially in the United States [8] and other countries, especially English-speaking societies, most notably the United Kingdom. Indeed, according to the Scottish Health Survey 2003 [9], use of dietary supplements such as vitamins (including vitamin D), fish oils (a source of vitamin D) and minerals (magnesium supplementation improves vitamin D status and is necessary for vitamin D activation, binding, transport, metabolism, and gene expression [10]) had already begun to increase between 1998 and 2003. Certainly not later than 2006, the Scottish Government was already recommending widespread use of vitamin D supplements (and sun exposure) to combat the high prevalence of vitamin D deficiency in Scotland [11-23].

Vitamin D supplementation has been the subject of several placebo-controlled trials documenting anti-inflammatory, antiviral, and anticancer effects. Correction of vitamin D deficiency has significant anti-inflammatory [24] and immunomodulatory [25] benefits. Vitamin D and its direct metabolites promote production of antimicrobial peptides which have antibacterial and antiviral properties, while also reducing viral replication by inhibiting the NF-kappaB pathway. Consistent with these immunomodulatory and antiviral mechanisms, data from several placebo-controlled trials shows that vitamin D provides benefit in a variety of infectious conditions including human immunodeficiency virus (HIV) [26], hepatitis C virus [27-29] and upper respiratory infections [30-31]. Vitamin D administration displays impressive clinical effectiveness against dermal HPV as shown in case reports, clinical series, and placebo-controlled trials, with remarkable safety, high efficacy, and a consistent trend toward complete resolution of lesions [32-36]. In 2014, Schulte-Uebbing et al [37] published "Chronical cervical infections and dysplasia (CIN I, CIN II): vaginal vitamin D (high dose) treatment" showing that among 200 women with cervical dysplasia, vitamin D vaginal suppositories (12,500 IU, 3 nights per week, for 6 weeks) provided "very good anti-inflammatory effects" and "good antidysplastic effects" in women with CIN 1. In 2017, Vahedpoor and colleagues [38] published "Effects of Long-Term Vitamin D Supplementation on Regression and Metabolic Status of Cervical Intraepithelial Neoplasia" in which they summarized, "In conclusion, vitamin D3 administration for 6 months among women with CIN1 resulted in its regression and had beneficial effects on markers of insulin metabolism, plasma NO, TAC, GSH and MDA levels." In 2018, Vahedpoor and colleagues [39] published "Long-Term Vitamin D Supplementation and the Effects on Recurrence and Metabolic Status of Cervical Intraepithelial Neoplasia Grade 2 or 3" in which they noted, "The recurrence rate of CIN1/2/3 was 18.5 and 48.1% in the vitamin D and placebo groups respectively", thereby clearly favoring treatment with vitamin D over placebo.

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In Scotland, programs advocating HPV vaccination (started in 2008) and vitamin D supplementation (started not later than 2006 and again in 2009) occurred in close chronologic proximity; use of nutritional supplements that contain or potentiate vitamin D had started to increase in the population by 2003. Crediting the reduction in HPV-related disease solely to vaccination via retrospective population study is potentially misleading, especially when these authors make no account whatsoever of the national program for vitamin D supplementation which started in the same time-frame. Numerous studies have shown that vitamin D provides immunomodulatory, anti-inflammatory, microbiome-modifying, antiviral and anti-HPV benefits with high safety, good efficacy, low cost, wide availability, and clinically important collateral benefits.

Following the posting of my rapid response critiquing the editorial (11 Apr 2019), BMJ posted my resubmitted response rebutting the original research two days later (13 Apr 2019). Some but not all of the problems with the editorial are also noted in and originate from the primary research and therefore my critiques are similar, but not identical, with the second response a bit more refined and also with changes in a few citations. The major errors in the primary article are as follows: First, the study design of "retrospective population study" is incapable of determining causal relationships; at best such a study design can only determine temporal relationships, i.e., two events occurring together within the same time-period or one event following the other. As such, their reporting of any causal relationship is erroneous because this type of study cannot establish causality. Subsequently, the editorial and mass media derivatives are likewise erroneous. Second, attribution of effectiveness to the vaccine while ignoring any and all education surrounding the vaccine conflates inoculation with behavior-modifying education. Telling a young girl in essence that "the vaccination is directed toward a sexually transmitted infection in the form of a virus that could infect her vagina and cervix if she has unprotected sex with a boy" is a behavior-changing conversation likely to reduce sexual intercourse, with boys, especially without barrier protection; this primary study by Palmer and colleagues completely failed to account for any effect of education, instead giving all credit—indeed premature and inappropriate credit—to the vaccine. The age correlation that they reported—less HPV with earlier vaccination—could easily be explained or confounded with earlier education that changes sexual behavior. The authors failed to consider anything other than vaccination, so of course they found a correlation between vaccination and reduced HPV-related disorders. Third, the authors ascribe "herd immunity" to the observation that unvaccinated girls also showed a reduction in HPV-related disorders; but this could have easily and perhaps more convincingly been attributed to the nationwide vitamin D supplementation programs, which were completely ignored and never mentioned despite the fact that vitamin D has been proven effective against HPV infections via a variety of levels of evidence. Their concluding statement "The bivalent vaccine is confirmed as being highly effective vaccine and should greatly reduce the incidence of cervical cancer" is overzealous and is an epidemiologic error when they failed to consider any other interpretive options. Indeed, such considerations—controlling for other possible factors—is the defining characteristic of competent epidemiology. The authors followed their egregious overstatement (quoted previously) with a confirmatory understatement: "It is possible therefore that vaccine effectiveness was over-estimated." Neither the accompanying editorial nor the publications for the mass media mention of the probable overestimation of vaccine effectiveness. My rapid response to the original article is as follows:

Scotland's public health campaigns to improve vitamin D nutriture occurred within the same timeframe as HVP vaccination

In April 2019, Palmer et al [1] published a retrospective population study crediting vaccination against human papilloma virus (HPV) with reduction in HPV prevalence in Scotland, and the authors attributed a reduction in HPV prevalence among unvaccinated women with "herd protection." However, the authors did not mention Scotland's population-wide public health campaigns to address endemic vitamin D deficiency. The Scottish Government recognized the high prevalence of vitamin D deficiency in its population and began recommending vitamin D supplementation not later than 2006. Vitamin D deficiency results in impaired mucosal and immune defenses and correlates in a dose-dependent manner with increased cervicovaginal HPV infection [2]. By 2009, coincident with the start of the HPV vaccination campaign in 2008, numerous vitamin D supplementation (and sun exposure) campaigns were being implemented throughout Scotland to combat the documented population-wide problem of vitamin D deficiency.

Our views of vitamin D experienced a paradigm shift in the early part of this century with landmark publications such as Vieth's authoritative documentation of safety in 1999 [3], Zittermann's "Vitamin D in preventive medicine" in British Journal of Nutrition in 2003 [4], and Vasquez's "Clinical importance of vitamin D (cholecalciferol): a paradigm shift with implications for all healthcare providers" in 2004 [5] followed by an important partial summary of vitamin D usage guidelines in British Medical Journal in 2005 [6]. These and similarly themed articles have contributed to increased awareness of vitamin D's safety and roles in preventive medicine and public health, including reducing the burden of infectious diseases such as viral

infections and various types of cancer. Consistent with this evidence of safety and benefit, along with evidence that the human daily requirement is an order of magnitude greater than previously believed [7], use of vitamin D supplementation began to increase slowly and then exponentially in the United States [8] and other countries, especially English-speaking societies, most notably the United Kingdom. Indeed, according to the Scottish Health Survey 2003 [9], use of dietary supplements such as vitamins (including vitamin D), fish oils (a source of vitamin D) and minerals (magnesium supplementation improves vitamin D status and is necessary for vitamin D activation, binding, transport, metabolism, and gene expression [10]) had already begun to increase between 1998 and 2003. Certainly not later than 2006, the Scottish Government was already recommending widespread use of vitamin D supplements to combat the high prevalence of vitamin D deficiency in Scotland [11].

Widespread vitamin D deficiency in Scotland was followed by widespread recommendations for vitamin D supplementation starting in 2006 and 2009. In 2006, Burleigh and Potter published in Scottish Medical Journal [12] stating that, "The prevalence of vitamin D deficiency is high in older outpatients in this geographical area." In 2007, Hyppönen and Power [13] showed that among British adults "Prevalence of hypovitaminosis D in the general population was alarmingly high during the winter and spring, which warrants action at a population level rather than at a risk group level." In 2008, Rhein [14] further specified that "Vitamin D deficiency is widespread in Scotland." In 2009, the Scottish Government acknowledged the need to educate its population about the importance of vitamin D3 supplementation [15]. From that time until the present, the Scottish Government, United Kingdom National Health Services, and various advocacy groups and programs (e.g., ScotsNeedVitaminD.com[16], Healthy Start, which provides vitamin D supplements to all children and pregnant women in Scotland [17]) continue assertive public health campaigns recommending vitamin D supplementation and increased vitamin D production via sun exposure via the "Shine on Scotland" program initiated in 2009 [18] for all of its citizens [19-23].

