NEWS YOU CAN USE

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DIET AND LIFESTYLE ARE CRITICALLY IMPORTANT TO HEALTH AND LONGEVITY

This issue looks at new research and evidence highlighting the importance of nutrition to your health and well being. Currently, there exists a "silent epidemic" of chronic disease and obesity, affecting men, women and children in all segments of our society. The World Health Organization (WHO) released a landmark report in 2005 entitled "Chronic Disease: A Vital Investment" which focuses on the dire state of global health. It found that these preventable diseases are the leading causes of mortality in the world and the number of people affected by them continues to grow year after year.

At present, chronic disease kills nearly 35 million people each year worldwide (approximately 60% of all deaths). Of those who die from a chronic disease, half are under the age of 70, and half are women.[1] Sadly, chronic diseases (which include heart disease, stroke, cancer, chronic respiratory diseases and diabetes), are all largely preventable. The WHO and other global health authorities have identified that in order to combat this epidemic, diet improvements and lifestyle changes need to be made. They recommend a solid nutritional foundation as one of the key tools in the pursuit of health, vitality and functional longevity, and in the fight against chronic diseases.

FACTOID:

Medical expenditures for cancer could reach as high as $158 billion in 2020 in the United States, a 27% increase from 2010–National Institutes of Health

Mariotto AB, et al. Projections of the Cost of Cancer Care in the United States: 2010-2020. JNCI. Jan 19, 2011; 103(2J)

DIABETES & RISK REDUCTION

According to statistics from the World Health Organization (WHO), diabetes affects 220 million people worldwide, and the rate of death from diabetes-related complications will double between 2005 and 2030. Consequently, 90% of those with diabetes have type 2 diabetes, which has been attributed to excess body weight and a lack of physical activity. Because these factors can be modified by straightforward lifestyle changes such as becoming more physically active and eating a healthy diet rich in fruits and vegetables, type 2 diabetes is largely preventable.[2]

FRUITS AND VEGETABLES: NUTRITION IS KEY

Recently studies have come out highlighting the importance of specific key nutrients in preventing diabetes and diabetes-related complications. A meta-analysis conducted by researchers from the University of Leicester in UK, and published in the *British Medical Journal*, evaluated six studies to determine the impact of vegetable intake on type 2 diabetes prevention. They found that increased intakes of green leafy vegetables resulted in a 15% reduction in disease risk. These results seem to suggest an association between protective benefits and the antioxidant capacity of compounds like beta-carotene, vitamin C, polyphenols and magnesium, however more investigation is needed to determine the mechanism of action.[3]

JOHN MILLER
Vice President
Science & Technology
Scientific Advisory

Though a great deal of scientific attention is focused on the role of nutrition in the prevention of chronic disease and functional decline associated with aging, we should never lose sight of the fact that it also directly impacts our health "preparedness" day-to-day. How well our bodies are able to deal with a health challenge when it occurs is directly associated with our dietary status in many, many ways. Whether it is dealing with and healing from physical trauma associated with an accident, neutralizing exposure to a pathogenic organism like influenza or standing up to the unexpected burdens brought on by a disaster such as befell millions of Japanese earlier this year, how likely we are to survive and recover is a reflection of our nutritional status leading up to that point. A well-nourished body that receives an abundance of the whole food nutrition that is the foundation of health and vitality is not only more likely to survive, but also more likely to recover more fully and more rapidly.

This sort of health preparedness makes sense! And it's simple! The reality is a strong, fit and vital body is better prepared for anything that comes its way. Health preparedness, like health protection, relies directly and indirectly upon whole foods and the whole food nutrients the diet provides. Antioxidants, cruciferous nutrients, critical lipids and fatty acids, proteins, and core vitamins and minerals all need to be consumed every day. Science says, do that, and you can feel better not only about your long term health probability, but also about your ability to deal with whatever health challenge life brings to your door.

