FOOD IS MEDICINE.
ANCIENT WISDOM, MODERN TIMES.

TIA TRIVISONNO ND, LAC
ABOUT DR. TIA TRIVISONNO

Naturopathic Doctor and Licensed Acupuncturist, Masters of Science in Classical Chinese Medicine. Graduate of the National University of Natural Medicine in Portland, Oregon.

Currently resides in New York and works with patients in multiple integrative clinics. Specializes in the gut-brain connection, chronic illness and mental health, biologic medicine, and health empowerment.

Immediate Past President of the New York Association of Naturopathic Physicians, NYANP.

Contact: ☎️ 516-674-9489, tiatrivisonno@gmail.com
First Do No Harm

The Healing Power of Nature

Prevention

Treat the Whole

Treat the Cause

Doctor as Teacher
AS TO DISEASES, MAKE A HABIT OF TWO THINGS—TO HELP, OR AT LEAST, TO DO NO HARM.
HIPPOCRATES

Learning Objectives

- Successful application of the food as medicine principle in a clinical setting with patients.

- Gain tools to shift the medical paradigm from sick care to health care, and ultimately greater self-care, through personalized health empowerment using food and nutrition.
“The heart is the sovereign of all organs and represents the consciousness of one’s being. It is responsible for intelligence, wisdom, and spiritual transformation...the small intestine receives the food and further extracts, absorbs, and distributes it throughout the body, all the while separating the pure from the turbid...however decision making is the king’s job. If the spirit is clear, all the functions of the other organs will be normal. It is in this way that one’s life is preserved and perpetuated, just as a country becomes prosperous when all its people are fulfilling their duties. If the spirit is disturbed and unclear, the other organs will not function properly. This creates damage. The pathways and roads along which the qi flows will become blocked and health will suffer. The citizens of the kingdom will also suffer. These are the relationships of a kingdom.”

~Qi Bo, The Sacred Teachings.

The Yellow Emperor’s Classic of Chinese Medicine 2,700 BCE
"When Diet Is Wrong, Medicine Is Of No Use. When Diet Is Correct, Medicine Is Of No Need." – Ayurvedic Proverb
FOOD OR MEDICINE?

The epidemiological burden of obesity in childhood: a worldwide epidemic requiring urgent action

Mariachiara Di Cesare, Maroje Sorić, Pascal Bovet, J Jaime Miranda, Zulficar Bhutta, Gretchen A Stevens, Avula Laxmaiah, Andre-Pascal Kangne & James Benthin

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Abstract

Background

In recent decades, the prevalence of obesity in children has increased dramatically. This worldwide epidemic has important consequences, including psychiatric, psychological and psychosocial disorders in childhood and increased risk of developing non-communicable diseases (NCDs) later in life. Treatment of obesity is difficult and children with excess weight are likely to become adults with obesity. These trends have led member states of the World Health Organization (WHO) to endorse a target of no increase in obesity in childhood by 2025.
IS CHRONIC STRESS THE NEW NORMAL?

School closures, loss of structure, changes in routine, loss of control, physical inactivity, irregular sleep, increased screen time, sedentary life, and social distress...

The COVID-19 pandemic has led to a rise in the cases of obesity in children and adolescents.

Children and adolescents now face increased risk for non communicable disease such as cardiovascular dz, increased fatigue, and type 2 diabetes.

How much time in the Doctor’s office is spent on diet?

Can we heal this crisis through food?
FOOD IS MEDICINE!

Phytochemicals are bioactive compounds generated from secondary plant metabolism in response to environmental changes [1,2]. Phytochemicals function as attractants for pollination or act as protectants against insect and pest attacks or exposure to various stresses, such as ultraviolet light [1,2]. In addition, phytochemicals contribute to the color, flavor, and aroma of plants and are recognized as having potential value in nutrition and human health. In fact, they are typically found in our diet through the intake of fruits, vegetables, whole grains, nuts, beans, herbs, tea, and coffee [3].

