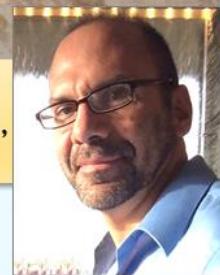


LA IMPORTANCIA E IGNORANCIA DE LA ALIMENTACIÓN – CONCEPTOS FUNDAMENTALES

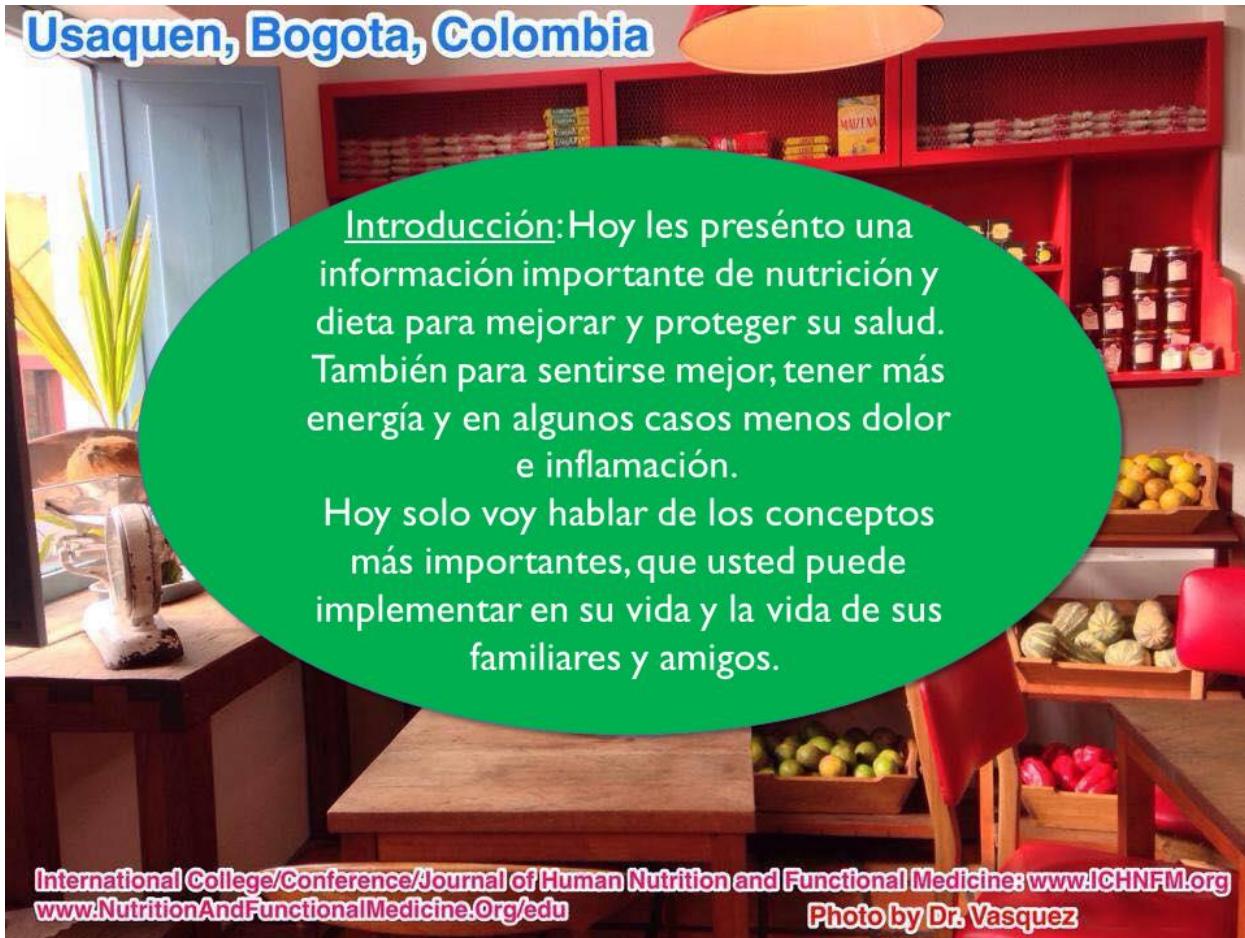


DR ALEX VASQUEZ: Médico, Profesor,
Experto Internacional en Nutrición y Medicina Integrativa y Funcional,
Autor de más que 50 libros y 100 artículos científicos



- ▶ Libros más importantes: *Inflammation Mastery 4th Edition* tambien como *Textbook of Clinical Nutrition and Functional Medicine* (2016), *Brain Inflammation* (2016), *Human Microbiome and Dysbiosis in Clinical Disease* (2015), *Integrative Orthopedics* (2012)
- ▶ Publicaciones profesionales: *TheLancet.com*, *British Medical Journal (BMJ)*, *Annals of Pharmacotherapy*, *Nutritional Perspectives*, *Journal of Manipulative and Physiological Therapeutics (JMPT)*, *Journal of the American Medical Association (JAMA)*, *Original Internist*, *Integrative Medicine*, *Holistic Primary Care*, *Alternative Therapies in Health and Medicine*, *Journal of the American Osteopathic Association (AOA)*, *Dynamic Chiropractic*, *Journal of Clinical Endocrinology and Metabolism*, *Current Asthma and Allergy Reports*, *Complementary Therapies in Clinical Practice*, *Nature Reviews Rheumatology*, *Annals of the New York Academy of Sciences*, and *Arthritis & Rheumatism*, the Official Journal of the American College of Rheumatology.

Usaquen, Bogota, Colombia



Introducción: Hoy les presento una información importante de nutrición y dieta para mejorar y proteger su salud. También para sentirse mejor, tener más energía y en algunos casos menos dolor e inflamación.

Hoy solo voy hablar de los conceptos más importantes, que usted puede implementar en su vida y la vida de sus familiares y amigos.

International College/Conference/Journal of Human Nutrition and Functional Medicine: www.ICHNFM.org
www.NutritionAndFunctionalMedicine.Org/edu

Photo by Dr. Vasquez

Qué queremos tener?

1. Queremos vivir con energía y entusiasmo—libres de dolor y enfermedades—y para eso necesitamos buena salud
2. Para tener buena salud, necesitamos buena nutrición
3. Para tener buena nutrición, necesitamos 1) tener poder adquisitivo, 2) **información** y 3) disciplina

Qué debemos saber?

- ▶ **Cada grupo alimenticio tiene su propia función.**
Cuando entendemos la función de la comida, entendemos la razón para comer más de unos alimentos y menos de otros.
- ▶ **Dieta y Alimentación**
 - ▶ Proteína
 - ▶ Carbohidratos
 - ▶ Grasas
 - ▶ Vegetales, Fibras, fitoquímicos
- ▶ **Suplementos**
 - ▶ Grasas esenciales
 - ▶ Vitaminas
 - ▶ Minerales
 - ▶ Probióticos
 - ▶ Semillas, Nueces, Fibras
- ▶ **Actividad, ejercicio, y recuperación**

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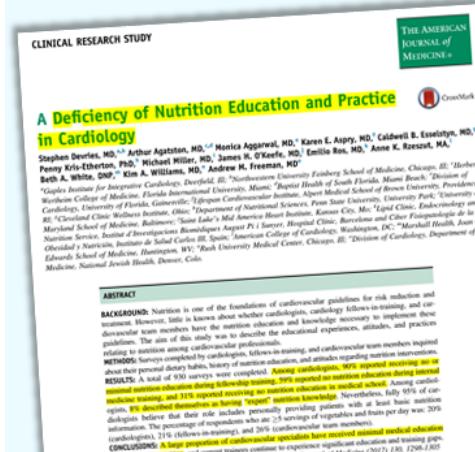
1. Voy a hablar de estos temas para mostrarles los conceptos más importantes—la estructura básica.
2. No puedo explicar todo en este video; pero con esta presentación, usted puede usar esta información para aprender e investigar más.
3. Pueden revisar este video varias veces para memorizar esta información.
4. En este video, les explicaré más sobre nutrición de lo que los médicos aprenden en 4 años de estudio!

Porqué los médicos no reciben educación en nutrición?

- Los médicos no reciben formación en nutrición para mantenerlos a ellos y a los pacientes totalmente dependientes de medicamentos, vacunas y cirugías.

Realidades:

- Los estudiantes de medicina no reciben educación en nutrición básica y menos nutrición terapéutica/integrativa/funcional.
- Las poblaciones internacionales están muriendo de 1) falta de nutrición, y 2) exceso de calorías y comida chatarra/basura.
- Cuando ignoramos los beneficios de la nutrición, los médicos solo formulan drogas, y los pacientes solo reciben drogas y paliativos para sus problemas.



The New York Times

Our Food Is Killing Too Many of Us

Improving American nutrition would make the biggest impact on our health care.

By Dariush Mozaffarian and Dan Glickman
Mr. Mozaffarian is dean of the Tufts Friedman School of Nutrition Science and Policy. Mr. Glickman was the secretary of agriculture from 1995 to 2001.

Aug. 26, 2019

health care has to date centered around who should be covered and why for decades, has no clear answers and cannot be easily resolved in the U.S. and Americans are sick.

ly trained personnel, remarkable facilities and access to the newest technologies, our health care will remain costly. We can trim around the edges, administrative costs, reductions in payments to hospitals and providers. These actions may slow the rise in health care spending, but costs will likely advance.

Opinion | Concepts and Therapeutics in (Hindsight): Nutritional Care and Integrative Pain Management

Persistent inadequacies in nutrition education/training among physicians

Introduction Despite the acknowledged importance of diet in the prevention of obesity, diabetes, hypertension and other components of cardiovascular syndromes, physicians are consistently and systematically undertrained in nutrition.

What do medical physicians know about nutrition? (In Cell Nov 2008 Agree) **OBJECTIVE:** Despite the increased emphasis on obesity and diet-related diseases, nutrition education remains lacking in many internal medicine and cardiology training programs. We sought to determine the knowledge and related knowledge related to clinical nutrition among a cohort of internal medicine residents and cardiologists.

METHODS: Nutrition knowledge was assessed using a self-administered questionnaire. Knowledge was measured using a composite score. Knowledge was assigned with a multiplicity quota.

