

Integrative Medicine for Cardiovascular Disease and Prevention



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KEYWORDS

- Cardiovascular disease • Prevention • Integrative medicine • Nutrition
- Hypertension • Supplements • Alternative therapies • Stress

KEY POINTS

- Cardiovascular disease is traditionally treated through medications and lifestyle modifications, yet adherence to these treatments is often poor.
- The use of complementary therapies, such as nonprescription vitamins and herbs, is increasing, and patients are seeking information from their physicians about the safety and effectiveness of these therapies.
- When considering integrative therapies for cardiovascular disease, it is important to understand the underlying pathogenesis of the disease, which may be linked to chronic stress, inflammation, and altered gut microbiota.
- There is evidence for several promising integrative therapies for the treatment and prevention of cardiovascular disease, including specific nutritional approaches, meditation, yoga, acupuncture, and select supplements and herbal therapies.
- Physicians should be diligent in asking patients about any alternative therapies for cardiovascular disease that they may be using, and be capable of discussing the risk/benefit ratio of these options.

Cardiovascular disease (CVD) remains the number 1 cause of morbidity and mortality globally.¹ Early intervention with angiography and broad-based pharmaceutical therapies has contributed to a decline in deaths from CVD in the United States, yet the prevalence of risk factors and economic burden of CVD remain exceedingly high.

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Commonly, patients are placed on a minimum of 4 to 6 medications at any given time, which increases financial burden, worsens compliance rates, and increases rates of side effects and medication interactions. Expenditures on medications per capita in the United States in 2014 increased 10.3% to \$373.9 billion from the year prior.² This increase is driven primarily by new treatment options, rising prices, and increased usage of medications.³

Traditional lifestyle measures for prevention of CVD include smoking cessation, maintaining a healthy body weight, regular exercise, and dietary changes involving reducing saturated fats, increasing fruits and vegetables, and limiting sugar intake. However, physicians are often unaware of what specific lifestyle changes to make, such as types of exercise regimens and targeted changes in the diet.⁴

The demand for integrative medicine is fueled by, among many things, patients' desires for nonpharmacologic options. However, guidelines and regulations of these therapies are not optimal, and there are issues with contamination of supplements and different potencies in different varieties. In addition, herb-drug interactions are often not fully recognized. It is imperative for physicians to start a discussion of complementary practices with patients to ensure safety and effective use of both traditional and integrative practices.

PATHOGENESIS OF CHRONIC DISEASE STATES, INCLUDING CARDIOVASCULAR DISEASE

Cardiovascular disease has been associated with an imbalance in the autonomic nervous system.⁵ The sympathetic or "fight or flight" nervous system is activated in times of stress. As a result, cortisol and epinephrine levels are heightened. These hormones allow our blood pressures and heart rates to rise so we have adequate blood flow to essential organs for flight and allow the body to be alert. Our immune system also triggers an inflammatory cascade. The parasympathetic or "rest and digest" nervous system offsets the sympathetic nervous system. It brings the cortisol levels and epinephrine levels down. Blood flow goes back to nonessential processes, such as eating and bladder and bowel movements.

Often, our bodies are heavily shifted toward sympathetic overdrive, which leads to burnout. With this imbalance, there are chronically elevated hormone levels, which result in elevated blood pressures and heart rates on a long-term basis. In times of burnout, there is significant imbalance in the immune response and there is evidence of increased inflammatory markers, decreased wound healing, and poorer response to infection.⁶ With chronic stress, there is overactivation of the hormonal systems and subsequent formation of disease-causing free radicals causing oxidative stress.⁷ Inflammation and oxidative stress can then cause chronic fatigue, depression, and excessive weight gain. In addition, persistent elevation of cortisol can lead to insulin resistance, which can cause diabetes and CVD, such as hypertension, ischemic heart disease, congestive heart failure, and arrhythmias.⁵

The integrative treatment approach in cardiology focuses on bringing the "rest and digest" system into balance with the "fight or flight" system. Boosting the "rest and digest" nervous system often requires learning the art of meditation, yoga, and movement. It also involves understanding the impact of food on our bodies and putting healthful foods into our system to aid in proper digestion. It also requires us to understand about environmental exposures, such as pollution and heavy metal exposures.

HYPERTENSION

Hypertension affects almost one-third of our population, with 75% of those patients taking antihypertensive medication. However, only approximately half of this group

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