BENEFITS OF MAGNESIUM

In another study, researchers from the Department of Food and Experimental Nutrition at the University of Sao Paulo, Brazil investigated the role of magnesium in diabetic patients. Researchers found that 82% of the study population was deficient in magnesium, which can potentially increase the risk of other complications associated with the disease. The importance of magnesium in regulating many essential cellular reactions and functions, especially in metabolism is well established. This study looked in particular at the long-term effects of hyperglycemia (high blood sugar) on magnesium loss in patients with type 2 diabetes. Magnesium is responsible for activating insulin and is an important component of insulin function. Preliminary data suggests that hyperglycemia could lead to impaired kidney function and excessive magnesium loss in the urine which in turn could induce a rise in glucose in the blood. This study further substantiates the importance of maintaining adequate magnesium levels in diabetic patients.[4]

GNLD's Chelated Cal-Mag with 1000 IU of vitamin D_3 provides 150 mg of magnesium per serving. The double amino acid chelates utilize glycine for significantly higher calcium and magnesium absorption in a 2:1 ratio of calcium to magnesium. Magnesium plays important roles in numerous enzyme systems and in regulating the cardiovascular system.

FACTOID:

A recent study published in the journal *Diabetes Care* found that people who consumed between one to two servings daily of sugar-sweetened beverages had a 20% greater risk of developing metabolic syndrome and a 26% greater risk of developing type 2 diabetes compared to those who consumed none or less than one serving per day.[5]

CARDIO HEALTH

The understanding of the connection between diet and cardiovascular health is decades old. Improving your diet by reducing the intake of added sugars and saturated fats has been recommended by various health agencies as a prudent way to prevent cardiovascular disease. Since 2000, hundreds of scientific studies have pointed to and solidified the understanding of the cardiovascular benefits of a healthy diet and an active lifestyle. Even more importantly, there is a growing body of evidence linking various grain, fruit and vegetable compounds, and fish in particular with cardio-protective benefits. Here are five new studies that build the case even further.

CARDIO-PROTECTIVE BENEFITS OF THE CAROTENOID LYCOPENE

A study published in the journal *Atherosclerosis* evaluated the effect of lycopene supplementation on markers of cardiovascular health. Lycopene is an antioxidant compound that gives fruits and vegetables like tomatoes their red color. Earlier research has suggested that lycopene could benefit heart health by boosting the body's natural antioxidant activity, decreasing markers of inflammation and protecting against DNA damage. In the study conducted on 126 healthy men in South Korea, researchers found that supplementation for 8 weeks produced a significant increase in antioxidant activity, a reduction of DNA damage in white blood cells, a decrease in markers of inflammation and reduced systolic blood pressure. The researchers from the Yonsei University in South Korea commented: "These results add to the growing literature on potential protective effects of the antioxidant lycopene in atherosclerosis through an anti-inflammatory effect and preserving endothelial function."[6]

GNLD's Carotenoid Complex® is a whole-food supplement whose benefits have been demonstrated in human studies conducted by USDA and university researchers. Each capsule provides the complete carotenoid value of an optimal serving of a wide variety of carotenoid-rich fruits and vegetables, including 400 mcg of lycopene.

DON'T FORGET YOUR VITAMINS AND MINERALS

The results of a ten year population-based study of 30,000 Swedish women were recently published in the *American Journal of Clinical Nutrition*. It suggested that in women with no history of cardiovascular disease (CVD), multivitamin use could be attributed to a reduced risk of heart attacks. In the study, the women were found to be at a 27% lower risk of myocardial infarction compared to those who did not use the supplements. Researchers believe that this cardio-protective benefit could be attributed to the antioxidant vitamins (vitamin C & vitamin E), B vitamins, and minerals controlling the atherosclerotic process by preventing free radical damage, although more investigation is needed to demonstrate a causal relationship.[7]

WHY YOU SHOULD EAT MORE FLAVONOID-RICH FRUITS

Increasing fruit consumption is also a key cardio-protective recommendation. More and more evidence supports the role of flavonoid compounds from fruit in reducing the risk of CVD. In particular, a study conducted by researchers at Harvard University found that increasing intakes of anthocyanins (a type of flavonoid compound found in berries) was associated with reducing blood pressure by 8-12%. The researchers propose that the flavonoids can regulate blood pressure by improving blood flow, vascular response, and glucose uptake.[8]

GNLD's Flavonoid Complex provides diverse phytonutrients from an optimal serving of fruits and vegetables, plus catechins from green tea and ellagic acid from grapes, cranberries, and other berries. Flavonoids promote antioxidant activity, cellular health, and normal tissue growth and renewal throughout the body. Each tablet provides the full water-soluble antioxidant profile of an optimal serving of flavonoid-rich fruits and vegetables.