RESULTS: Of the 115 participants, 41 (36%) completed the survey. Although 77% agreed that nutrition assessment should be included in routine patient visits, only 17% of respondents felt qualified to provide nutritional counseling. Of those who responded, 41% of physicians were adequately trained to provide nutrition counseling.

CONCLUSIONS: Internal medicine residents perceive nutritional counseling as a priority, but lack the knowledge and training to effectively provide therapeutic nutritional counseling. New educational interventions should target internal medicine doctors—specialists who commonly deal with diabetes, hypertension, obesity, and metabolic syndrome.

Reference: Clinical nutrition education and role model in the practice of medicine *Lancet* 2008; 371: 1999-2000.

Editor's Note: Yet, despite the prevalence of nutritional disorders in clinical medicine and increasing scientific evidence for the benefit of dietary changes, the knowledge and training of most physicians and medical students are typically untrained in the relationship of diet to health and disease. *J Am Coll Nutr* 2009; 28(2):12-13.

Background: The mean total test score was 50%. CONCLUSIONS: Given that their knowledge of nutrition is suboptimal, objective evaluation of nutrition knowledge in this cohort confirmed this belief. A new educational intervention is needed to address this gap in knowledge and training.

Curriculum of Educational Systems

Conclusion: The data consistently demonstrate that healthcare providers at the docent level are untrained in nutrition when assessed by either patient or provider self-report. Given the high prevalence of obesity and clinical intervention in the treatment of certain disease would reasonably be expected to be appropriately used. Thus, given the high prevalence of obesity and the high prevalence of diabetes, it is encouraging to find that all patients have macronutrient systems and that related disorders improve with dietary changes. This is particularly important given the fact that all patients eat food and that such dietary habits (and the use of nutritional interventions) impact nearly all known diseases in the human body. Given the right knowledge and training, healthcare providers can systematically improve upon each topic of major importance. Common faults in medical education are not accidental.

Adverse effects of nonsteroidal anti-inflammatory drugs (NSAIDs): COX inhibitors (continued)

Introduction: Nonsteroidal anti-inflammatory drugs (NSAIDs) have many common and well-known effects, including inhibition of prostaglandin synthesis. Paradoxically, these drugs can exacerbate the symptoms and disease course they are supposed to treat: joint pain and destruction. In a tragic example of Orwellian nomenclature, the term "cox-2 inhibitors" has been coined to describe NSAIDs that selectively inhibit the COX-2 enzyme.

Methods: The data presented here reflect results of studies of celecoxib, ibuprofen and diclofenac.

Results: Celecoxib, ibuprofen and diclofenac all have many common and well-known effects, including inhibition of prostaglandin synthesis. Paradoxically, these drugs can exacerbate the symptoms and disease course they are supposed to treat: joint pain and destruction. In a tragic example of Orwellian nomenclature, the term "cox-2 inhibitors" has been coined to describe NSAIDs that selectively inhibit the COX-2 enzyme.

Conclusion: Such a curriculum produces physical, emotional, and social benefits for patients. Given the number of students and the number of courses we will be sufficient to teach nearly every single aspect of nutritional physiology and pathology. Given the current interest in health coaching and the desire to teach exactly what they are intended to teach, this is a timely and important addition to the curriculum.

DOI: 10.1089/cellbio.2008.0242 © 2008 The American Society for Cell Biology

DIETAS Y NUTRICIÓN:
INFORMACIÓN Y CONCEPTOS MÁS IMPORTANTES PARA TODOS

Dieta y Alimentación

Proteína
Carbohidratos
Grasas
Vegetales, Fibras, fitoquímicos

Suplementos
Greasas esenciales
Vitaminas
Minerales
Probióticos
Semillas, Nueces, Fibras

Actividad, ejercicio, y recuperación

Dr Alex Vasquez
InflammationMastery.com
ICHNFM.ORG

Qué necesitamos entender?

- Tengo un libro de 1,200 páginas y 1.5 millones de palabras sobre el tema de nutrición integrativa y medicina funcional. Mientras que afuera hay un montón de información, todo lo que necesitamos entender son unos conceptos fundamentales
 - Cada grupo alimenticio tiene su propia función. Cuando entendemos la función de la comida, entendemos la razón para comer más de unos alimentos y menos de otros.**
- 1. Proteína → aminoácidos para construir otras proteínas** tales como: enzimas, piel, pelo, músculos, huesos, y para mantener el funcionamiento del sistema inmune
- 2. Carbohidratos/azúcares → combustible biológico**, no es igual a “energía” como piensa mucha gente. **El exceso de carbohidratos se transforma en grasa, lípidos, y colesterol**
- 3. Grasas esenciales → mantenimiento de las células**, especialmente tipo omega 3
- 4. Fibra → ayuda a mantener la salud de los intestinos**
 - I. Fitoquímicos → reducen la inflamación**



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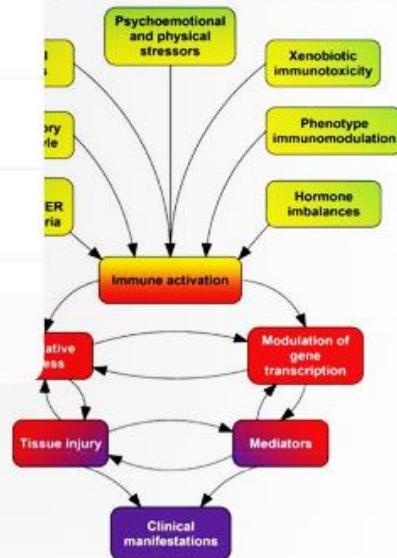
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Definitive Guide Toward Health and Vitality
Re Boredom, Risks, Costs, and Inefficacy of
a, Immunosuppression, and Polypharmacy
System of Text, Illustrations, and Video



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Tratar de comer proteína (tamaño de la palma de su mano) 2-4 veces cada día, especialmente cuando come carbohidratos

Dr Alex Vasquez
InflammationMastery.com
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Alimentación—La proteína está hecha de aminoácidos

- ▶ **Función & Razón:** Los aminoácidos de la proteína en los alimentos son reutilizados y recombinados internamente para crear nuevas proteínas que el cuerpo necesita—podemos pensar en esos 4 grupos:
 1. **Estructural:** piel, pelo, tendones, músculos, huesos
 2. **Hormonas:** **glucagón** (utilizado para bajar de peso, y mantener sensibilidad de insulina), **hormona de crecimiento** (mantener la masa muscular)—estas son importantes por prevenir la obesidad y diabetes
 3. **Neurotransmisores:** funcionamiento del cerebro
 4. **Sistema inmune:** defensa contra infecciones: bacterias, virus, gripe
- ▶ **Fuente (animales):** carnes, pescado, huevos, pollo/pavo, leche/queso
 - Veganos y vegetarianos tienen que estudiar sus dietas para estar seguros que reciben el nivel y calidad de proteína que necesitan

Cantidad: ~1 gramo de proteína por cada kilo de peso corporal cada

Recommended Grams of Protein per Patient Profile and Body Weight Per Day

Patient Profile	Per pound of weight ¹⁰¹	Per kilogram of weight
Infants and children ages 1-6 years ¹⁰¹	0.45-0.68	0.99-1.4
RDA for sedentary adult and children ages 6-18 years ¹⁰²	0.4	0.88
Adult recreational exerciser—average for adults	0.5-0.75	1.1-1.65
Adult competitive athlete	0.6-0.9	1.32-1.98
Adult building muscle mass	0.7-0.9	1.54-1.98
Dieting athlete	0.7-1.0	1.54-2.2
Growing teenage athlete	0.9-1.0	1.98-2.2
Pregnant women need additional protein	Add 15-30 grams/d ¹⁰³	Same

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- ▶ **Cantidad:** ~1 gramo de proteína por cada kilo de peso corporal cada día

Tratar de comer proteína (tamaño de la palma de su mano) 2-4 veces cada día, especialmente cuando come carbohidratos

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Dieta y Alimentación—Carbohidratos, azúcares

- ▶ **Función & Razón:** Los disfrutamos pero **no son tan necesarios**; tienen buen sabor y son baratos pero la **mayoría de la gente debe comer menos azúcar** y comer más proteínas y vegetales.
- ▶ **Cuando comemos más azúcar vamos a ganar más grasa**
- ▶ **Por consiguiente, si tienes grasa en tu barriga/cintura debes evitar los azúcares**
- ▶ Para bajar de peso y colesterol = **comer menos azúcares** y más proteína y vegetales
- ▶ **Fuente:** arroz, papa/patata, maíz, pan, frutas (esp. los jugos/zumos)
- ▶ **Cantidad:** **la menor posible para mantener su peso ideal—también para bajar glucosa/insulina/colesterol en los diabéticos**



Dieta y
Alimentación

Proteína

Carbohidratos

Grasas

Vegetales, Fibras,
fitoquímicos

Suplementos

Grasas esenciales

Vitaminas

Minerales

Probióticos

Semillas, Nueces,

Fibras

Actividad, ejercicio,
y recuperación

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Dieta y Alimentación—**Grasas y aceites**

- ▶ **Función & Razón:** Todos necesitamos un poco para mantener las células
- ▶ **Fuente:** Carnes, pescados, aceite de oliva/vegetal/pescado, semillas, nueces
- ▶ **Cantidad:** La mayoría de la gente debe ingerir una cantidad moderada, para mantener la piel suave/lubricada (no seca) y peso corporal ideal
- ▶ **Calidad:** Hay 4 familias de las grasas
 1. **Saturadas:** son blancas y se endurecen con el frío = grasa de cerdo y grasa de res/vaca; el efecto fisiológico es neutral
 2. **Monosaturadas:** aceite de oliva
 - ▶ Mas es mejor ~ hasta 100 ml cada día
 3. **Omega 3:** aceite de pescado, aceite de lino (semillas)
 - ▶ Es el más antinflamatorio, de 4-10 gramos
 4. **Omega 6:** aceite vegetal y/o girasol
 - ▶ El más inflamatorio