Vitamin D supplementation has been the subject of many clinical trials documenting anti-inflammatory, antiviral, and anticancer benefits. Correction of vitamin D deficiency has significant anti-inflammatory [24] and immunomodulatory [25] benefits. Vitamin D and its direct metabolites promote production of antimicrobial peptides which have antibacterial and antiviral properties, while also reducing viral replication by inhibiting the NF-kappaB pathway. Consistent with these immunomodulatory and antiviral mechanisms, data from several placebo-controlled trials shows that vitamin D provides benefit in a variety of infectious conditions including human immunodeficiency virus (HIV) [26], hepatitis C virus [27-29] and upper respiratory infections [30-31]. Vitamin D administration displays impressive clinical effectiveness against dermal HPV as shown in case reports, clinical series, and placebo-controlled trials, with remarkable safety, high efficacy, and a consistent trend toward complete resolution of lesions [32-36]. In 2014, Schulte-Uebbing et al [37] published "Chronical cervical infections and dysplasia (cervical intraepithelial neoplasia [CIN] 1-2): vaginal vitamin D treatment" showing that among 200 women with cervical dysplasia, vitamin D vaginal suppositories (12,500 IU, 3 nights per week, for 6 weeks) provided "very good anti-inflammatory effects" and "good antidysplastic effects" in women with CIN 1. In 2017, Vahedpoor and colleagues [38] published a double-blind placebo-controlled trial of vitamin D in women with HPV, in which they found that vitamin D3 administration for 6 months among women with CIN1 resulted in its regression and had beneficial effects on markers of insulin metabolism and antioxidant status. In 2018, Vahedpoor and colleagues [39] published a double-blind placebo-controlled trial of vitamin D in women with HPV, in which they observed, "The recurrence rate of CIN1/2/3 was 18.5 and 48.1% in the vitamin D and placebo groups respectively", thereby clearly favoring treatment with vitamin D over placebo.

In Scotland, programs advocating HPV vaccination (started in 2008) and vitamin D supplementation (started not later than 2006 and again in 2009) occurred in close chronologic proximity. Crediting the reduction in HPV-related disease solely to vaccination via retrospective population study is potentially invalid and misleading, especially when the authors make no account whatsoever of the national program for vitamin D supplementation which started in the same timeframe. Numerous studies have shown that vitamin D provides immunomodulatory, anti-inflammatory, microbiome-modifying, antiviral and anti-HPV benefits with high safety, good efficacy, low cost, wide availability, and clinically important collateral benefits.

My reply makes quite obvious the shortcomings of their biased research publication. One should reasonably wonder why the BMJ would publish such a flawed report, and then pay for a "commissioned" "editorial" which was "not peer-reviewed." Then, the editors collectively stifled any further conversation regarding the antiviral action of vitamin D delivered to the same population in the same time-frame, despite its proof of clinical effectiveness. Such a compilation of errors could hardly seem accidental, although they would synergize fantastically for promoting sales and government mandates of the HPV vaccine.

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And now for the silent treatment from BMJ editors: Reasonably anticipating that the BMJ would share my well-cited concerns with their readership via publication in a Letter to the Editor or Reply, I waited to hear from the Editors. When no response arrived by several weeks later, I emailed the Letters Editor and the Editor in Chief along with two other associate editors. The probability of none of them receiving my email nor noting my two posted rapid replies is essentially zero, and they have offered no response nor explanation for why their publications omitted this key data.

From: Dr Alex Vasquez
Date: Thu, May 9, 2019 at 4:34 PM
Subject: Re: Letters timeframe
To: Davies
Cc: Doshi, Godlee, Ludwig

Thank you for your earlier replies. I am following-up with interest in publishing the concerns raised in my rapid responses, because the original research appears to have looked at a chronological correlation without looking at the national health campaigns that started in the same time-frame. In particular, the public health campaign that I detailed has double-blind placebo-controlled evidence of clinical effectiveness, so it is worthy of consideration.

Of the two rapid responses posted (thank you), the second is a bit more refined and has (a few) better citations (I think I changed 2 of them).

1. Scotland's public health programs and trends improving nutritional status should be considered when discussing HPV trends *https://www.bmj.com/content/365/bmj.l1375/rr-4*

2. Scotland's public health campaigns to improve vitamin D nutriture occurred within the same timeframe as HPV vaccination *https://www.bmj.com/content/365/bmj.l1161/rr-8*

As noted in my responses, vitamin D demonstrates antiinflammatory, microbiome-modifying, immune-supporting (eg, antimicrobial peptides, sIgA) and it specifically demonstrates effectiveness against HPV. I trust that we share the same goal of helping patients avoid HPV-related disorders, and cholecalciferol clearly shows benefit, safety, wide availability, and low cost.

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[34] Raghukumar S, Ravikumar BC, Vinay KN, Suresh MR, Aggarwal A, Yashovardhana DP. Intralesional Vitamin D3 Injection in the Treatment of Recalcitrant Warts: A Novel Proposition. *J Cutan Med Surg*. 2017 Jul/Aug;21(4):320-324. doi: 10.1177/1203475417704180. Epub 2017 Apr 6.

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[36] Abdel Kareem IM, Ibrahim IM, Fahmy Mohammed SF, Ahmed AA. Effectiveness of intralesional vitamin D3 injection in the treatment of common warts: single-blinded placebo-controlled study. *Dermatol Ther.* 2019 Mar 28:e12882. doi: 10.1111/dth.12882

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[38] Vahedpoor Z, Jamilian M, Bahmani F, Aghadavod E, Karamali M, Kashanian M, Asemi Z. Effects of Long-Term Vitamin D Supplementation on Regression and Metabolic Status of Cervical Intraepithelial Neoplasia: a Randomized, Double-Blind, Placebo-Controlled Trial. *Horm Cancer.* 2017 Feb;8(1):58-67. doi: 10.1007/s12672-016-0278-x. Epub 2017 Jan 3

[39] Vahedpoor Z, Mahmoodi S, Samimi M, Gilasi HR, Bahmani F, Soltani A, Sharifi Esfahani M, Asemi Z. Long-Term Vitamin D Supplementation and the Effects on Recurrence and Metabolic Status of Cervical Intraepithelial Neoplasia Grade 2 or 3: A Randomized, Double-Blind, Placebo-Controlled Trial. *Ann Nutr Metab.* 2018;72(2):151-160. doi: 10.1159/000487270. Epub 2018 Feb 21

Thank you,
Dr Alex Vasquez

Again expecting the journal's editors might value research accuracy, journalistic integrity, and the importance of ethical standards in clinical care and research, I was a bit surprised that these five BMJ Editors would collectively fail to reply to cited concerns about the quality of their publication. BMJ claims on its website that it hosts and/or represents an "international community of readers, authors, and editors" but apparently this sense of "community" does not apply to the questioning of publications that show obvious bias by ignoring other influences and funneling the results toward vaccine endorsement.

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Basic components of research integrity: Tutorial articles published in journals as well as textbooks such as *The Lancet Handbook of Essential Concepts in Clinical Research*[11] can inform the implementation and evaluation of research. Ideally (but largely theoretically), research is performed honestly and competently, critically reviewed postproduction and prepublication by independent scientists/scholars, and then refereed by at least one expert-level Editor prior to publication and dissemination; the fourth component of research integrity is post-publication critique by readers and correspondence between such readers and the original authors. A fifth component of research integrity is the publication of article-specific editorials/commentaries that provide context and perspective for the new information presented; as with the original research, such Editorials should be independently peer-reviewed in a blinded manner by internal or external reviewers prior to publication.

Authorial and editorial bypassing of research integrity: A notorious pitfall in the publication of descriptive and retrospective studies such as the one by Palmer et al being discussed here is that of false attribution; that is, the erroneous assumption that because an intervention was followed by an observation that the former caused the latter. This error is intellectually grave as it can lead to erroneous conclusions about cause-and-effect relationships, thereby misleading government policy and clinical care. This error is also described as overstepping the data, erroneous inference, and—in Latin—post hoc ergo propter hoc which translates to "after this, therefore because of this", also known as the post hoc fallacy. In truth, causal relationships can only be established in appropriately conducted clinical trials; non-interventional retrospective population studies such as this one lead by Palmer can add only accessory information but are incapable of establishing or refuting causality, especially when the study itself fails to control for other variables and considerations.

"Errors" in study design may be accidental or intentional. In addition to the failure to consider other causes for an observed outcome, investigators can also accidentally or intentionally "stack the deck" in order to make a certain conclusion more or less likely. Strategically or innocently, researchers can select patients that may have covariables that are of major importance to the outcome being studied. Indeed, the authors noted that "partial immunization was associated with increased deprivation, having left school, and increasing age" but they failed to follow-up on these considerations and their HPV-relevant implications. Co-variables that correlate with more vaccination are better financial status, better healthcare insurance coverage, better nutrition, less sexual promiscuity and less social inequality/defeat stress. Improved nutrition obviously provides an anti-viral effect by reducing inflammation-promoted viral replication and also by enhancing immune defenses; wealthier and better educated persons are known to consume more nutritional supplements. A reduced number of sexual exposures would obviously affect the prevalence of a sexually transmitted diseases (STD). Less socioeconomic stress would lead to a relative improvement in immune function compared to a group with stress-induced immunodysfunction and immunosuppression. Obviously—and completely ignored by all of the authors and editors of this BMJ publication—is the fact that the act of vaccination itself with its attendant information (ie, behavior-changing education) regarding the risks of sexual behavior (ie, promiscuity verses abstinence) and the value of STD-blocking barrier methods (e.g., condoms) would be clearly expected to reduce HPV-related disease. As noted in *The Lancet Handbook of Essential Concepts in Clinical Research* (page 35), "When selection bias or information bias exists in a study, irreparable damage results. Internal validity is doomed." Also (page 46), "Although assessment of many outcomes is often cited as a positive attribute of cohort studies, this feature can be abused. For example, testing the associations between exposure and many outcomes, but only reporting the significant ones, represents misleading science."

In this case, the authors quite obviously failed to consider anything other than their chosen vaccine program, and then they assumed that the vaccine program was responsible for the observation that cervical disease was decreased in the vaccinated group. How these researchers were able to remain ignorant of a well-publicized government-endorsed nationwide public health campaign emphasizing improved nutrition and vitamin D supplementation[12] (which is proven with a variety of clinical research to reduce the burden of HPV infections, to improve general immunity, and to reduce inflammation) is unclear; one can only reasonably speculate why the journal's editors would fail to publish commentary and consideration in this regard.

