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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]

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