Dieta y
Alimentación

Proteína

Carbohidratos

Grasas

**Vegetales,
Fibras,
fitoquímicos**

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Dieta y Alimentación—**Vegetales, Fibras, fitoquímicos**

- ▶ **Función & Razón:** antioxidante, anticancerígeno, antinflamatorio, anti-dolor, fertilizante/comida para las buenas bacterias de los intestinos
- ▶ **Fuente:** frutas, vegetales, nueces, semillas
- ▶ **Cantidad:** más es mejor pero evitando demasiado azúcar en los jugos/zumos de frutas



- preserved clinical applications
- 1) Food & Basic Nutrition
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 - 3) Nutritional Immunomodulation
 - 4) Dysmetabolism, Mitochondrial Dysfunction, ERS/UPR, mTOR
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- 1) Hypertension
- 2) Diabetes Mellitus
- 3) Migraine & Headaches
- 4) Fibromyalgia
- 5) Allergic Inflammation
- 6) Rheumatoid Arthritis
- 7) Psoriasis and Psoriatic Arthritis
- 8) Systemic Lupus Erythematosus
- 9) Scleroderma & Systemic Sclerosis
- 10) Vasculitic Diseases
- 11) Spondyloarthropathies & Reactive Arthritis
- 12) Sjögren Syndrome/Disease
- 13) Raynaud's Syndrome/Phenomenon/Disorder



Dieta y Alimentación—en resumen

- ▶ **Proteína = aminoácidos**
 - ▶ Función: músculos, pelo, hormonas, neurotransmisores, sistema inmune
 - ▶ Fuente: carnes, pescado, pollo/pavo, leche y queso
 - ▶ Cantidad: ~1 gramo por cada kilo de peso; prácticamente es igual a 2-4 porciones cada día, del tamaño de la palma de su mano
- ▶ **Carbohidratos**
 - ▶ Función & Razón: son baratos y deliciosos pero no son tan necesarios
 - ▶ Fuente: arroz, pasta, pan, jugos/zumos, maíz
 - ▶ Cantidad: solo en cantidades limitadas; **evitarlos si quiere bajar de peso y bajar los niveles de glucosa/insulina/colesterol en los diabéticos**
- ▶ **Grasas**
 - ▶ Función & Razón: necesitamos un poco para mantener la piel y células
 - ▶ Fuente: carnes, pescado, aceite de oliva/semillas/pescado
 - ▶ Cantidad: cada día, omega 3, de 4-8 gramos, **aceite de oliva y omega 3 son antinflamatorios; evitar aceites de girasol y comida frita**
- ▶ **Vegetales, Fibras, Fitoquímicos**
 - ▶ Función & Razón: antioxidantes, anticancerígenos, antinflamatorios, anti-dolor, fertilizante para las bacterias buenas (microflora) en los intestinos
 - ▶ Fuente: frutas, vegetales, nueces, semillas, café y té
 - ▶ Cantidad: **más es mejor** pero **evitar demasiado azúcar en los jugos/zumos de frutas**

Qué necesitamos entender?

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 - 3. **Grasas esenciales → mantenimiento de las células**, especialmente tipo omega 3
 - 4. **Fibra → ayuda a mantener la salud de los intestinos**
 - 1. **Fitoquímicos → bajan el nivel de la inflamación**

Dieta y Alimentación—en resumen

- ▶ **Proteína = aminoácidos**
 - ▶ Cantidad: ~1 gramo para cada kilogramo de peso; prácticamente es igual que 2-4 porciones cada día del tamaño del su mano
- ▶ **Carbohidratos:** lo menos posible, y nunca solo*
- ▶ ***Proteína:** cantidades moderadas
- ▶ ***Fibras/fitoquímicos:** lo más posible
 - ▶ Razón: casi no hay razón más que sobrevivir; son barratos
 - ▶ Fuente: arroz, pasta, pan, jugos/zumos, maíz
 - ▶ Cantidad: solo en cantidades limitadas; evitar si quiere bajar peso y glucosa e insulina para los diabéticos
- ▶ **Vegetales, Fibras, fitoquímicos**
 - ▶ Cantidad: más es mejor pero evitar demasiado azúcares en los jugos/zumos de las frutas



Dieta y Alimentación—en resumen

1. Para tener buena salud, necesitamos buena nutrición
2. Para tener buena nutrición, necesitamos:
 1. Tener poder adquisitivo:
 1. Dinero, mejor uso, mejor elecciones
 2. Tiempo, cambiar de la rutina
 3. Infraestructura social
 2. Información:
 1. Información—ya tiene ☺
 2. Sigue aprendiendo por todo la vida
 3. Disciplina:
 1. Información sin acción es inútil
 2. Priorización de sus necesidades y derechos para su vida y su salud

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 2. VIDEO One Hour of Video Tutorial on Antiviral Strategies and Immune Nutrition: <http://ichnfm.org/antiviral2>
 3. ESSAY The Vaccination Indoctrination: A Few Personal Reflections from a Physician: <http://ichnfm.org/antiviral3>
 4. VIDEO Barcelona presentation 2016: Examining Immunity: <http://ichnfm.org/antiviral4>
 5. PDF Unified Antiviral Strategy published by ICHNFM: <https://www.ichnfm.org/antiviral5>
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2019 BMJ.com Response to Article "Prevalence of cervical disease at age 20 after _____ with bivalent HPV _____ at age 12-13 in Scotland": public health campaigns to improve vitamin D nutriture occurred within same timeframe as HPV _____ [rapid response].

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- English: <https://vimeo.com/ondemand/fibromyalgia2019>
- VIDEO: <https://vimeo.com/342454661>
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Estrategia antiviral unificada para médicos y el público

Alex Vasquez DC ND DO FACN en Bogotá, Colombia

Agradezco a Michael Gonzalez PhD DSc, Kenneth Cintron MD, Annette D'Armata ND por ayudar a traducir

Historia y perspectivas

Como médicos lo que aprendemos en la escuela de medicina acerca de las infecciones virales se resume en los siguientes títulos de cursos: 1) Microbiología, 2) Patología, y 3) Farmacología. Siguiendo estas instrucciones, los tratamientos que usamos son 1) saneamiento, 2) vacunas y 3) medicamentos antivirales, respectivamente. Basado en la formación médica y mi experiencia con otros médicos, les sugiero aquí que más la mayoría de los médicos capacitados son — al menos por su entrenamiento formal — incapaces de ver más allá de las opciones limitadas a las que fueron expuestos. Lo que me gustaría hacer en el presente artículo es ampliar los horizontes conceptuales y terapéuticos mediante una estrategia estructurada antiviral que incluye el saneamiento, vacunación y medicamentos antivirales previamente mencionados, pero que se extiende más allá de estas opciones limitadas. Los datos clínicos (por ejemplo, dosificación y contraindicaciones) de

esta estrategia, apoyo y referencias adicionales están disponibles en formato digital constantemente actualizado [1]; el propósito de este artículo es proveer una estrategia para cambiar el paradigma actual de la estructura.

El hecho de que la mayoría de médicos no se les enseña acerca de la ciencia de la nutrición en la Facultad de medicina es conocido públicamente.[2] Por lo general, la mayoría de los estudiantes de medicina leen solamente un capítulo sobre patologías causadas por deficiencias nutricionales extremas, pero aprenden esencialmente nada acerca de nutrición terapéutica y cómo puede ser aplicada en la prevención y tratamiento de la enfermedad. ¿Ignorando nutrición obliga a médicos por desconocimiento a confiar demasiado en medicamentos y cirugía? ¿Sería la salud pública mejor servida si se distribuye información sobre la prevención de infecciones virales y beneficios nutricionales para que los pacientes y médicos por igual tengan más opciones

Versión más reciente: <http://intjhumntrfunctmed.org/publications/>

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Citacion: Vasquez A. Estrategia antiviral unificada por médicos y el público. *Int J Hum Nutr Funct Med / Revista Internacional de Nutricion Humana y Medicina Funcional*. 2014;v2(q4);p1 (ASIN: B00P5AB5RW)

terapéuticas? ¿Estamos tratando insuficiencias nutricionales con medicamentos?

Lo que me he dado cuenta a través de los diversos programas de doctorado que he asistido es que la capacitación clínica en el tratamiento de infecciones virales sigue siendo en su mayoría fenomenalista y enigmática, en lugar de descifrada y estructurada. Como educador, investigador y escritor, he aprendido a través de la experiencia que para estructurar efectivamente la información de tal manera que la accesibilidad y la retención de la información se ve reforzada por los estudiantes/lectores (por ejemplo el acrónimo MYBESTPLAIDFIG para la inmunomodulación nutricional [3] y FINDSEX ® por tratamientos integrativos contra inflamación [4]). Mi propósito principal al escribir este ensayo

es demostrar una estrategia única y estructurada antiviral y proporcionar ejemplos representativos de su aplicación práctica.

En lugar de ver las infecciones virales de una manera que es fenomenalista y enigmática y por lo tanto, difícil de manejar, llevando a estrategias de prevención y tratamiento inefectivos, nosotros debemos disminuir la complejidad del proceso infeccioso. Hacerlo – al menos en la forma que he descrito – en la cual nos da cuatro áreas en las cuales podemos enfocar nuestros esfuerzos: 1) contra el virus directamente, 2) bloqueando la replicación viral, 3) apoyando la función inmune y 4) apoyando la salud celular y de todo el cuerpo. Estos son ilustrados en el diagrama adjunto y brevemente descritos y exemplificados en los cuatro apartados respectivos que siguen.