WHOLE FOOD FIBER

Increased fiber intake has also been associated with cardio-protective benefits. Visceral adipose tissue (VAT), fat around abdominal organs,

has been associated with higher risk of metabolic syndrome. A study published in the *American Journal of Clinical Nutrition* reported that "VAT volume was approximately 10% lower in adults who reported eating three or more daily servings of whole grains and who limited their intake of refined grains to less than one serving per day." Additionally, those who consumed four or more portions of refined grain per day cancelled out the effect of whole grains on fat distribution. Thus, it's important to replace refined grains with whole grains instead of simply adding whole grains.[9]

GNLD's Tre-en-en® Grain Concentrates were introduced in 1958 in response to the modernized diet, which essentially stripped vital nutrition from whole grain in order to preserve shelf life of dietary staples. Tre-en-en replaces important lipids and sterols stripped from processed foods that provide critical support for the healthy cellular uptake of nutrients and cellular export of waste and metabolites.

Another study conducted by US researchers at the National Cancer Institute in Maryland and the American Association of Retired Persons (AARP) in Washington DC found that dietary fiber from grains can lower the risk of death from CVD, infectious and respiratory diseases by as much as 23% in men and 19% in women.[10]

GNLD's All-Natural Fiber™ Food and Drink Mix is a tasty and convenient beverage providing 8 grams of soluble and insoluble fiber in each serving, and especially rich in oat fiber, which is shown by research to particularly support heart health. It is also made with Neo-Polyfibe, a unique formula of specially selected fibers that have been shown to help promote healthy cholesterol levels.

MORE ON THE CARDIOVASCULAR BENEFITS OF OMEGA-3S

Omega-3s have been demonstrated to have a direct impact on health status. Heart benefits of omega-3 fatty acids have been well-documented in numerous studies and are linked to improvements in blood lipid levels, reduced tendency of thrombosis, blood pressure and heart rate, and improved vascular function. One of the largest observational studies investigating the cardio-protective effects of fatty fish and omega-3 intake was just published last year in the *European Journal of Clinical Nutrition*. Researchers analyzed data from over 36,000 Swedish women found that consuming just one serving of fatty fish per week was associated with a 14% reduction in the risk of heart failure, and increasing it to two servings per week was correlated with an even better rate (by as much as 33%).[11]

GNLD strongly recommends people eat as much whole grains, fruits and vegetables and fish as possible. We realize that attaining these goals with food alone is difficult at best. Our core products (Pro Vitality, Tre-en-en®, Carotenoid Complex®, Salmon Oil Plus, Formula IV®, Formula IV Plus®, and All Natural Fiber) represent proven and convenient ways to get more of these important food factors into your diet.

SUGARY DRINKS HURT

Previous studies have suggested that excessive intakes of added sugars in particular could lead to increased risk of cardiovascular disease. A recent study published in the journal *Hypertension* found a direct correlation between the amount of sugar-sweetened soft drinks and increased blood pressure.[12]

Another study evaluating data collected from the National Health and Nutrition Examination Survey (NHANES) found that American teens consumed on average 20% of their calories in the form of added sugars in soft drinks and foods. This has not only been associated with increased signs of insulin resistance, but also poor cholesterol profiles. Researchers voiced their concern: "The concern is long-term exposure would place them at risk for heart disease later in adulthood."[13] The American Heart Association recommends that people should aim to get no more than half of their daily discretionary calorie allowance (those that are left after consuming foods necessary to meet nutrient guidelines) from added sugars, which is equivalent to about 100 calories a day for women and 150 calories a day for men.