Bizarrely, BMJ allowed the study's lead author to post additional commentary on his own research, as if the publication needed any additional biased aggrandizement. Not surprisingly, Palmer[13] agreed with his own perspective and endorsed the greatness of his research, stating that his research revealed "a veritable triumph for medicine" and that the intervention he endorses is "the only feasible solution" to preventing HPV-related cervical cancer. As would be expected in one of the "mainstream medical journals", zero mention was made of nutritional immunorestoration, microbiome modification, nor antiviral nutrition strategies—all of which have a clear role in the prevention of HPV-related cervical disease. Clearly, if the only intervention considered is vaccination, and all other social and biological interventions are ignored, then the only possible solution will appear to be vaccination, regardless of the lack of merit of this conclusion. Whether or not one "believes in" the common oversimplified model of HPV-induced cervical disease and/or the promul-

gated "value" of vaccination, we should all want the research to be accurate and for all variables and treatment options to be considered for this condition, especially when the promoted vaccine appears responsible for a large number of injuries and deaths.[14] As noted recently (2018) by former BMJ Editor Richard Smith, the BMJ and its publishing group sells millions of dollars/pounds/euros worth of "product advertising" (e.g., £2.7m) and article reprints (£1.98m or $2,497,770 United States dollars); most of these advertisements and article preprints are purchased by the medical device and drug (including vaccine) industry to promote sales of their products.[15]

The case for postpublication retraction: According to the Committee on Publication Ethics,[16] journal editors should strongly consider retracting a publication if any of the following occur: 1) evidence that the findings are unreliable, either as a result of misconduct [e.g. data fabrication] or honest error [e.g. miscalculation or experimental error], 2) redundant publication, 3) plagiarism, 4) unethical research. In my opinion, any legitimate critical reading of this article would have easily led to its pre-publication rejection or its post-publication retraction, but because the article has financial value by promoting a multibillion dollar vaccine paradigm and up to thousands/millions of dollars in article reprints and pharmaceutical advertising, it was published, editorially praised, and then publicly glorified without (to my knowledge) any scientific criticism. In the irony of ironies, lead author Palmer was quoted by Medscape (op cit) as stating: "One of the things this study really does hammer home is that the anti-vaccine lobby are actually peddling falsehoods."

The importance of nutritional expertise and independent publications in the post-truth and pro-pharmaceutical era: The international community has been living in the post-truth era—defined as being dominated by utter disregard for truth in the service of financial and political power—now for many years.[17] Given that nutritional education is generally excluded from medical education and post-graduate training, the only way for clinicians to learn about the clinical use of vitamins and minerals to prevent and treat a wide range of diseases—including but not limited to HPV-related diseases—is to access independent publications such as *Journal of Orthomolecular Medicine*,[18] expert-level textbooks,[19] nutrition-inclusive conferences and online courses. A clinician will likely never learn that HPV diseases can be prevented and treated by nutritional interventions by reading and following the mainstream medical journals and mass media. But from the orthomolecular perspective, the rationale supporting such interventions is quite obvious and strongly grounded in legitimate science, biological plausibility, and clinical trials (e.g., antiviral nutrition strategies).[20]

Author information: Dr Alex Vasquez is a lecturer and author of numerous articles, letters, and books related to topics of nutrition, clinical medicine, neuroinflammation, human microbiome and immunonutrition. Dr Vasquez has served as a consultant to Biotics Research Corporation. Dr Vasquez has archived the PDF versions of the herein-discussed rapid replies in free-access depositories, specifically https://ichnfm.academia.edu/AlexVasquez and https://www.researchgate.net/profile/Alex_Vasquez2.

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Additional articles and book excerpts have been amended to the previous publication in order to provide context and orientation to the author's main works.

BOOK EXCERPTS, CHAPTERS:

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SOCIAL MEDIA UPDATES: Note that updates are made on a regular basis to the following social medial pages, with some overlap but also some topic-specific specialization, which is self-explanatory by the titles of these pages:

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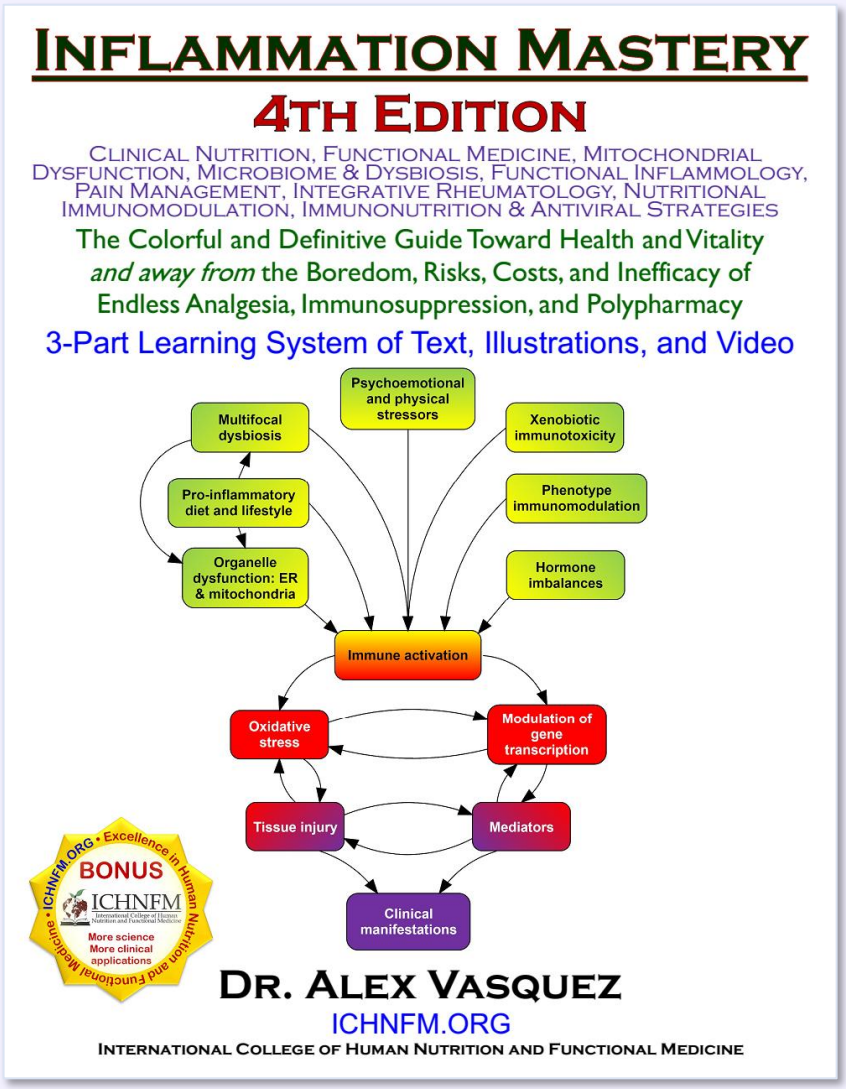