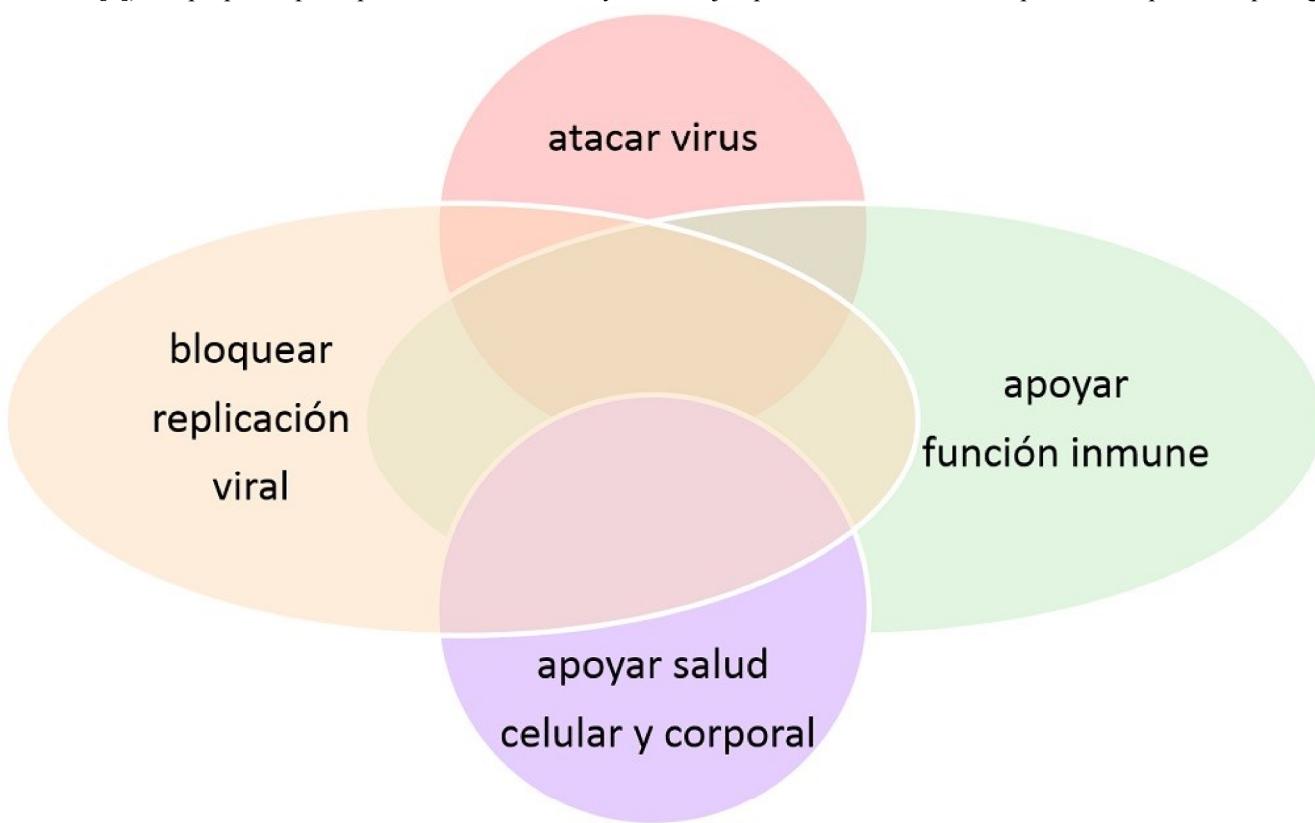
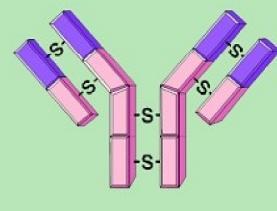
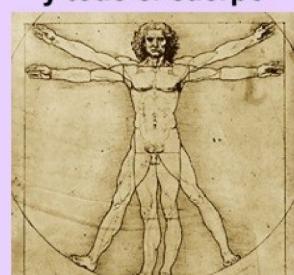


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Directamente contra el virus	Contra-replicación	Nutrición para el sistema inmunológico	Mejorar salud celular y todo el cuerpo
 <p>El uso de nutrición, medicinas botánicas, y drogas para atacar el virus directamente; bloquear mutaciones</p>	 <p>Bloquear el uso de sistemas genéticos por reproducir el virus</p>	 <p>Apoyar y estimular el sistema inmunológico con nutrición</p>	 <p>Apoyar los procesos de recuperación y reparación de las células y del cuerpo</p>

Estrategia antiviral multicomponente

1. Ataque directo al virus: Atacar directamente el virus ha sido el foco de los esfuerzos de salud pública y la práctica médica a través de saneamiento, vacunación y – más recientemente – el uso de medicamentos antivirales específicos. Varios nutrientes y productos botánicos también son muy efectivos para atacar directamente las infecciones virales, y daré dos ejemplos aquí. El mineral selenio tiene un amplio margen de seguridad y proporciona beneficios antivirales a través de varios mecanismos, dos de los cuales bloquean la replicación viral y también bloquean la mutación viral; beneficios antiinfecciosos clínicos son probados en seres humanos con VIH/SIDA.[5] La medicina botánica y té de hierbas Glycyrrhiza glabra ha demostrado eficacia antiviral en estudios experimentales y ensayos clínicos en humanos contra varios patógenos virales diferentes, incluyendo el virus de la hepatitis B (VHB), virus de la hepatitis C (VHC), virus del herpes simple (VHS), un virus de influenza, virus de inmunodeficiencia humana (VIH-1), el síndrome respiratorio agudo severo (SARS)-relacionados con el coronavirus, virus respiratorio sincitial, arbovirus, virus de la vaccinia y virus de la estomatitis vesicular [6]; este botánico tiene una excelente historia de seguridad que abarca varios miles de años, con pocos efectos adversos incluyendo un efecto de pseudoaldosterona (agotamiento de potasio y retención de sodio) y un descenso de testosterona, efecto y mecanismo de acción incluyendo vía la unión del virus, inhibición de la replicación viral, mejora de la inmunidad, la inhibición de la inflamación y el bloqueo de actividad de enzimas específicas. Botánicos y nutrientes antivirales pueden utilizarse solos, en combinación y junto con medicamentos para beneficios aditivos y sinérgicos.

2. Bloqueo de la replicación viral: Inhibición de la replicación viral es el objetivo terapéutico de muchos fármacos antivirales, mientras varios nutrientes también pueden proporcionar un efecto similar. Debido a que los virus son incapaces de replicar por si solos y por lo tanto deben contar con una maquinaria genética y de síntesis de su anfitrión humano para su replicación, nutrientes que modulan la expresión genética pueden tener valor terapéutico, es decir mediante la metilación del ADN y bloqueo del factor de transcripción NFkB. Los pocos nutrientes que promueven la metilación del ADN y que también han demostrado eficacia clínica contra las infecciones virales incluyen el ácido fólico [7] (ahora utilizado clínicamente en las formas de ácido folínico y metilo y 5 metil folato), vitamina D3 [8], betaina y Sadenosil-metionina.[9] inhibición del NFkB como mecanismo efectivo antiviral ha sido probada, con dos ejemplos: NAC (acetil-l-cisteina) contra gripe [10] y el ácido lipoico contra hepatitis viral y el VIH.[11]

3. Apoyo a la función inmune: El funcionamiento y regulación del sistema inmune es fuertemente dependiente del estado nutricional óptimo y sin una nutrición adecuada, el sistema inmunitario está inclinado simultáneamente hacia hipoactividad (inmunodepresión inducida por deficiencia o insuficiencia) y la hiperactividad que se manifiesta con inflamación y autoinmunidad.[12] Las carencias son muy comunes en la población general y contribuyen a epidemias

de enfermedades infecciosas e inflamatorias. Ensayos clínicos en humanos usando nutrientes solos o en combinación para apoyar la función inmune en general han demostrado eficacia contra las enfermedades infecciosas y con una seguridad excepcional, especialmente el uso de glutamina, proteína, vitamina A, vitamina D, zinc y aceite de pescado.[13] Ha sido demostrado en varios casos que los suplementos nutricionales mejoran la respuesta immunológica a las vacunas; por ejemplo, fue observado que cistina y teanina aumentan la seroconversión de vacunación contra la influenza en las personas mayores. [14]

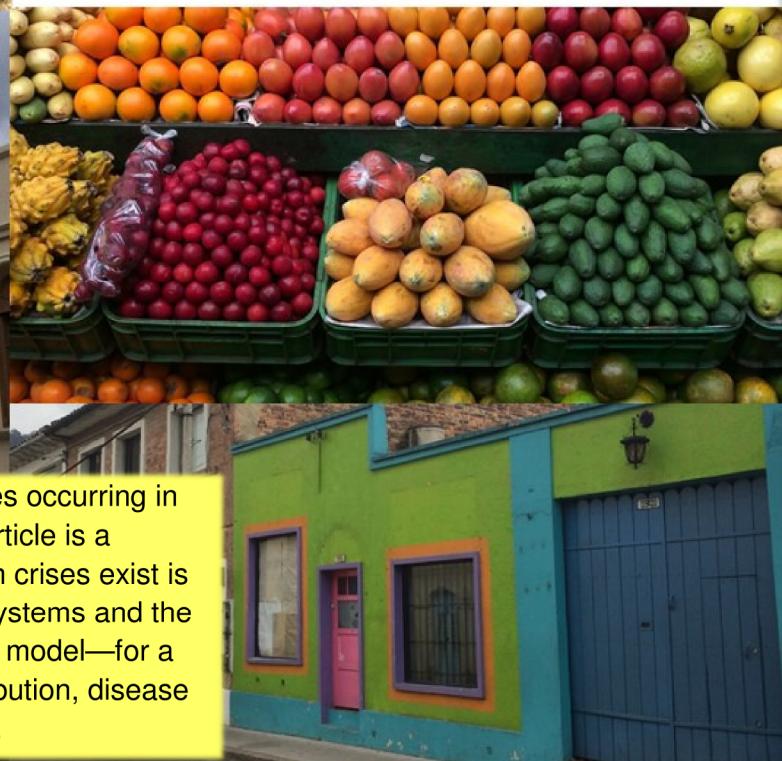
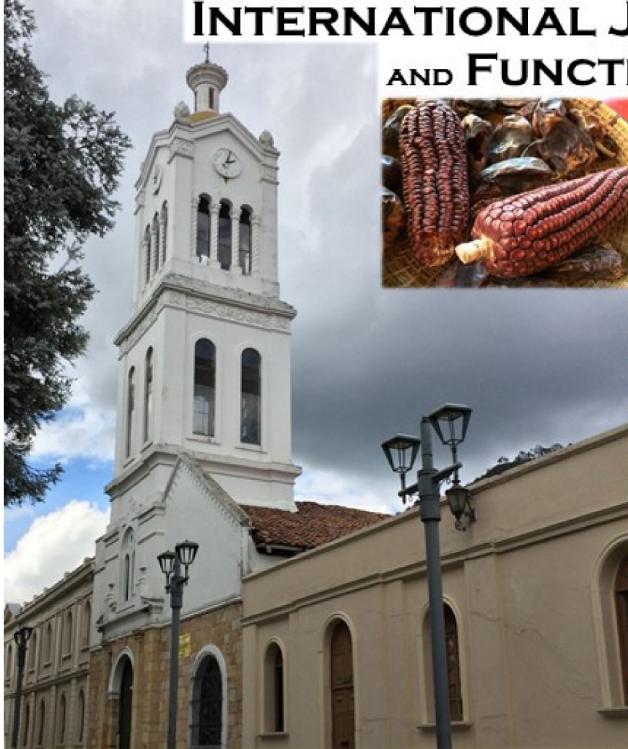
4. Apoyo a la salud celular y corporal: Las infecciones virales tienen numerosos efectos adversos sobre la salud celular y todo el cuerpo. Consecuencias intracelulares de infecciones virales incluyen la disfunción mitocondrial [15] y estrés del retículo endoplasmático [16], que se manifiesta clínicamente como inflamación prolongada, la fatiga y – probablemente – en el caso de infecciones por herpes simple, la enfermedad de Alzheimer.[17] Entre las más de 30 intervenciones para mejorar la función mitocondrial y aliviar el estrés del retículo endoplasmático, vemos que el ejercicio, las dietas bajas en carbohidratos, ácido lipoico, coenzima Q-10 y acetil-l-carnitina son preeminentes por su seguridad, eficacia y beneficios colaterales.[18] La manipulación osteopática, quizás mediante la promoción del mejoramiento de la respiración y el flujo linfático y la distribución de las quimiocinas, también ha demostrado beneficio en el mejoramiento no farmacológico de las enfermedades infecciosas.[19]