Numerous epidemiological studies have shown that high intakes of plant products are correlated with lower risks of chronic diseases and mortality, suggesting key protective roles of antioxidants [4,5]. In addition to the antioxidative vitamins C and E, plant-based diets provide numerous phytochemicals, also known as phytoneutrients, that may contribute to the maintenance of good health, not only through their antioxidant activity, but also as anti-inflammatory and anticarcinogenic agents [6,7]. Phytoneutrients comprise many different chemicals, including carotenoids, indoles, glucosinolates, organosulfur compounds, phytosterols, polyphenols, and saponins. The intake of phytoneutrients among European populations appears to be highly variable.
“The Doctor Of The Future Will No Longer Treat The Human Frame With Drugs, But Rather Will Cure And Prevent Disease With Nutrition.” – Thomas Edison
**Doctors face several challenges with nutrition when treating patients:**

- Lack of time during appointments to fully address a patient’s nutritional needs.
- Lack of training in nutrition, making it intimidating to provide advice.
- Too many healthy diets to choose from, confusion over which one is best.
- Patients may have their own dietary preferences or cultural beliefs that can clash with medical recommendations.
- Access to healthy food options and affordability can be a significant challenge for patients, making it difficult for doctors to prescribe specific diets or nutritional plans.
FOR THE LOVE OF HEALTHY FOOD

With all the proposed dietary options for health and weight loss how do we help patients with what to eat, and possibly even more importantly, HOW to eat?

Some of the most popular health diets include: Mediterranean, anti-inflammatory, paleo, vegetarian, vegan, low carb, gluten free, ketogenic, specific carbohydrate, FODMAPS, raw, and carnivore.

With so many options to consider...
The Standard American Diet (SAD) is the modern dietary pattern afflicting American adults and children across the United States with serious health consequences. The Standard American Diet mainly consists of ultra-processed foods, added sugar, fat, and sodium.
EXPAND THE MENU

How to replace the Standard American Diet:

- Focus on fruits and vegetables. Stick to the outer edges of the grocery store. Aim to have all the colors of the rainbow.
- Cook more meals at home. Eat in season.
- Make nutritious food convenient. Store chopped veggies in clear containers, keep nutrient dense snacks like hard boiled eggs and nuts.
- Swap out some meat for plant based proteins. Lentils, beans, and peas provide fiber, B vitamins, & magnesium. Consumption of beans and lentils is associated with better weight management and a decreased risk of type 2 diabetes and HTN.
- Avoid added sugar.
- Limit ultra processed foods like packaged desserts, snack foods, and crackers.
Simple tips for solution oriented thinkers:

Beware of fads that promote a quick fix, promise dramatic results such rapid weight loss, are overly focused on restrictions and/or meal replacements, or that are too rigid to follow.

Take what's best from the latest options and leave the rest. Create your own example for the individual patient such as “Paleo meets Mediterranean.”

The best diet is one that is sustainable and tailored to an individual's specific needs and preferences.

We begin by asking the patient...
WHERE DO WE START?

Before prescribing a dietary change we must learn from the patient.

- Ask for a snapshot from the patient that includes breakfast, lunch, dinner, snacks and beverages.
- Ask about food preferences including likes, dislikes, and cravings.
- Ask about water, soft drinks, and alcohol.
- What foods make you feel best?
- Do you like to cook?
- Where do you eat most meals? With whom?
- If the patient gives a list of what they avoid be sure to ask about what they do eat.
- If the patient reports a “healthy” diet, ask for more specifics.
- Participation is important for a successful outcome. In the interest of saving time a diet diary can be done at home.
HAPPINESS IS A MATTER OF DIGESTION

Optimize digestion with some simple tips.

- Digestion begins with the sensory organs of sight and smell. Preparing food stimulates the production of salivary enzymes to enhance digestion.
- Chew food 31 times!
- Don’t eat and drink at the same time.
- The stomach uses zinc to create HCL. Most people have low stomach acid which contributes to leaky gut. Consider apple cider vinegar before meals, pineapple and papaya for digestive enzymes, and foods that are high in zinc and other minerals.
- Avoid snacking between meals and consider intermittent fasting.
- The migrating motility complex (MMC) is a reflex that sweeps a peristaltic wave from the stomach to the ileum approximately every 90 minutes to cleanse the intestines. This reflex only occurs in a fasting state and stops as soon as eating is resumed. Gastroparesis, intestinal pseudo-obstruction and small intestinal bacterial overgrowth are all associated with an absence of the MMC.
**TRUST YOUR GUT**

Eat fermented foods, not foods that sit in the gut and cause fermentation...

- **Prebiotics** are non-digestible fibers that promote the growth of beneficial bacteria in the gut. (fruits, veggies, herbs).
- **Probiotics** are live bacteria that can also promote gut health. (yogurt, sauerkraut, kimchi).
- **Postbiotics** are the byproducts of the fermentation of prebiotics and probiotics, which can also have health benefits. (flaxseed, sourdough, miso, apple cider vinegar).