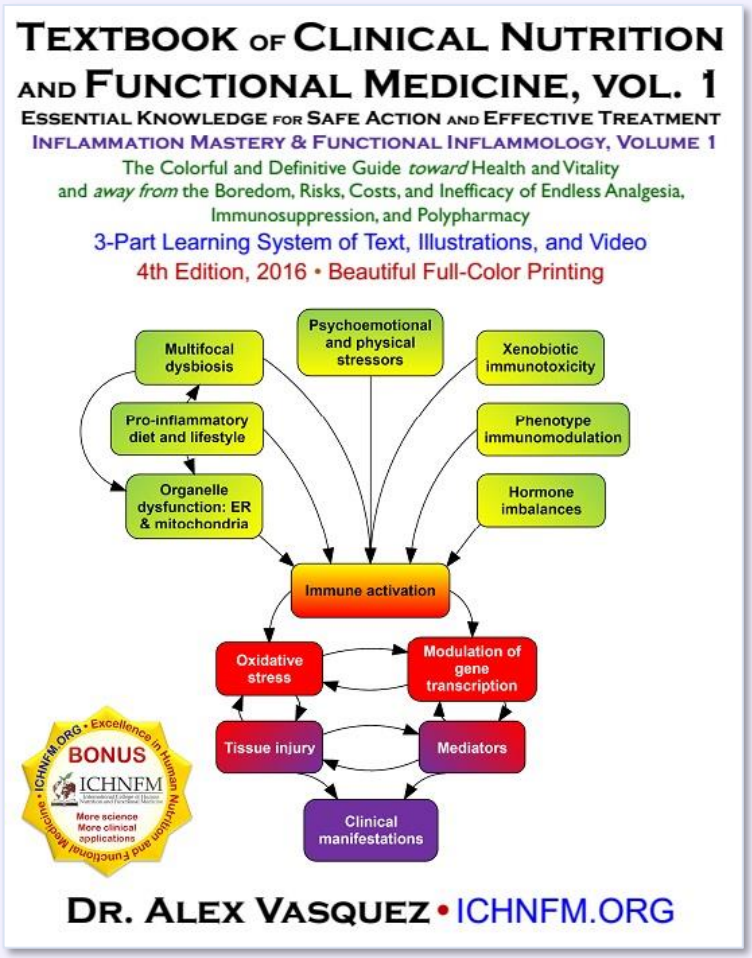

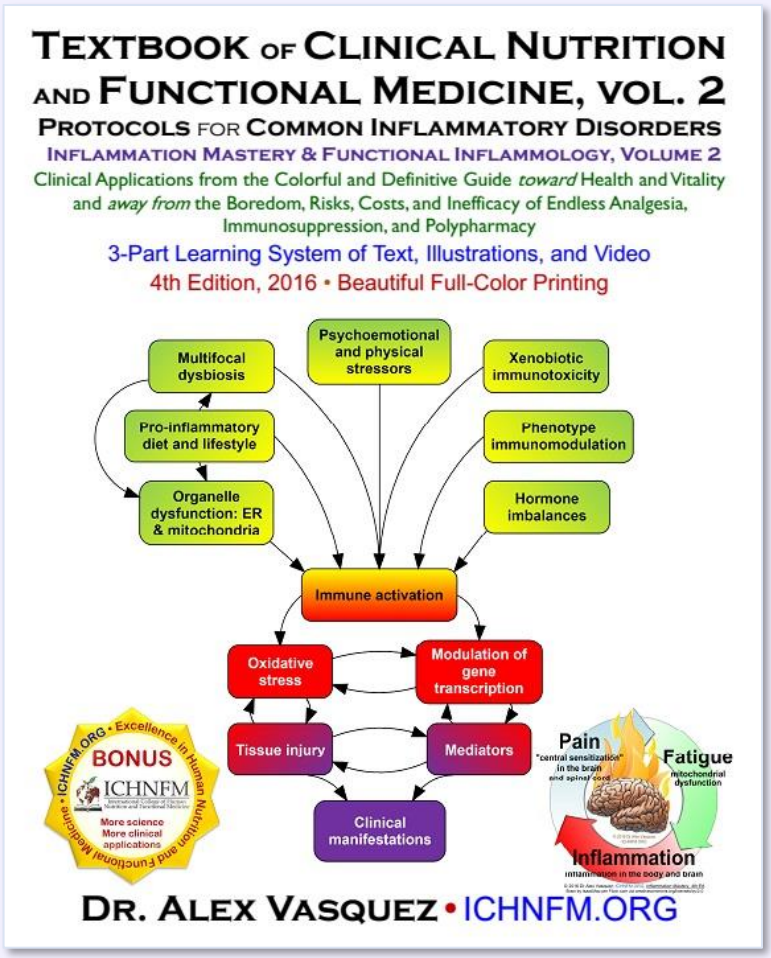

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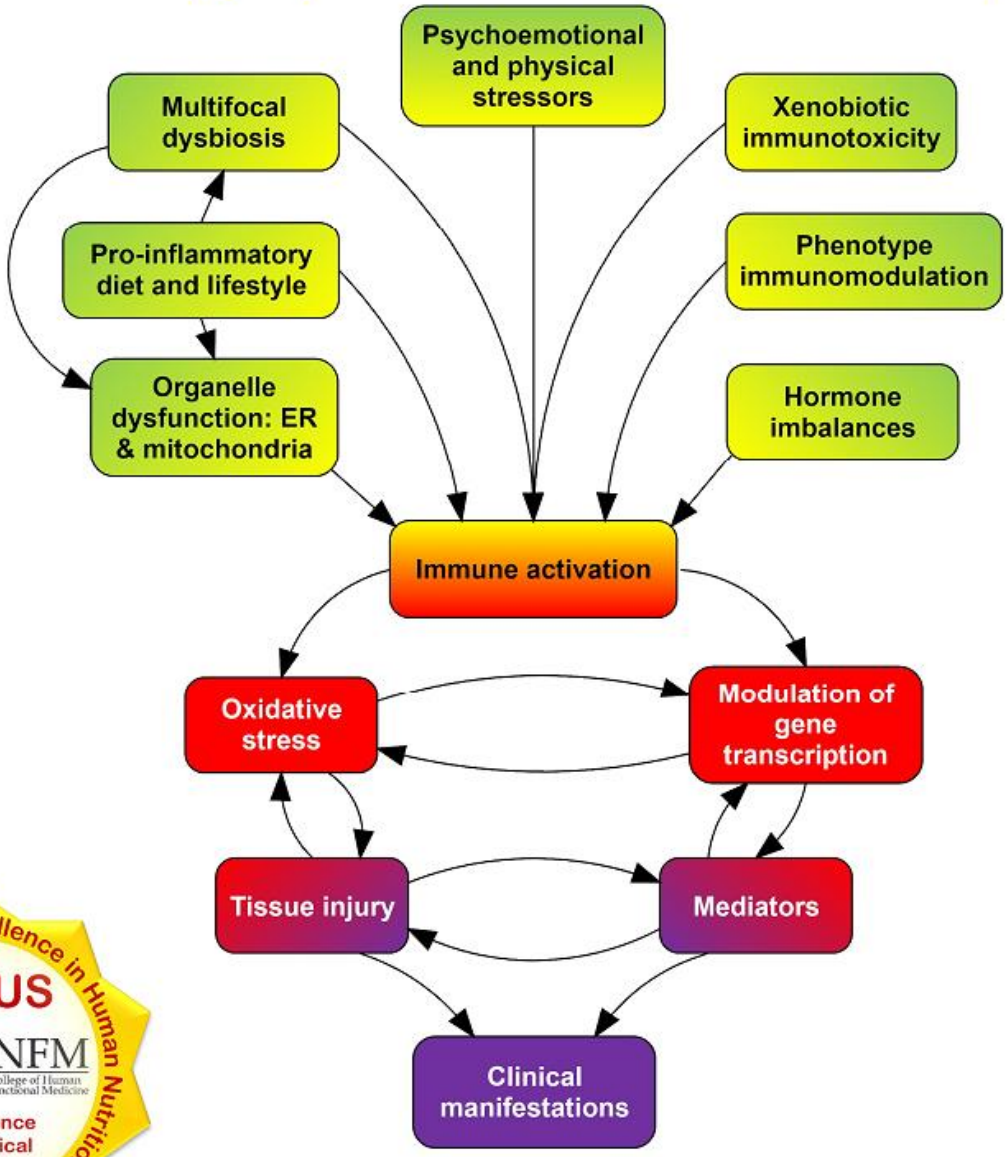

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    - Founder and Former Program Director of the world's first accredited university-affiliated graduate-level program in Functional Medicine
    - Adjunct Professor, Integrative and Functional Nutrition in Immune Health, Doctor of Clinical Nutrition program at Maryland University of Integrative Health
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    - Former Faculty (2004-2005, 2010-2013) and Forum Consultant (2003-2007), The Institute for Functional Medicine
    - Former Adjunct Professor (2011-2013) of Pharmacology, Evidence-Based Nutrition, Immune and Inflammatory Imbalances, Principles of Functional Medicine, Psychology of Wellness
    - Former Adjunct Professor of Orthopedics (2000), Radiographic Interpretation (2000), and Rheumatology (2001), Naturopathic Medicine Program, Bastyr University
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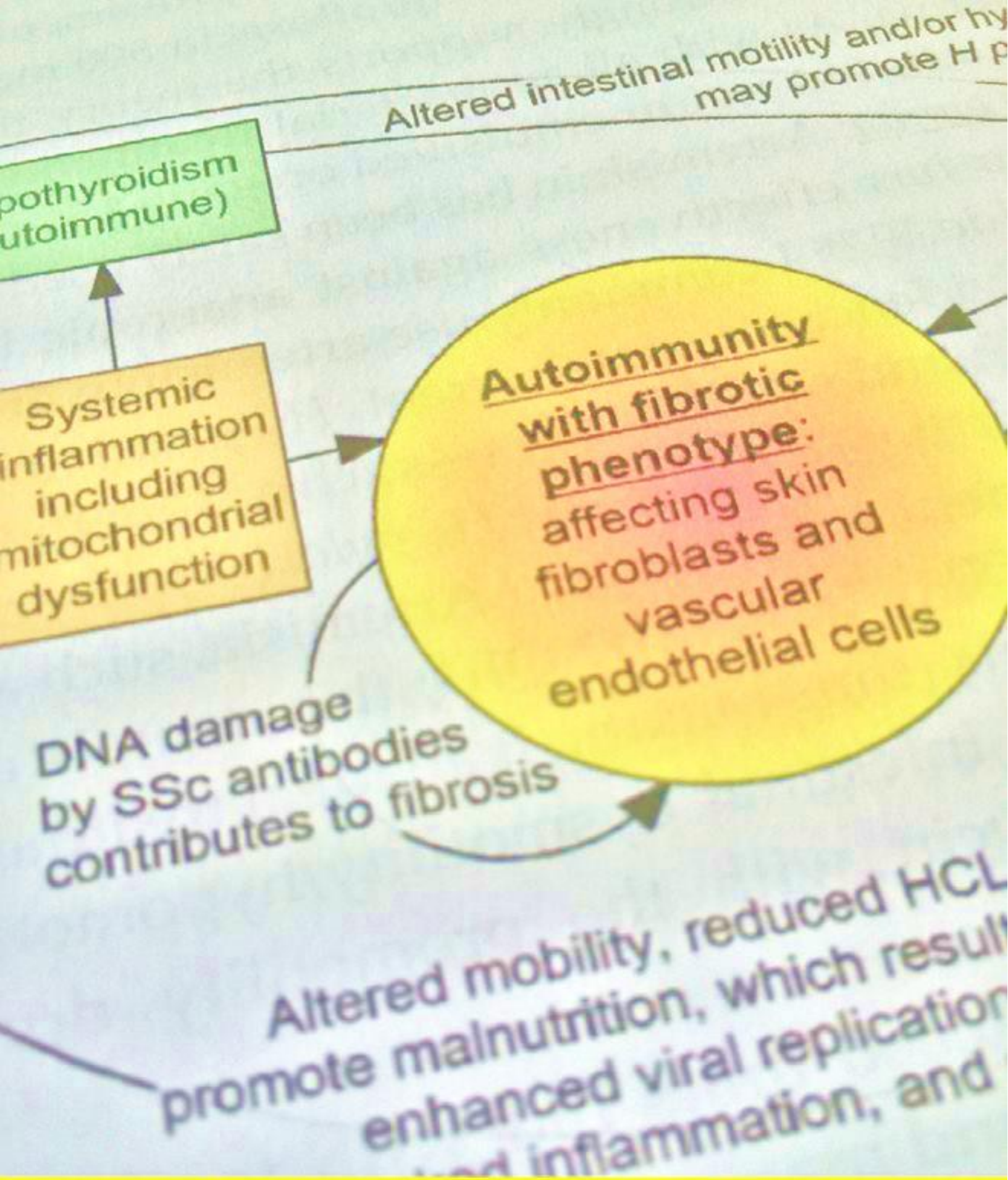