En resumen, mediante el uso de una estrategia estructurada antiviral, las intervenciones farmacológicas y no farmacológicas pueden aplicarse con mayor eficacia clínica y de salud pública, aliviando las cargas de estas enfermedades infecciosas clínicas, sociales, financieras y políticas.

Conclusión y aplicación

Los brotes recientes internacionales de infecciones virales han hecho una cosa muy clara: necesitamos una nueva estrategia antiviral en los tiempos modernos para combatir estos nuevos flagelos virales en curso; la pandemia de propagación de estas infecciones en 2014 es prueba de que las medidas médicas habituales y las de salud pública de saneamiento, la vacunación y medicación son insuficientes. Para la mayoría de médicos y funcionarios de salud pública, éstas han sido las herramientas utilizadas contra las infecciones virales con la más reciente adición de fármacos antivirales molecularmente orientados específicamente para cada virus. Bajo esta premisa la estrategia antiviral ideal sería tanto en general y específicamente eficaz, ampliamente disponible, de bajo costo y con pocos o insignificantes efectos adversos e interacciones. Mi propósito de escribir este ensayo no es discutir, ni debatir el saneamiento ni vacunas, ni medicamentos, sino señalar otras estrategias de intervención que pueden beneficiar el paciente además de la salud pública. Estas intervenciones basadas en evidencia han demostrado seguridad, eficacia y rentabilidad con amplia e inmediata disponibilidad internacional y generalmente insignificantes efectos adversos y no interacciones con medicamentos y enfermedades.





Editor's note: Given the international viral crises occurring in late 2014, publication and distribution of this article is a priority; the fact that these viral-infection health crises exist is *prima facie* evidence of the failure of current systems and the need—not for new treatments within the same model—for a new model better suited for international distribution, disease prevention, and broad-spectrum effectiveness.



Unified Antiviral Strategy published by ICHNFM

Alex Vasquez DC ND DO FACN in Bogota, Colombia

History and Perspectives

What we as doctors learn in medical school about viral infections is summarized within the following course titles: Microbiology, Pathology, and Pharmacology. Following this instruction, the treatments that we use are sanitation, vaccination, and antiviral drugs, respectively. Based on training and my experience with other doctors, I suggest here that most medically-trained doctors are—at least per their formal training—unable to see beyond these blinders and limited options. My intention in writing this article is to broaden those conceptual and therapeutic horizons via the outlining of a structured antiviral strategy that includes the previously mentioned sanitation, vaccination and antiviral drugs but extends well beyond those limited options. Additional citations, support, and clinical details (e.g., dosing and contraindications) for this strategy are available in a digital format constantly updated¹; the purpose of this article is to structure the strategy, to shift the paradigm.

The fact that most doctors learn nothing about the science of Nutrition in medical school is well known publicly and

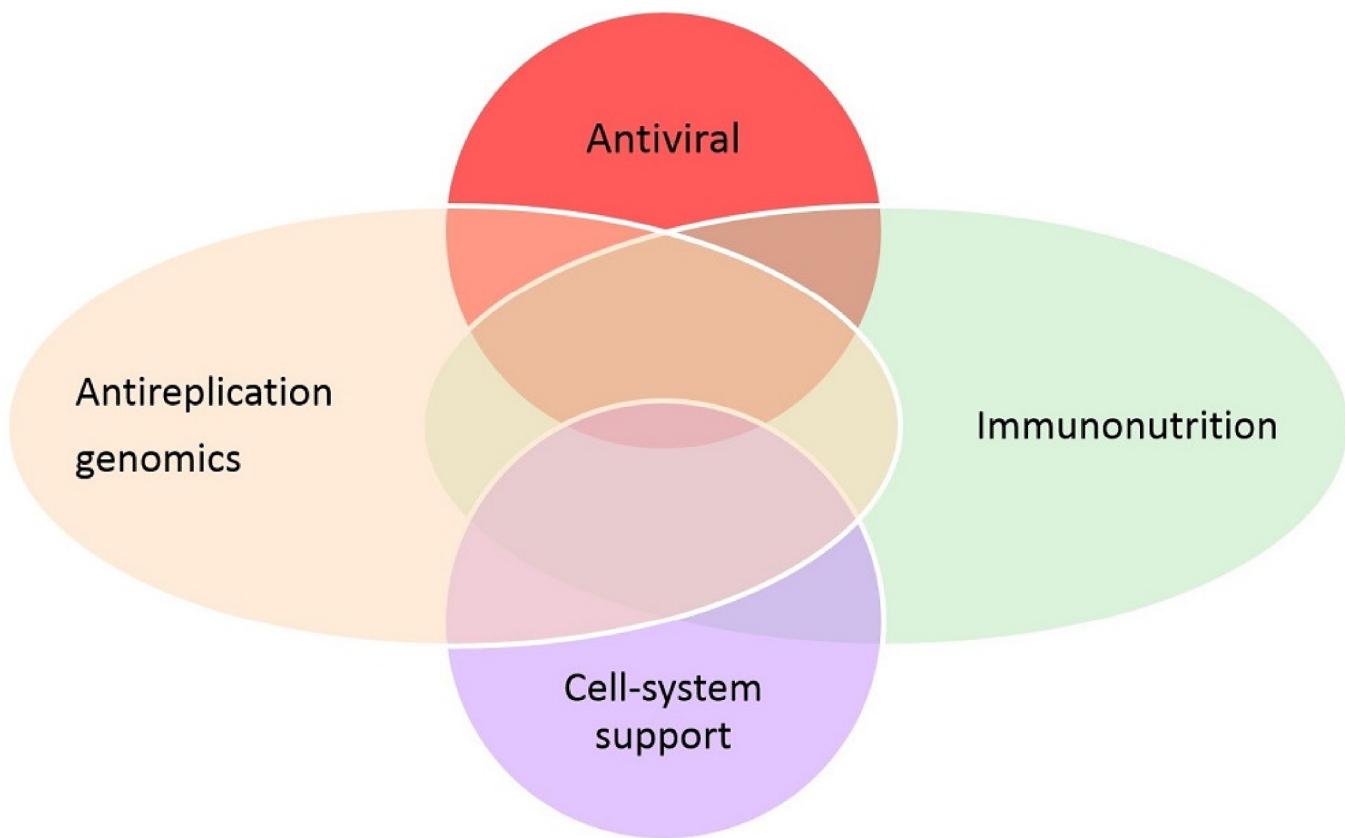
within medical school academics.² Typically, most medical students read one chapter about pathologies caused by extreme nutritional deficiencies, but they learn essentially nothing about therapeutic nutrition and how it can be applied in the prevention and treatment of disease. Does ignoring Nutrition force doctors *by default* to over-rely on drugs and surgery? Would not public health be better served if information were distributed on the nutritional prevention of viral infections, so that patients and doctors alike would have more options?

What I have noticed through the various doctorate programs I have attended is that clinical training in the management of viral infections remains mostly phenomenalistic and enigmatic, rather than deciphered and structured. As an educator, and researcher and writer, I have learned through experience to structure information in such a way that the accessibility and retention of the information is enhanced by students/readers (e.g. the DDIRRT for risk management [e.g., defensive mindset, duration of treatment, interactions, referral, return visit, treatment plan], MYBESTPLAIDFIG for nutritional

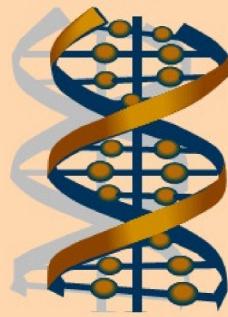
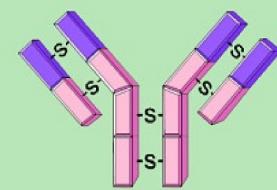
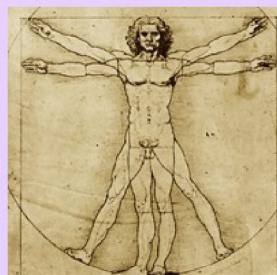
immunomodulation³, and FINDSEX® acronyms⁴). My main purpose in writing this essay is to demonstrate a unique and structured antiviral strategy and to provide representative examples of its practical application.