Incorporating all three into the diet can help improve digestion, boost immunity, and support overall health.
The gut brain axis is a bidirectional communication between the CNS and enteric nervous system via the vagus nerve.

- Links emotional and cognitive centers of the brain with peripheral intestinal functions.
- Microbes on the mucosal surface of the intestines modulate the immune response as well as brain development and behavior.
- The brain under stress influences the composition of the microbiota via the HPA axis.
- The communication is based neurotransmitters, cytokines, neuropeptides, hormones and growth factors mediating the relationship between the CNS and immune system to maintain homeostasis.
Genes within the human gut microbiota, or microbiome, significantly outnumber human genes in the body, and are capable of producing a myriad of neuroactive compounds.

Gut microbes are part of the unconscious system regulating behavior. Recent investigations indicate that these microbes have a major impact on cognitive function and fundamental behavior patterns, such as social interaction and stress management.

**BACTERIA THAT MAKE BRAIN CHEMICALS**

- Bacillus → Dopamine, norepinephrine.
- Bifido-bacterium → Gamma-aminobutyric acid.
- Enterococcus → Serotonin.
- Escherichia → Norepinephrine, serotonin.
- Lactobacillus → Acetylcholine, GABA.
- Streptococcus → Serotonin.
HOLISTIC APPROACH
Longevity is a result of lifestyle changes that promote balance and moderation.
There is no quick fix.
There is no perfect diet plan.
The food as medicine approach calls for satisfaction not deprivation!

ATTENTION TO DETAIL
Phytonutrients found in colorful food: carotenoids, flavonoids, resveratrol, omega fatty acids, vitamins, minerals, and antioxidants.
Diindolylmethane (DIM) in cruciferous veggies for hormonal support and protection from cancer.
Fiber for bile acid synthesis and to bind toxins.
The Specific Carbohydrate Diet (SCD) is a dietary approach that is focused on improving intestinal health. It can provide a basic framework to later individualize for patients. It was developed by pediatrician, Dr. Sidney Haase 1920’s as treatment for celiac disease and was featured in the book *Breaking the Vicious Cycle*, by Elaine Gottschall in the late ‘80s.

- The SCD provides relief from symptoms associated with digestive disorders such as Crohn’s disease, ulcerative colitis, and irritable bowel syndrome.
- Emphasizes the consumption of nutrient-dense foods such as meats, fish, vegetables, and fruits, and discourages the consumption of processed foods.
- The goal is to avoid and later minimize complex carbohydrates and sugars that are not easily digestible by the body to decrease inflammation and intestinal damage.
Foods to Avoid

To promote gut health and replenish the microbiome avoid these foods for a set period of time...

- Sugar, molasses, maple syrup, sucrose, high-fructose corn syrup, processed sugar.
- Refined grains including corn, wheat, wheat germ, barley, oats, rice and others. This includes bread, pasta and baked goods made with grain-based flour.
- Canned vegetables with added ingredients.
- Canned and most processed meats.
- Canola oil and commercial mayonnaise.
- All cow’s milk and milk products high in lactose such as mild cheddar, commercial yogurt, cream and sour cream.
- Ice cream, candy.
- Minimize potatoes and starchy tubers.
FOODS TO EAT

Focus on the CAN HAVES for greater success:

- Meats without additives, poultry, fish, shellfish and eggs.
- Legumes, including dried navy beans, lentils, peas, split peas, raw cashews and peanuts, all-natural nut butters and lima beans.
- Aged cheese such as cheddar, Colby, Swiss, dry curd cottage cheese, and fermented yogurt.
- Fresh, frozen, raw or cooked vegetables and string beans
- Fresh, raw or cooked, frozen or dried fruits with no added sugar.
- Most nuts and nut flours.
- Olive, avocado or coconut oil, teas, coffee, mustard, cider or white vinegar, and juices with no additives or sugars.
- Honey as a sweetener.
DO WE CELEBRATE HEALTH OR AVOID DISEASE?

Research into the centenarians of the world provides greater insight for health, happiness, and longevity.

People who are living well into 100 years and beyond don’t count calories, weigh out grams of food, take vitamins, or read labels.

They don’t restrict their food intake or follow a longevity diet designed to make them live a long life.

In fact, they celebrate with food!

~Dan Buettner.
The Blue Zones are regions around the world where people live longer, healthier lives than the rest of us.