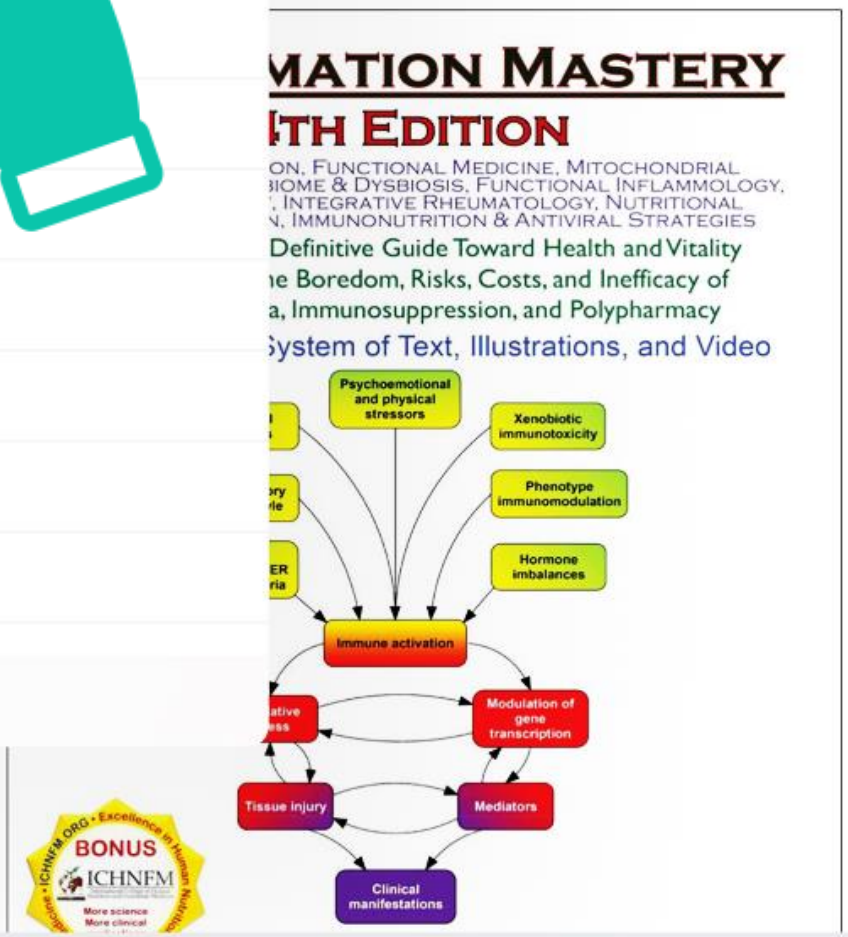

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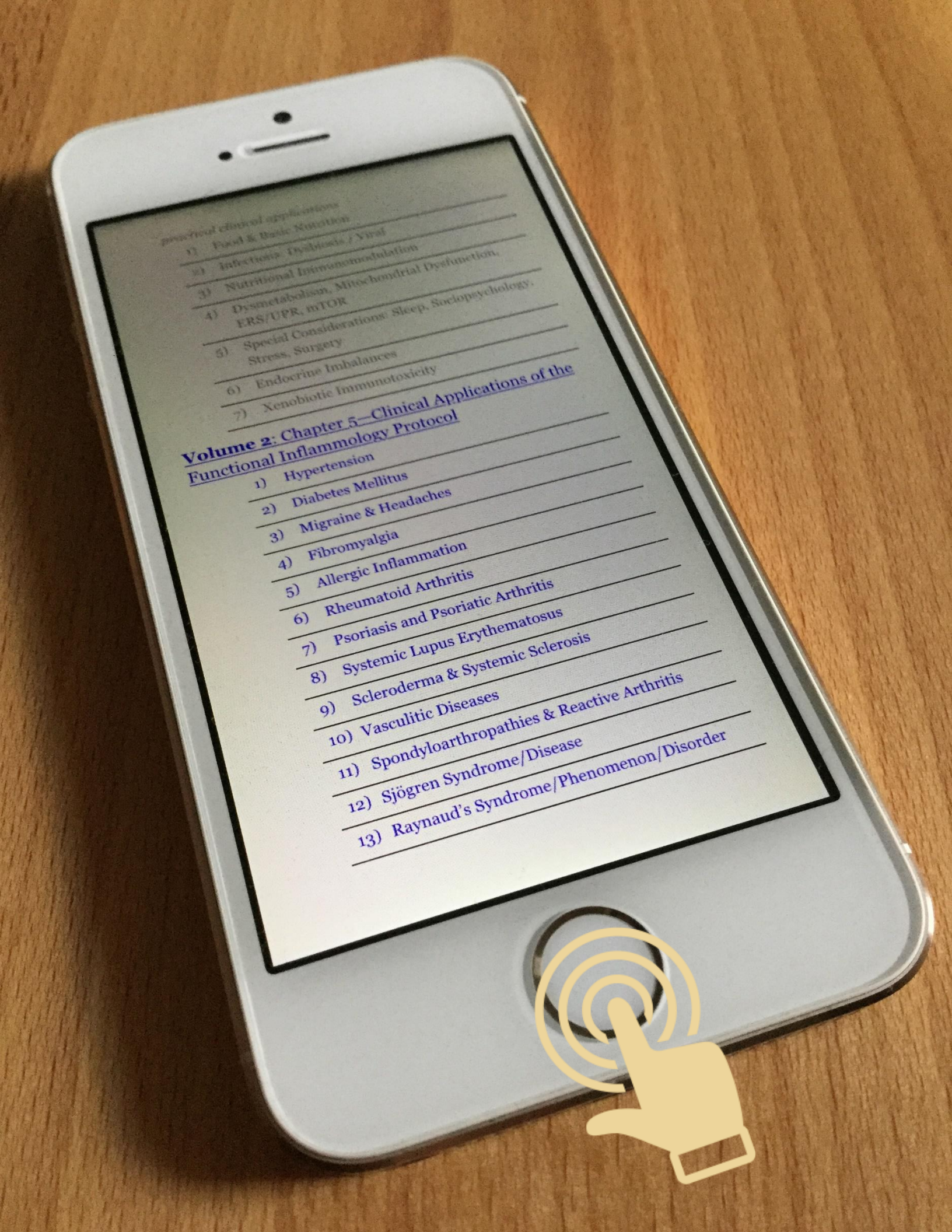
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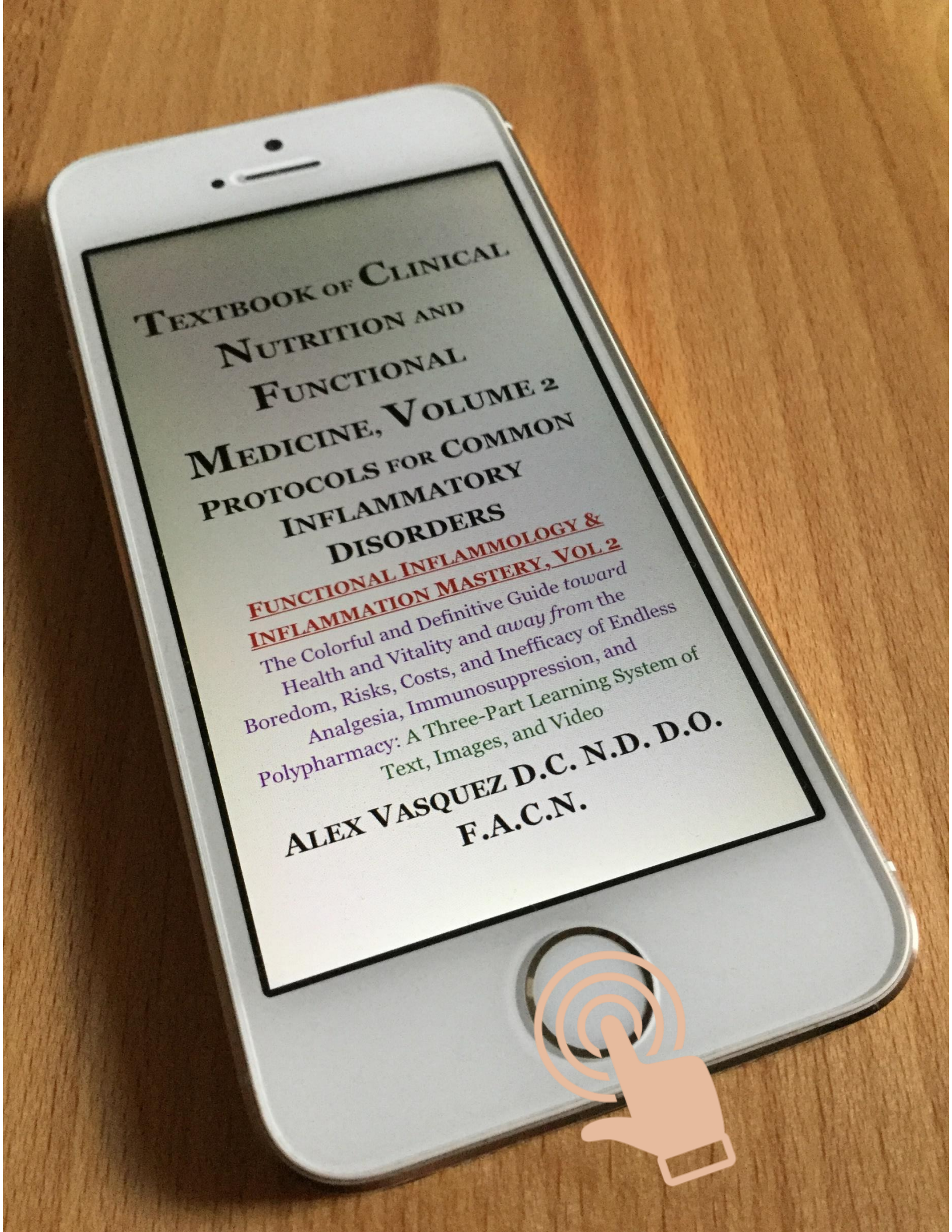
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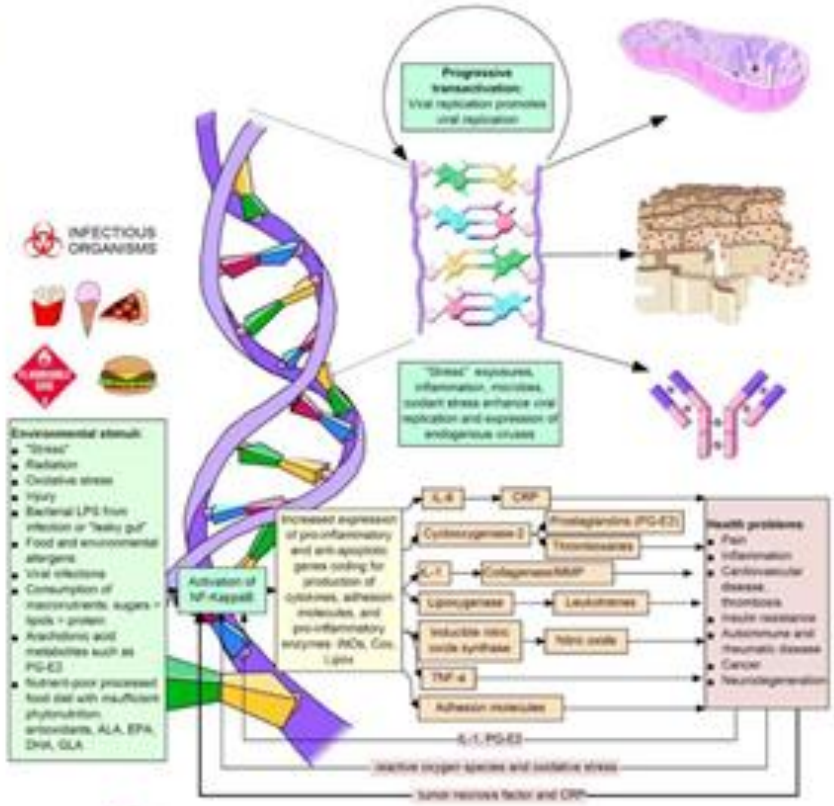