Rather than viewing viral infections in a manner that is phenomenalistic and enigmatic, and therefore unwieldy, leading to clumsy prevention and treatment strategies, we should deconstruct the complexity of the infectious process. Doing so –

at least in the manner that I have described – gives us four areas upon which we can focus our efforts: 1) targeting the virus directly, 2) blocking viral replication, 3) supporting immune function, and 4) supporting cellular and whole-body health. These are illustrated in the accompanying diagram and briefly described and exemplified in the four respective paragraphs that follow.



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Antiviral	Antireplication	Immunonutrition	Cell-system support
 <p>Direct action against the virus itself, using nutrients and botanicals and drugs, targeting the machinery and blocking viral mutations</p>	 <p>Inhibition of viral use of human DNA and replicative machinery; viruses can only replicate by "hijacking" human genetic process</p>	 <p>Support and occasional stimulation of humoral (antibody, immunoglobulin) cell-mediated, and cytokine-mediated immunity</p>	 <p>Supporting the intracellular systems (mitochondria and endoplasmic reticulum) and whole-body health to optimize immune response, limit damage, promote recovery, prevent recurrence</p>

Multicomponent Antiviral Strategy

1. **Targeting the virus directly:** Targeting the virus directly has been the focus of medical practice and public health efforts through sanitation, vaccination, and –more recently– the use of disease-specific antiviral drugs. Several nutrients and botanicals are also very effective for directly targeting viral infections, and I will provide two examples here. The mineral selenium has a wide margin of safety and provides antiviral benefits through several mechanisms, two of which are blocking viral mutation and also blocking viral replication; anti-infectious clinical benefits are proven in humans with HIV/AIDS.⁵ The botanical medicine and common herbal tea licorice (*Glycyrrhiza glabra*) has demonstrated antiviral effectiveness in experimental studies and human clinical trials against several different pathogenic viruses, including hepatitis B virus (HBV), hepatitis C virus (HCV), herpes simplex virus (HSV), influenza A virus, human immunodeficiency virus (HIV-1), severe acute respiratory syndrome (SARS)-related coronavirus, respiratory syncytial virus, arboviruses, vaccinia virus, and vesicular stomatitis virus⁶; this botanical has a an excellent history of safety spanning several thousand years, with adverse/beneficial effects including a pseudoaldosterone effect (sodium retention and potassium depletion) and a testosterone-lowering effect, and mechanism of action including via direct virus binding, inhibition of viral replication, enhancement of immunity, inhibition of inflammation, and blocking the activity of specific enzymes. Antiviral nutrients and botanicals can be used alone, in combination, and alongside medications for additive and synergistic benefits.
2. **Blocking viral replication:** Inhibition of viral replication is the therapeutic goal of many antiviral drugs, while several nutrients can also provide a similar effect. Because viruses are unable to self-replicate and must therefore rely on host/human genetic and synthetic machinery for their replication, nutrients that modulate genetic expression can have therapeutic value here, namely via DNA methylation and blockade of the transcription factor NFkB. The few nutrients which promote DNA methylation and which also have proven clinical effectiveness against viral infections include folic acid⁷ (now used clinically in the forms of folinic acid and methyl-folate), vitamin D3⁸, betaine and S-adenosyl-methionine.⁹ Inhibition of the NFkB pathway for antiviral effectiveness is well-documented, with two examples being with NAC against influenza¹⁰ and lipoic acid against viral hepatitis and HIV.¹¹
3. **Supporting immune function:** The performance and regulation of the immune system is heavily dependent on optimal nutritional status, and without proper nutrition, the immune system is slanted simultaneously toward underactivity (deficiency-induced immunosuppression) and hyperactivity manifesting as inflammation and autoimmunity.¹² Nutritional deficiencies are very common in the general population and thereby contribute to epidemics of infectious and inflammatory diseases. Human clinical trials using nutrients alone or in combination to support immune function in general have shown outstanding safety and efficacy against infectious diseases, especially use of glutamine, whey protein isolate, vitamin A, vitamin D, fish oil, and zinc.¹³ Nutritional supplementation has been shown in several instances to improve immunological response to vaccinations; for example, cystine and theanine were noted to increase seroconversion of influenza vaccination in elderly persons.¹⁴
4. **Supporting cellular and whole-body health:** Viral infections have numerous adverse effects on cellular and whole-body health. Intracellular consequences of viral infections include mitochondrial dysfunction¹⁵ and endoplasmic reticulum stress¹⁶, manifesting clinically as prolonged inflammation, fatigue and – likely – in the case of herpes simplex infections, Alzheimer's disease.¹⁷ Among the more than 30 interventions to improve mitochondrial function and alleviate endoplasmic reticulum stress, we see that exercise, low-carbohydrate diets, coenzyme Q-10, lipoic acid, and acetyl-L-carnitine are preeminent in their safety, effectiveness, and collateral benefits.¹⁸ Osteopathic manipulative medicine, perhaps via promotion of improved respiration and lymphatic flow and distribution of chemokines, has also shown benefit in the nonpharmacologic amelioration of infectious disease.¹⁹

In summary, via the use of a structured antiviral strategy, pharmacologic and nonpharmacologic interventions can be applied with greater clinical and public health effectiveness, thereby alleviating the clinical, social, financial, and political burdens of these infectious diseases.

Conclusion and Application

The recent international outbreaks of viral infections have made one thing very clear: we need a new antiviral strategy in modern times to combat ongoing scourges of viral infections; pandemic spread of these infections in late 2014 is proof that the usual medical and public health measures of sanitation, vaccination, and medication are insufficient. The ideal antiviral strategy would be both generally and specifically effective, widely available, low-cost, with few or negligible adverse effects and drug/disease interactions. For most of medical and public health history, the tools used against viral infections have been sanitation and vaccination, with the more recent addition of molecularly-targeted antiviral drugs specific for each virus. My purpose in writing this essay is not to discuss or debate sanitation nor vaccination nor medication, but rather to point out several other intervention strategies that can be used additionally and to great patient and public health benefit. These evidence-based interventions have proven safety, effectiveness, and cost-effectiveness with wide and immediate international availability and generally negligible adverse effects and drug/disease interactions.

Publication history, author disclosures, citation format: The primary goal of this article is to outline a more complete strategy to counter the personal and population-wide impacts of viral infections; representative citations supporting these concepts are provided. This article underwent legitimate peer-review by an international interdisciplinary team of professionals; IJHNFM Editorial Board is listed online ichnfm.org/publications). Dr Vasquez has authored several of the books and articles cited in this article. Dr Vasquez has served as a Lecturer and Researcher for Biotics Research Corporation. Because this is a conceptual essay, citations to literature have been compiled together for efficiency.

Citations/reference

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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:

- <https://www.amazon.com/Dr-Alex-Vasquez/e/B00AT5764Y>
- <https://www.ichnfm.org/im4>
- <https://www.ichnfm.org/volume-1-essential-knowledge>
- <https://www.ichnfm.org/volume-2-inflammatory-disorders>

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

- <https://ichnfm.academia.edu/AlexVasquez> (main archive/repository)
- https://www.researchgate.net/profile/Alex_Vasquez2 (archive/repository)
- <https://www.inflammationmastery.com/reprints> (cloud-based PDF folder)
- <https://www.ichnfm.org/public>

VIDEOS: Access to public videos is available per the following:

- Main archive: <https://vimeo.com/drvasquez>
- See also: <https://www.ichnfm.org/public>
- And to a lesser extent: <https://www.youtube.com/channel/UCPR2pgwFw9L2GUnBqupQ5Aw>

WEBSITES:

- Main: <https://www.inflammationmastery.com/>
 - Antiviral: <https://www.inflammationmastery.com/antiviral>
 - Fibromyalgia: <https://www.inflammationmastery.com/fibromyalgia>
 - Migraine: <https://www.inflammationmastery.com/migraine>
 - Complete protocol: <https://www.inflammationmastery.com/book-nutrition-functional-medicine>
- Main: <https://www.ichnfm.org/> This is actually a very rich website with many blogs and videos
 - <https://www.ichnfm.org/antiviral2019> and the long series starting with <https://www.ichnfm.org/antiviral1>, <https://www.ichnfm.org/antiviral2>, <https://www.ichnfm.org/antiviral3>, <https://www.ichnfm.org/antiviral4>, and continuing...
 - <https://www.ichnfm.org/braininflammation>

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:

- Dr Alex Vasquez 's Inflammation Mastery <https://www.facebook.com/InflammationMastery>
- Migraine Headaches, Hypothyroidism, and Fibromyalgia
<https://www.facebook.com/MigraineHypothyroidismFibromyalgia>
- International Journal of Human Nutrition and Functional Medicine <https://www.facebook.com/IJHNFM>
- International College of Human Nutrition and Functional Medicine (higher quality and academic news)
<https://www.facebook.com/IntCollHumNutrFunctMed>
- Revista Latinoamericana de Nutrición Humana y Medicina Funcional
<https://www.facebook.com/RevLatinoNutrHumMedFunc>
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- NaturopathicRheumatology <https://www.facebook.com/NaturopathicRheumatology>

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 can occur worldwide.² While a specific disease may affect a small human population, nutrition research is particularly concerned with nutrition research in the healthcare profession. Clinical nutrition. Clinical vast majority of medical training programs are obviously in gastroenterology³ training in clinical proclaims itself as

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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 journalists¹¹) in major journals which mischaracterizes the validity of nutrition interventions (e.g., essentially always concluding that nutritional interventions are ineffectual

or potentially hazardous) and then such research is used politically and in the media to disparage, restrict and regulate practitioners and nutrition supplement industry¹² 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

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review 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.



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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 experience kind of my entryway, I think, into writing. I remember that our assignment was to write a poem, and I remember writing this poem in class, and on and on, and—compared with some of my other experiences—I just realized that writing for me was a joy.

Then again, when I was in military school, I remember in our

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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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.)