- Made popular by National Geographic researcher Dan Buettner, who studied the lifestyles and habits of people in different parts of the world.
- The five Blue Zones are located in Okinawa, Japan; Sardinia, Italy; Nicoya, Costa Rica; Ikaria, Greece; and Loma Linda, California.
- People in these regions share common characteristics such as a plant-based diet, regular physical activity, strong social connections, and a sense of purpose in life.
LESSONS FROM THE BLUE ZONES

CONNECT
• Loved ones come first.
• Find a tribe, sense of belonging.
• Participate in social community networks.

MOVE NATURALLY
• Spend time moving outdoors in nature everyday.

POSITIVE OUTLOOK
• Purpose, relaxation, spirituality.

EAT WISELEY
• Plant slant, 80% rule, celebrate with food.
The Plant Slant and the 80% Rule.

The 80% rule:
Eat until you are satisfied, not until you are full.

Food cravings and feelings of fullness are a sign of intestinal dysbiosis!

Slant the diet in the direction of plants and eat small portions of free range organic eggs and meat.

Research into the human microbiome found that people who regularly eat more than 30 different types of plant foods each week had a significantly more diverse microbiome.
Ancient Wisdom and Universal Laws of Nature.

Our state of being is the ultimate tool of health and wellness. Our cells and organs reflect the quality of our energy. The most profound healing occurs when the microcosm, the human being, is in a state of balanced and harmonious expression of the macrocosm, nature, or the universe.

The spiral is the eternal sign of the creative and organizing principle at work in the universe. Upward spirals of positive emotions oppose downward spirals of negativity, affecting neuroplasticity in mental and physical health.

Higher states of being are incompatible with physical illness and disease. Focus on setting a mindful environment.
THE ENERGETICS OF FOOD

Chinese medicine and the notion of Qi.

Qi is the intangible and immaterial quality that symbolizes the “vapor” or breath that is derived partially from food to produce the vital substances like blood.

The qi of the seasons combines with the qi of the Earth to produce food in an interaction that symbolizes humanity as a conduit between heaven and Earth.

Eating raw salads in summer and hot soups and stews in winter is an example of the therapeutic approach that best optimizes the health of the individual by maximizing energy from food.

Encouraging cultural traditions and local foods is a medicinal approach to get the most energy from what we eat.
CREATING BLUE ZONES AT HOME

Taking the examples of a variety of blue zone locations, we see a pattern that is reproducible...

**Okinawa, Japan**: “Ikigai” Japanese concept referring to something that gives a person a sense of purpose, a reason for living.

**Sardinia, Italy**: Walk, eat peasant food, and laugh often. Men with a good sense of humor live longer!

**Nicoya, Costa Rica**: “You don’t need to be wealthy to eat healthy.”

**Ikaria, Greece**: Forget about dying, create an environment about life, celebrate happy hour with family and friends.

**Loma Linda, California**: Faith, movement, and service. Give your worries up to God. Exercise in groups to create community.

**Fort Worth, Texas**: Community leaders, businesses, schools and local residents partner together to create a sustainable wellbeing initiative.

**Singapore**: Implement change over time to engineer a modern blue zone.
MODERN TIMES

Promote strategies to make healthy food convenient.

Encourage community gardens and even growing some food indoors at home.

Shop for veggies that are chopped. Keep some frozen fruits and veggies on hand. Keep it simple.

Help patients find companies that deliver healthy meals and groceries.
THE MEDICINE IN OUR FOOD

antioxidant, vitamin E, polyphenols, omega 3, melatonin, ALA

vitamin A, C, E, lycopene, potassium

potassium

vitamin A, C, E, K, B6, niacin, folate, magnesium, omega 3

Vitamin A, C, E, potassium, beta carotene

ellagitannins, anthocyanins, vitamin C

vitamin A, C, K, carotenoids

Diindolylmethane

Superfood

400 + chemical compounds... gingerol, Vitamin B3, B6, C, Iron, Potassium, Magnesium, Phosphorus, Zinc, Folate, Riboflavin, and Niacin. Boosts serotonin, dopamine, anti-inflammatory,
Studies have shown that practicing gratitude can reduce stress and anxiety, improve sleep quality, and boost overall well-being.

Taking a moment to reflect on the food and the people who made it can also promote mindful eating, which can lead to better digestion and weight management.

“Slow down, breathe in, savor every bite.”

“Mindful eating is very pleasant. We sit beautifully. We are aware of the people surrounding us. We are aware of the food on our plates. This is a deep practice.” ~Thich Nhat Hanh.