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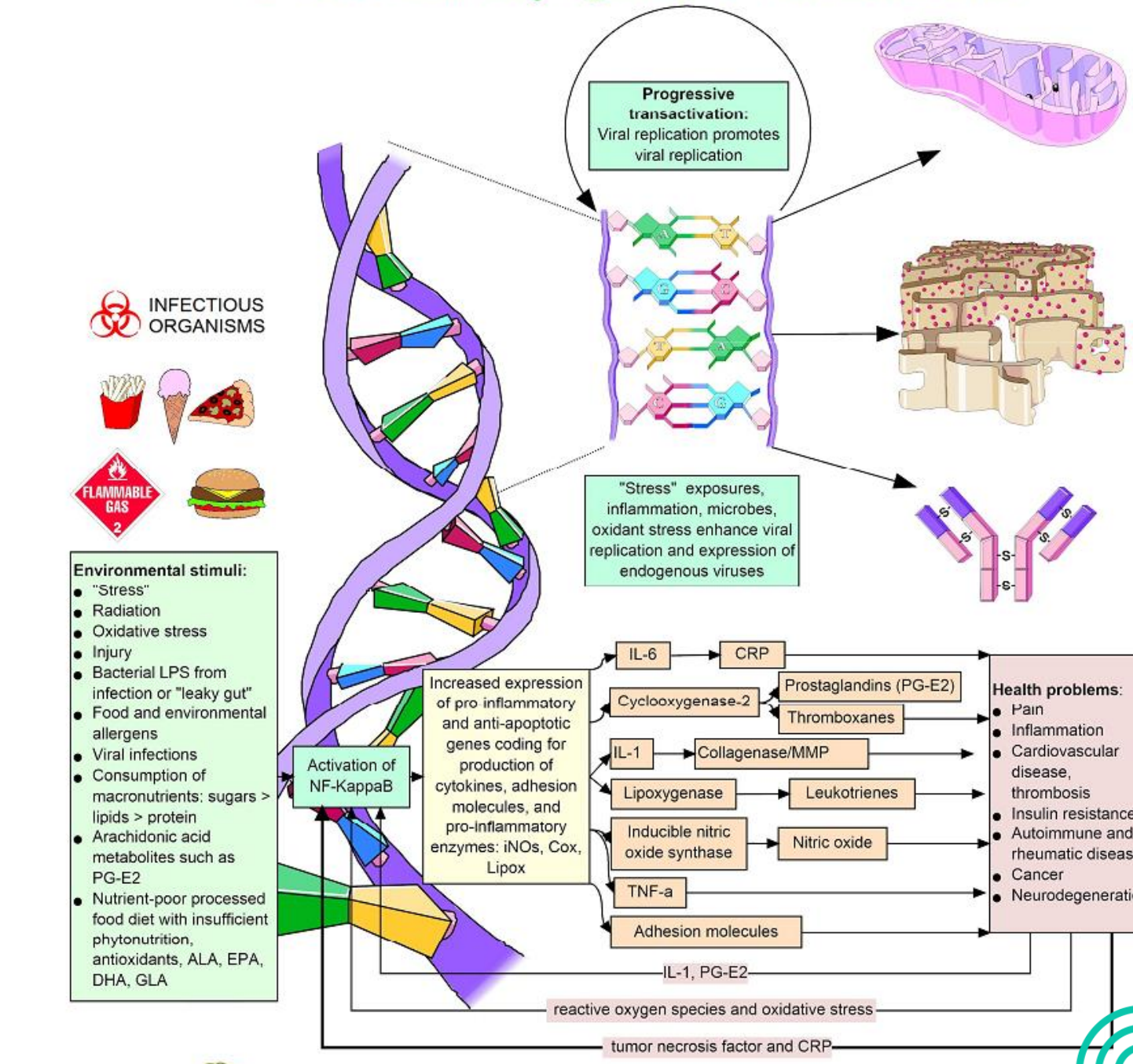

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THE PATH AHEAD

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.[1] 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 c… worldwide.[2] While… a specific disease… human populatio… nutrition researcl… particularly conte… nutrition researcl… healthcare profess… nutrition. Clinical… vast majority of … medical training p… are obviously i… gastroenterology[7]… training in clini… proclaims itself a… including the entire territory of clinical nutrition.[10] A major and serious problem arises when unskilled and invalid research is published by authors (including nonphysician journalists[11]) in major journals which mischaracterizes the validity of nutrition interventions (e.g., essentially always concluding that nutritional interventions are inefficacious or potentially hazardous) and then such research is used politically and in the media to disparage, restrict and regulate practitoners and nutrition supplement industry[12] 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 via which they …ent policy and …ons of people. … examples of …lications, lists …sed solutions. …pendent upon …stigative and …s of clinical …rovements are … ignorance in …

…tion

…eview recent examples of questionable or inaccurate publications related to nutrition. Perceived shortcomings are documented with both citations here and links to more detailed and authoritative reviews and video presentations. In some instances, speculations regarding the cause and consequences of identified errors are provided.

PDF articles: Full-text archives of the author's articles are available per the following:

- https://ichnfm.academia.edu/AlexVasquez
- https://www.ichnfm.org/public
- **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

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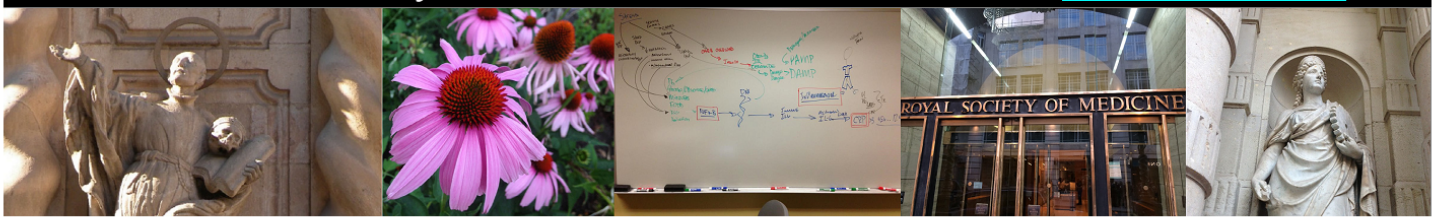

Perspective, Opinion, Editorial • Education • Academia • Wage Theft • Corruption

Ending the Exploitation of Experts Begins with Educating Them about Employment, Curbing Enthusiasm to Preserve Enthusiasm

Alex Vasquez DC ND DO FACN

My own paths toward and perspectives on Education

My passion for teaching and education began "formally" when I was about 9 years of age, sitting on the floor of Ms Hall's 4th grade classroom; from that vantage as I sat somewhat near my best friend Robert, I saw the destructive power of bad teaching and discrimination, and from that day I started analyzing teachers, teaching methods, educational and social structures, and ways to convey knowledge and inspire students. Additionally inspired by my teacher of English and Literature in my final years at Riverside Military Academy, I began college with the plan of eventually teaching "something—most likely English and Literature" because I appreciated and valued teaching, proper grammatical structure, and nuanced use of language; I later developed and interconnected my interests in teaching, writing, language, physiology, medicine, and nutrition to complete three doctorate degrees in the health sciences and publish more than 120 articles, letters, rebuttals, monographs, and books on a wide range of topics, with those publications ranging from dense 1-page Letters and Responses to published research up to single-author textbooks of more than 1,180 pages. I have taught at various colleges and universities at the undergraduate, graduate/Masters, and Doctorate levels and have lectured internationally for post-graduate medical education. I see teaching not simply as effective transferal of information, but also as a means to interconnect and inspire generations of people, notably in a reciprocal manner. At its best, teaching and learning are activities that reflect and support love for life itself.