Corresponding author: Alex Vasquez, DC, ND, DO, FACN
E-mail address: avasquez@ichnfm.org

MITOCHONDRIAL MEDICINE ARRIVES TO GENERAL PRACTICE AND ROUTINE PATIENT CARE

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

We all know that mitochondria are the intracellular organelles responsible for the production of the currency of cellular energy in the form of the molecule adenosine triphosphate (ATP); by this time, contemporary clinicians should be developing an awareness of the other roles that mitochondria play in (patho)physiology and clinical practice. Beyond being simple organelles that make ATP, mitochondria play critical roles in inflammation, disease such as diabetes, and disorders such as heart disease stated during the International Nutrition and Functional Medicine Conference in September 2014. The link between 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

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importance; just as we have come to appreciate the

As of 2019 and for the foreseeable future, the most current versions of all major patient management and clinical treatment protocols are published in **Inflammation Mastery, 4th Edition** as a single volume of 1,182 pages available in full-color print at discounted pricing directly from ICHNFM from <https://www.ichnfm.org/im4>, 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**.

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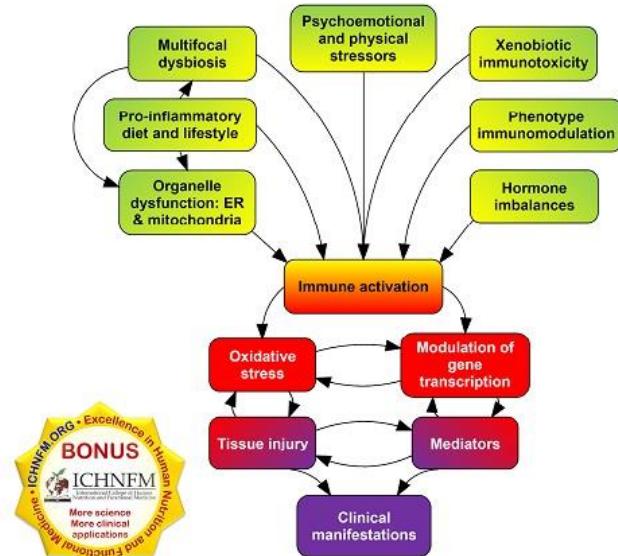
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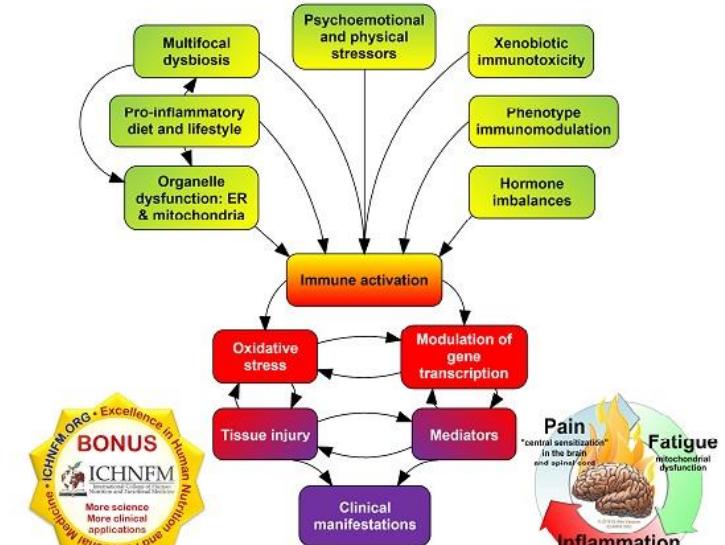
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Chapter and Introduction

Preamble

Volume 1

- [1. Patient Assessments, Laboratory Interpretation, Clinical Concepts, Patient Management, Practice Management and Risk Reduction: This chapter introduces/reviews/updates patient assessments, laboratory interpretation, musculoskeletal emergencies, healthcare paradigms; the common and important conditions hemochromatosis and hypothyroidism are also included in this chapter since these need to be considered on a frequent basis in clinical practice](#)
- [2. Wellness Promotion & Re-Establishing the Foundation for Health: Reviewed here are diet, lifestyle, psychosocial health, and—given the pervasiveness of persistent organic pollutants and their increasingly recognized clinical importance—an introduction to environmental medicine](#)
- [3. Basic Concepts and Therapeutics in \(Nondrug\) Musculoskeletal Care and Integrative Pain Management: Nonpharmacologic management of musculoskeletal problems is preferred over pharmacologic \(e.g., NSAID, Coxib, steroid, opioid\) management because of the collateral benefits, safety, and cost-effectiveness associated with manual, dietary, botanical, and nutritional treatments. A brief discussion of the current crisis in musculoskeletal medicine is provided for contextualization and emphasis of the importance of expanding clinicians' knowledge of effective nondrug treatments](#)
- [4. The Major Modifiable Factors in Sustained Inflammation: Major components of the "Functional Inflammology Protocol" are reviewed here, from concepts and molecular biology to an emphasis on practical clinical applications](#)

[1\) Food & Basic Nutrition](#)

[2\) Infections: Dysbiosis / Viral](#)

[3\) Nutritional Immunomodulation](#)

[4\) Dysmetabolism, Mitochondrial Dysfunction, ERS/UPR, mTOR](#)

[5\) Special Considerations: Sleep, Sociopsychology, Stress, Surgery](#)

[6\) Endocrine Imbalances](#)

[7\) Xenobiotic Immunotoxicity](#)



[Volume 2: Chapter 5—Clinical Applications of the Functional Inflammology Protocol](#)

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[2\) Diabetes Mellitus](#)

[3\) Migraine & Headaches](#)

[4\) Fibromyalgia](#)

[5\) Allergic Inflammation](#)

[6\) Rheumatoid Arthritis](#)

[7\) Psoriasis and Psoriatic Arthritis](#)

[8\) Systemic Lupus Erythematosus](#)

[9\) Scleroderma & Systemic Sclerosis](#)

[10\) Vasculitic Diseases](#)

[11\) Spondyloarthropathies & Reactive Arthritis](#)

[12\) Sjögren Syndrome/Disease](#)

[13\) Raynaud's Syndrome/Phenomenon/Disorder](#)

[14\) Clinical Notes on Additional Conditions: Behçet's Disease, Sarcoidosis, Dermatomyositis and Polymyositis](#)

[Index & Appendix](#)

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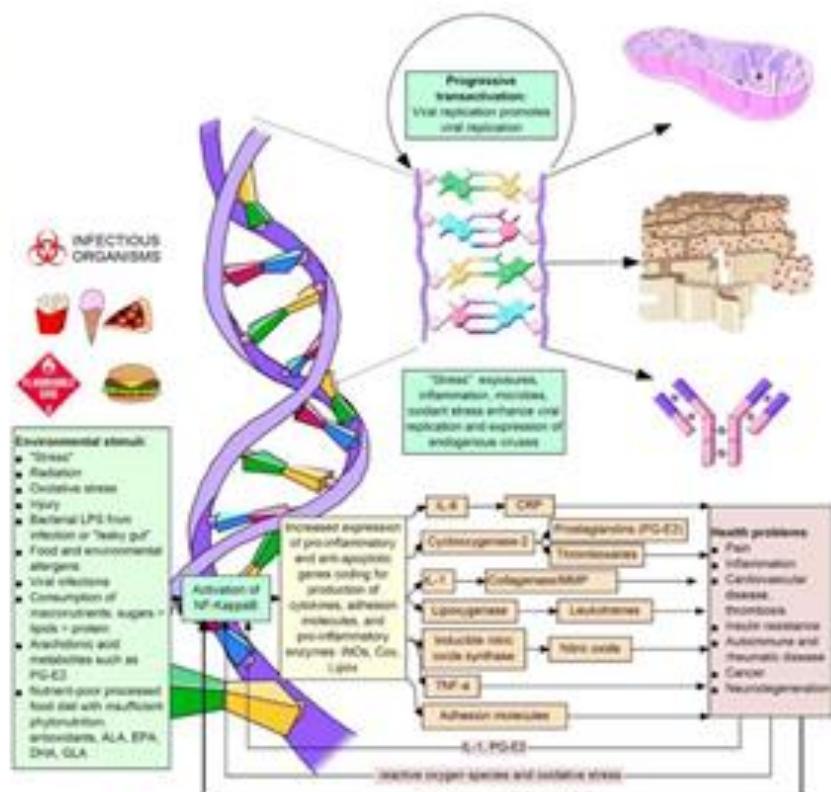
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Editorial

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 some cases, radical departures from any attempt to present descriptions that could be considered “reasonable” by previous standard.¹ Especially related to the post-truth, mainstream medical journals and the media which parrots their conclusions have begun overt misrepresentations of Nutrition with regard for science, logic, biomedical history and ethics.

One has to be aware of a few key ironies that characterize mainstream medical discussions of nutrition. First, that 1) medical physicians receive essentially no formal education in clinical nutrition in their graduate school education and 2) that they receive minimal training in their post-graduate residency training², 2) that medical physicians and organizations publish “research” and commentaries (both of which commonly conclude that nutritional interventions are efficacious or unsafe), despite their lack of formal education on the topic, and then 3) main-

stream 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 ineffectual, 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.

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 1990s. I read a "natural nutrition" book that I read as a child, *Your Nerves* (1975) by Dr. Weston A. Price. This was followed immediately by the writings of Jonathan V. Wright, M.D., of whom would later become a professor at the University. By the mid-1990s, Dr. Jeffrey Bland PhD had founded the International Society for Orthomolecular Medicine, which and personal³ 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 for⁴ and published in⁵ a wide range of refereed journals in addition to publishing commissioned books, chapters, and independent publications and videos. Being an author and reviewer for many different publications—along with my experiences teaching internationally, treating patients in various settings, designing and directing academic programs, and producing educational videos—has given me a wide range of experiences and insights that I hope to bring to the benefit of the *Journal of Orthomolecular Medicine*.

We Must Work Together if We Are Going to Succeed

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

assume that competent healthcare professionals (and nutritionists) are basic to the success of the journal. If you would like to submit a counterargument to any of my assertions, they are welcome. They are more to the point, my responses will be more meaningful regardless of personal position. I invite you to share some common ground with me by responding to the following:

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- 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 articles³ 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 become much more popular, but what does it mean and what do we do with it?