Oh, the stories I could tell you about the innards of Academia, "nonprofits", and "accredited" schools

I would be happiest to tell you that Academics and Administrators are vanguards
support for fellow Professors, and
commitment is to truth and realit
setting ablaze the passions of the
they teach, lead, and supervise; I'
in flower fields like a professoria
singing a rhythmical rendition of "*The Hills are Alive…with the…Passions of Education and Intellectual Integrity*." But a pollyannic representation of my observations would be a misrepresentation of the realities I have seen and experienced. I have seen university presidents lie to their students, expel experts for the sake of maintaining their own petty powers and preferences, and I have seen entire academic administrations lie (misrepresent) in unison to their boards of trustees and their accreditation commissions. I have seen stand-alone academic programs make millions of dollars in profit, while its administrators refuse to pay a living wage to doctorate-level infrastructure and while allowing themselves 6-week European vacations during major institutional initiatives. I have seen administrators lie to accreditors and allow students to cheat their way through graduate programs (by bypassing faulty examination software in online programs), and I have seen accreditors turn a blind eye to obvious university corruption, made worse when the accreditation commission is infiltrated by university administrators—thus did "accreditation" come to lose its value. I have seen "nonprofit educational institutions" underpay their faculty, plagiarize from their faculty, resell the work of other professionals without notice or compensation, and then pay their upper administrators in excess of US$160,000 for less than part-time work—thus did "nonprofit organization" come to lose its value. I have seen schools blackmail excellent professors and leaders in education with gag orders, legal threats, and financial bribery (range US$25,000 up to $250,000) to buy their silence about institutional corruption. I have corresponded with employment attorneys, State Attorneys General, and US Department of Education, most of whom shrugged their shoulders and said, "That's the way it is in academia." Sorry

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Tutorial & Editorial • Scientific Writing • Journal Editing • Professional Experience • Video

How to Improve Scientific Writing and Journal Editing: A Short Narrative-Video Guide, Part I

Alex Vasquez DO ND DC FACN

Introduction

"Hello everyone, Dr. Alex Vasquez here, and today I'm going to start a different series of videos, and this time the conversation is going to focus around journal editing and writing. I'm calling this "*Editing and Writing Tips #1*", and I'm going to start with a few of my own perspectives and experiences, then I'll talk about a few basics, and a few influential ideas. In later videos, I will talk about some more specific examples, and then perhaps at some point we will have a review and conclusion.

Early Experiences and Influences

Very briefly I'll talk about some of my own experiences, and the reason for my doing this is to share with you and segue into some examples that I think are very important. Basic though they might be, a lot of our success in various fields of life actually comes from respecting and appreciating and utilizing those basic concepts.

Let us start here with some of my initial experiences. I started becoming aware of language and the fact that I had some facility for it, first, when I was about 12 years old. I remember writing a poem in class, and again this is somewhat peripheral to the main topic of today, but I do remember that e
kind of my entryway, I think, i
that our assignment was to wr
remember writing this poem in cl
on and on, and—compared with s
I just realized that writing for me

Then again, when I wa
military school, I remember in ou

being asked questions, and I remember just how the answers to understanding grammar and language just came very easy to me, and I do remember feeling like I had some facility for the structure of language.

Another influential experience I had when I was about 11 years old, totally unrelated to language, is that we took, in the late 1970s or early '80s, a Computer Science class in our elementary school, and I remember that class also specifically having some influence on me, in terms of structuring logic. We basically had to write our own computer programs and this was back when computers were very new. Obviously today everybody has computers; back in the late '70s, computers were a novelty. I consider myself lucky to have taken this Computer Science class; it was obviously extremely basic, but we did have to write some code and what I remember from that is just the sequential manner in which communication has to take place in order to be successful. In this case, we were writing programs for computers and doing basic

> "Writing comes from the entirety of one's experience."
> Dr Alex Vasquez

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- See original video here: https://vimeo.com/318326979

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JOURNAL OF ORTHOMOLECULAR MEDICINE

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PUBLISHED: MARCH 2019

Editorial

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 s
es, radical departures from any attempt to pre
descriptions that could be considered "reason
previous standard.[1] Especially related to the
trition, mainstream medical journals and the
which parrots their conclusions have begun
overt misrepresentations of Nutrition with re
gard for science, logic, biomedical history and

One has to be aware of a few key ironies
terize mainstream medical discussions of nutri
that 1) medical physicians receive essentially
in clinical nutrition in their graduate school e
in their post-graduate residency training[2], 2)
sicians and organizations publish "research"
commentaries (both of which commonly conc
tritional 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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when pondering the probable future of intellectual integrity and the products of education.

 ISSN 0317-0209

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

Alex Vasquez, DC, ND, DO, FACN, is director of programs at the International College of Human Nutrition and Functional Medicine in Barcelona, Spain and online at ICHNFM.org. (*Altern Ther Health Med.* 2014;20(suppl 1):26-30.)

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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 clini… inflammati… disease such… disorders su… stated durin… Nutrition a… September … mitochond… mitochondrial dysfunction to clinical diseases must be considered on a routine basis in clinical practice. *Mitochondrial medicine* is no longer an orphan topic, nor is it a superfluous consideration relegated to boutique practices. Mitochondrial medicine is ready for prime time—now—both in the general practice of primary care as well as in specialty and subspecialty medicine. What I describe here as the "new" mitochondrial medicine is the application of assessments and treatments to routine clinical practice primarily for the treatment of secondary/acquired forms of mitochondrial impairment that contribute to common conditions such as fatigue, depression, fibromyalgia, diabetes mellitus, hypertension, neuropsychiatric and neurodegenerative conditions, and other inflammatory and dysmetabolic conditions such as allergy and autoimmunity.

BEYOND BIOCHEMISTRY

Structure and function are of course intimately related and must be appreciated before clinical implications can be understood and interventions thereafter applied with practical precision. The 4 main structures and spaces of the mitochondria are (1) intramitochondrial matrix—the innermost/interior aspect of the mitochondria containing 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 …ce—contains …kinase and …omparatively …n) and—like …h active and …that need to …to appreciate … the highest importance; just as we have come to appreciate the

JOURNAL OF ORTHOMOLECULAR MEDICINE

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PUBLISHED: DECEMBER 2018

Editorial

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 more diligently as I entered graduate school in the early 199 trition" book that I reac *Your Nerves* (1975) by this was followed imm tures of Jonathan V Wr of whom would later b University. By the mid- Jeffrey Bland PhD had tional medicine, which and personal[3] 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[4] and published in[5] 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 competent healthcare ate nutrition) are basic mit a counterargument of my assertions, they more to the point, my rdless of personal po- share some common the following:

- We each want to receive and deliver the best healthcare possible: If we have a problem, then we each want the best possible solution. Efficiency of time or money is not the top priority when we are seeking solutions

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Mini-Review • Continuing Education • Microbiome • Dysbiosis • Infectious Disease

Translating Microbiome (Microbiota) and Dysbiosis Research into Clinical Practice: The 20-Year Development of a Structured Approach that Gives Actionable Form to Intellectual Concepts

Alex Vasquez DC ND DO FACN

Experience and Perspectives

Many years ago when I published my first books[1,2] and articles[3] detailing "dysbiosis", the word could hardly be found in the Medline index, the topic was controversial at best and ethereal at worst, the term "microbiome" (first published in French in 1949 and in English in 1988) was virtually unknown, and I spent most of the time and space in my lectures and articles substantiating and defending the condition's existence. These days, everyone is talking about microbiome, dysbiosis, "leaky gut" (thanks largely to Leo Galland MD), and my 1996 article on "Silent Infections and Gastrointestinal Dysbiosis" has been downloaded at least 4,000 times and is one of the top 1% most popular articles on Academia.edu.[4] In the preparation of my dysbiosis lecture at a major functional medicine conference in 2010, I found that only 180 Medline articles indexed the term "dysbiosis", and now—slightly less than five years later—more than 1,200 articles index that term. Obviously, the dysbiosis concept has

"Dysbiosis" is an important concept, but doctors cannot treat concepts.

We have to define, describe, and deconstruct the microbes, molecules, and mechanisms into their components, then rebuild a conceptual scaffold and intellectual structure that becomes a useful tool that, with study and experience, can be used in a clinical setting to effective benefit.

practical application is a bit indelicate and cumbersome beyond the most commonly repeated advice of advocating probiotics, avoiding antibiotics, perhaps delving into using botanical antimicrobials and laboratory testing. Breath testing (an insensitive test for only one subtype of gastrointestinal dysbiosis) and microbiologic testing have become popular to the point of overuse as doctors grapple for clinical clues. (Noteworthy in the conversation on functional laboratory testing is that one functional medicine laboratory in particular used inaccurate proprietary microbe-identification methods to extract

ney only to
uffering and
to do with it
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CME
CONTINUING MEDICAL EDUCATION

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

Alex Vasquez, DC, ND, Gilbert Manso, MD, John Cannell, MD

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.

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OBJECTIVES

Upon completion of this article, participants should be able to do the following:

1. Appreciate and identify the manifold clinical presentations and consequences of vitamin D deficiency
2. Identify patient groups that are predisposed to vitamin D hypersensitivity
3. Know how to imple
proper doses and wi

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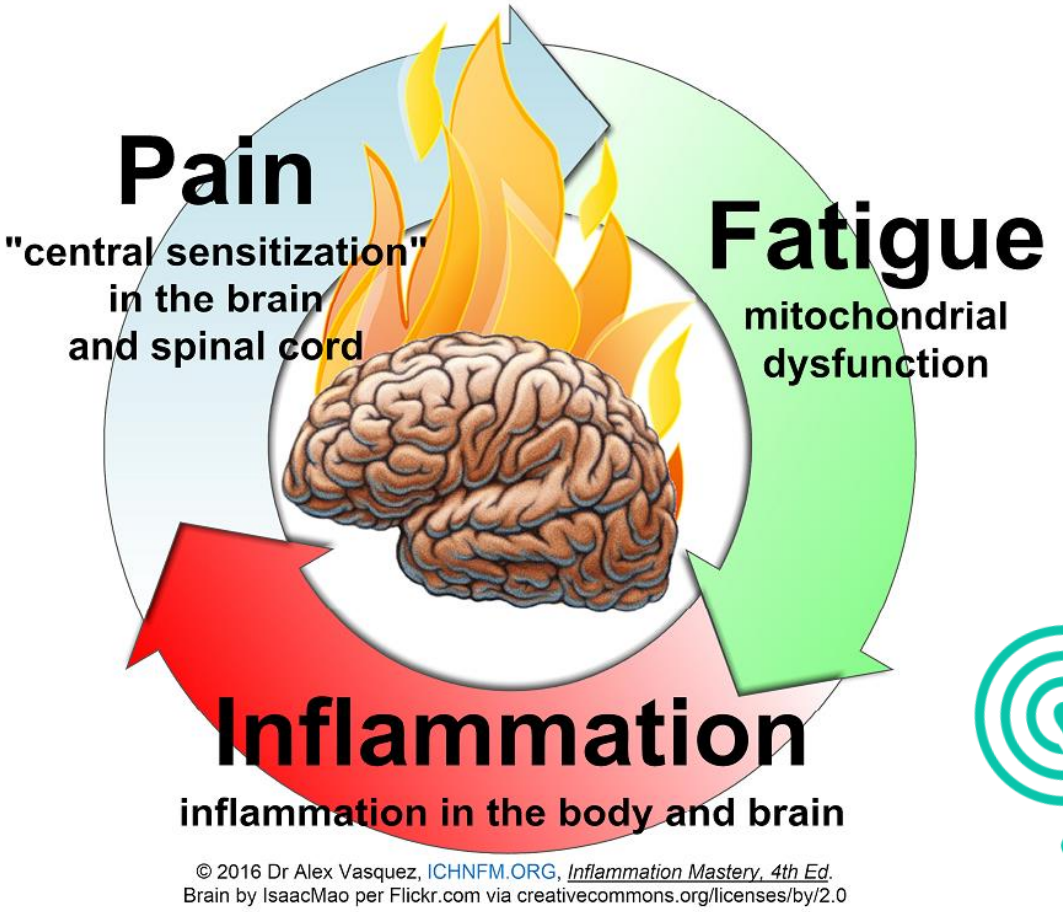
While we are all familiar with the important role of vitamin D in calcium absorption and bone metabolism, many doctors and patients are not aware of the recent research on vitamin D and the widening range of therapeutic applications available for cholecalciferol, which can be classified as both a vitamin 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.[1,2] 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

Brain Inflammation
in Chronic Pain, Migraine and Fibromyalgia
The Paradigm-Shifting Guide for Doctors and Patients Dealing with Chronic Pain



Alex Vasquez, D.C., N.D., D.O., F.A.C.N.
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- **INFO**: https://www.inflammationmastery.com/fibromyalgia
- **INFO**: https://www.inflammationmastery.com/migraine
- From ***Inflammation Mastery, chapter 5***, the two sections specific to migraine and fibromyalgia were also published separately as ***Pain Revolution*** (full-color printing; https://www.amazon.com/dp/B01AR3NX0S) and ***Brain Inflammation in Chronic Pain, Migraine and Fibromyalgia: The Paradigm-Shifting Guide for Doctors and Patients Dealing with Chronic Pain*** (black-and-white printing; https://www.amazon.com/dp/B01EQ9KMH6/); both versions are also available in digital ebook format for phone, computer, iPad via the free Kindle software

The New York Academy of Sciences 200 Years

ANNALS OF THE NEW YORK ACADEMY OF SCIENCES
Issue: Annals *Reports*
COMMENTARY

Biological plausibility of the gut–brain axis in autism

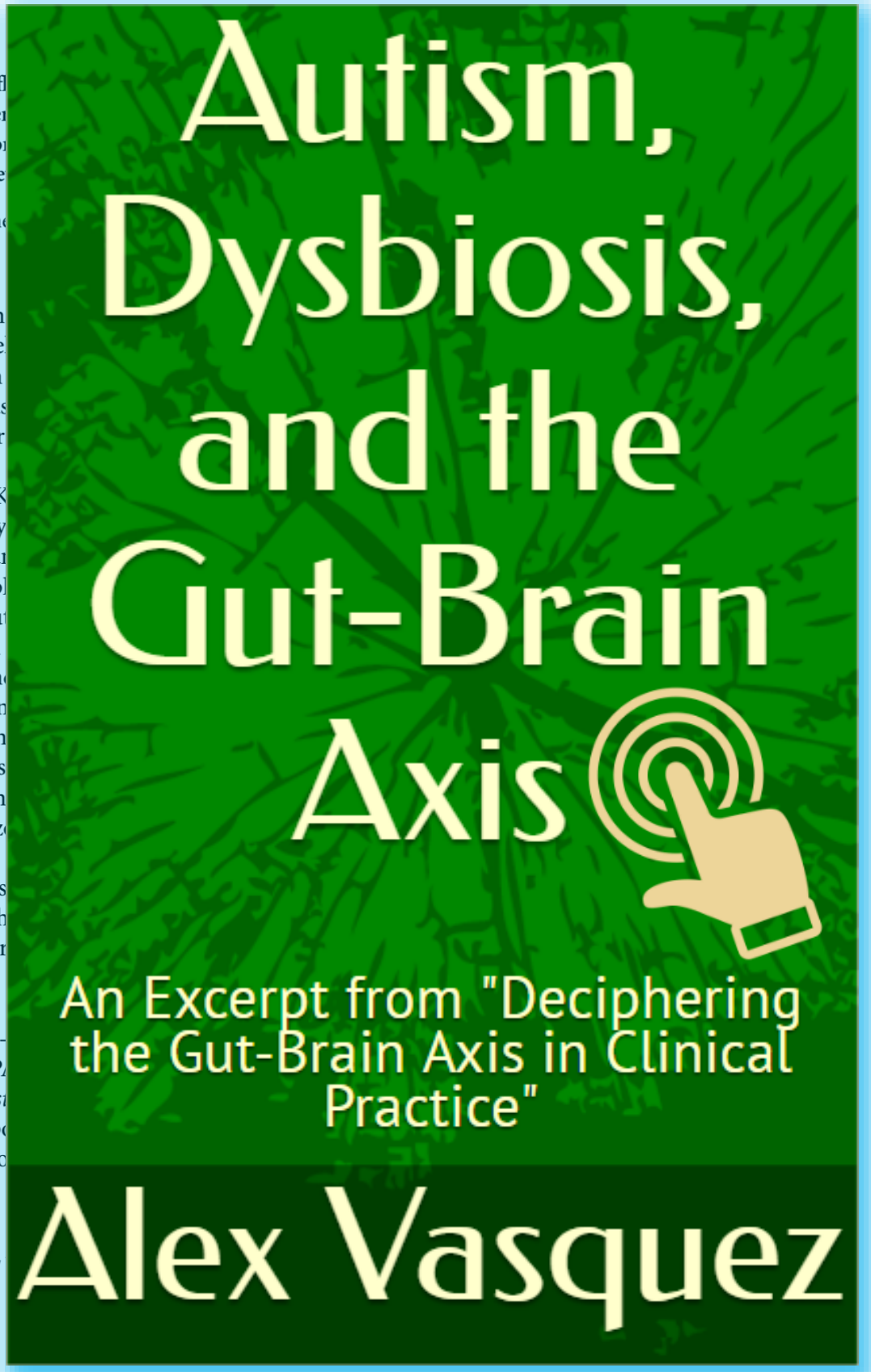
Alex Vasquez

**Organic abnormalities with neuroinfl
purine metabolism, neurotransmitte
noted in autism, and many of these ab
metabolites, and heightened serum le**

Keywords: gut–brain axis; autism; m

In their recent review, Sherwin
among many other issues, the re
gut microbiome–brain axis with
section subtitled "Microbiota-bas
the treatment of autism: hype or
et al.[1] largely discuss preclinical
the 2017 open-label study by K
used a sequence of oral vancomy
polyethylene glycol laxative, a
human fecal microbiota transpl
clinical benefit in subjects with au

Readers will likely benefit from
tional relevant clinical studies, in
lication by Sandler *et al.*[3] showin
of autistic manifestations followin
oral vancomycin, as well as cas
ing positive impact of various an
apies (metronidazole, ketoconaz
cillin) in patients with autism.[4,5]
have been shown to have gut dys
as well as *Clostridia* species,[6] th
group of bacteria noted for their pr
rotoxic substances. International
consistently demonstrated that
have heighted production of 3-(3-
3-hydroxypropionic acid (HPHP
phenylalanine metabolite of *Clos*
trointestinal tract.[7,8] HPHPA rep
with the conversion of dopamine to



doi: 10.1111/nyas.13516
Ann. N.Y. Acad. Sci. 0 (2017) 1–2 © 2017 New

As of 2019 and for the foreseeable future, the most current versions of all major patient management and clinical treatment protocols is 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, 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://books.**apple**.com/us/author/alex-vasquez/id1139497284
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