Medicine is a discipline that studies the complex interactions between the microbiota and the host. The Human Microbiome Project, the Human Proteome Project, the Human Metabolome Project, and the Human Brain Project are all examples of research areas that live in a symbiotic relationship with each other. The study of the microbiome has led to a better understanding of how the microbiome affects our health and well-being, and has opened up new therapeutic opportunities for the treatment of various diseases. The microbiome is now considered to be an integral part of the human body, and its study is an important area of research in modern medicine.

"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

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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 prac-

tice 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.

InnoVision Communications is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. The learner should study the article and its figures or tables, if any, then complete the self-evaluation at the end of the activity. The activity and self-evaluation are expected to take a maximum of 2 hours.

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 implement proper doses and with

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

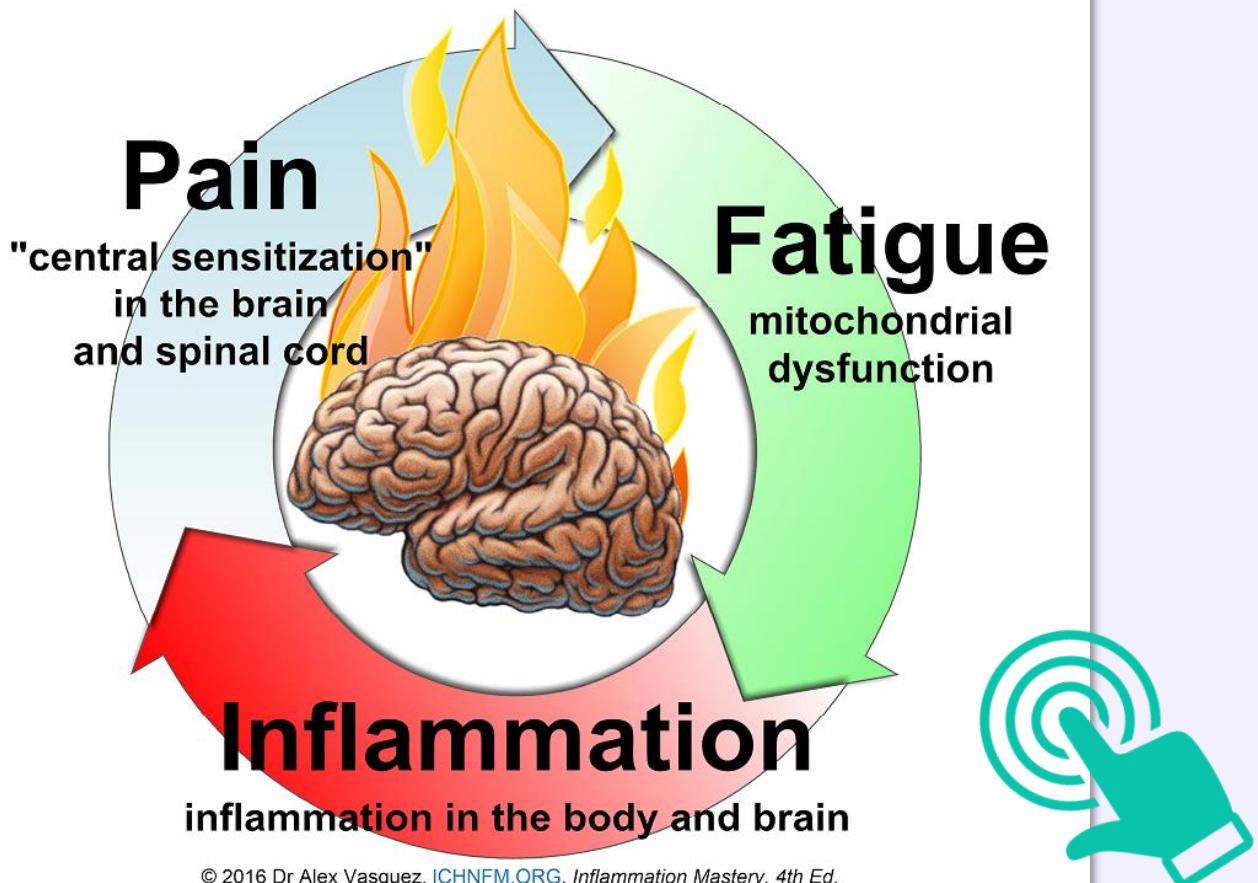
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- INFO: <https://www.inflammationmastery.com/fibromyalgia>
- INFO: <https://www.inflammationmastery.com/migraine>
- From *Inflammation Mastery, chapter 5*, the two sections specific to migraine and fibromyalgia were also published separately as *Pain 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

Biological plausibility of the gut–brain axis in autism

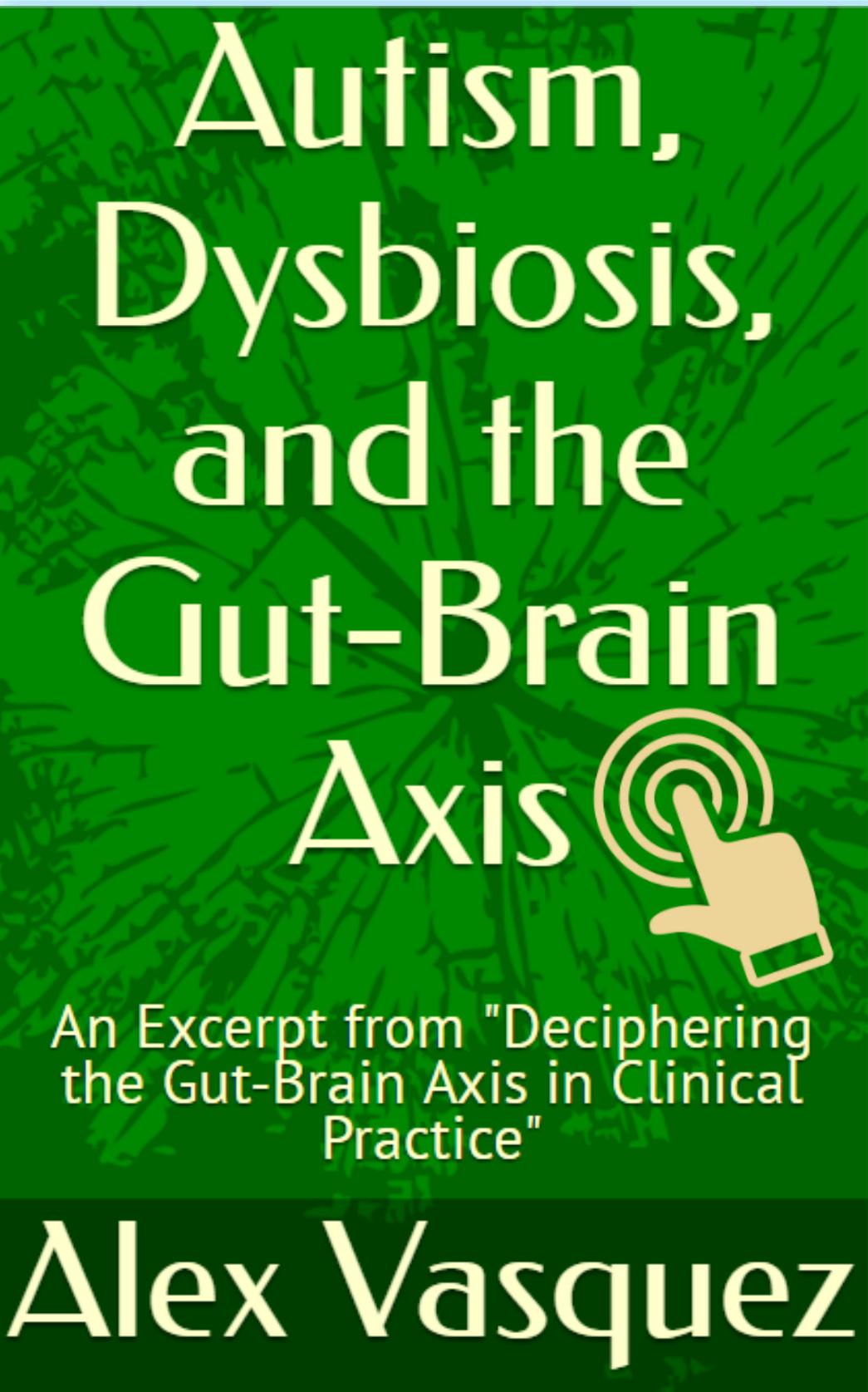
Alex Vasquez 

Organic abnormalities with neuroinflammation, purine metabolism, neurotransmitter, and gut microbiome noted in autism, and many of these abnormalities are associated with gut metabolites, and heightened serum levels of some of these metabolites.

Keywords: gut–brain axis; autism; metabolism

In their recent review, Sherwin et al.¹ have highlighted, among many other issues, the relevance of the gut microbiome–brain axis with respect to the treatment of autism: hype or reality? Sherwin *et al.*¹ largely discuss preclinical studies, while the 2017 open-label study by Kaukinen *et al.*² used a sequence of oral vancomycin, polyethylene glycol laxative, and human fecal microbiota transplantation to show clinical benefit in subjects with autism.

Readers will likely benefit from international relevant clinical studies, including the indication by Sandler *et al.*³ showing improvement of autistic manifestations following oral vancomycin, as well as case reports showing positive impact of various antibiotics (metronidazole, ketoconazole, amoxicillin) in patients with autism.^{4,5} Antibiotics have been shown to have gut dysbiosis as well as *Clostridia* species,⁶ the latter group of bacteria noted for their production of prototoxic substances. International studies consistently demonstrated that *Clostridia* have heightened production of 3-(3-hydroxypropionic acid (HPHPA), a phenylalanine metabolite of *Clostridia* found in the gut and the intestinal tract.^{7,8} HPHPA reportedly converts dopamine to norepinephrine with the conversion of dopamine to norepinephrine.



Autism, Dysbiosis, and the Gut-Brain Axis

An Excerpt from "Deciphering the Gut-Brain Axis in Clinical Practice"

Alex Vasquez

The book cover features a green background with a faint illustration of a brain and gut. The title is in large, white, serif capital letters. Below the title is a stylized hand icon pointing to a circular symbol resembling a brain or a gear. At the bottom, there is a dark banner with the author's name in large, white, sans-serif capital letters.