FOODS THAT SUPPORT CANCER RISK REDUCTION

An article published in the *Tufts Health & Nutrition Letter* summarizes the results of several studies on the topic of cancer. Research suggests that more than one-third of cancer-related deaths are attributable to nutrition and lifestyle factors. Below is a list of foods and nutrients which may support cancer risk reduction.

HOW GNLD CAN HELP

FOOD/NUTRIENT	ASSOCIATED BENEFITS	GNLD PRODUCTS
Lycopene in tomatoes	May prevent prostate cancer and pancreatic cancer in men	Carotenoid Complex®
Cruciferous vegetables	May offer benefits for people with a genetic predisposition to lung cancer	Cruciferous Plus
Berries	Potential anti-carcinogenic effects	Tré™, Flavonoid Complex
Red grapes	Potential anti-carcinogenic effects	Tré™, Flavonoid Complex
Onions and garlic	Linked to significant reductions in risk for colorectal, ovarian, prostate, breast, renal, esophageal, oral cavity and throat cancers	Garlic Allium Complex
Carotenoid-rich green leafy vegetables and root vegetables	Associated with reduced risk of stomach cancer	Carotenoid Complex®, Cruciferous Plus, PhytoDefense®
Vitamin A, Beta-Carotene, Alpha-Carotene	Associated with reduced risk of stomach cancer and non-Hodgkin lymphoma	Cod Liver Oil, Carotenoid Complex®, Betagard®, Vitamin A
Calcium	May reduce colorectal cancer risk	Chelated Cal-Mag®
Fish and Omega-3s	Improved heart health, may reduce colorectal cancer risk and non-Hodgkin lymphoma	Salmon Oil Plus
Dietary Fiber and Vitamin E	Associated with reduced lymphoma risk	All Natural Fiber, Vitamin E Plus
Green and Black Tea	Anticarcinogenic effect on breast, colon, prostate and liver cells	Tré™

Source: Tufts University. "Eating to Beat Cancer." Health and Nutrition Letter, Tufts University. May 2007. Available from: http://www.tuftshealthletter.com/ShowArticle.aspx?rowId=490

COGNITIVE HEALTH

A growing body of evidence points to the role of nutrition in cognitive health, function, and longevity. Whole food factors such as polyphenols (flavonols) and omega-3s have been associated with cognitive development and function. Many studies have demonstrated the benefits omega-3s confer, from the developing fetus to the oldest of our aging population, and everyone in between.

IMPROVING COGNITIVE FUNCTION

A recent study published in the *Journal of Nutrition* however investigated the impact of the omega-3 fatty acid DHA (docosahexaenoic acid) on mental function in middle-aged people. They found that increased levels of DHA were associated with improved nonverbal reasoning and working memory in subjects between the ages of 35 and 54. Researchers wrote on the significance of their data: "These findings suggest that DHA is related to brain health throughout the lifespan and may have implications for clinical trials of neuropsychiatric disorders."[14]

BENEFITS FOR SENIORS

There have also been preliminary studies on the role of omega-3's in other brain functions like modulating depression. Data suggests that EPA from fish oil could affect brain function by improving blood flow in the body and affecting hormones and the immune system, while the proposed mechanism for DHA is its ability to improve the transmission of electrical brain signals. These two nutrients were evaluated together in a recent double-blind, randomized, placebo-controlled study published in the *European Archives of Psychiatry & Clinical Neuroscience* for their impact on mood in seniors with mild to moderate depression. They found that even low doses of omega-3s (300 mg of EPA and DHA) produced significant improvements in depression in the elderly subjects, concluding that the omega-3s were "clinically more effective in treating depression in comparison with the placebo." Although this adds to the growing body of evidence supporting the positive role omega-3s have on mood, more evidence is needed before these nutrients can be recommended as a means of alleviating the condition.[15]

One of the biggest concerns as we get older however is age-related cognitive decline and dementia, in particular Alzheimer's disease. Free radicals (oxidizing compounds) have been attributed to the development of Alzheimer's. Thus, many studies have begun evaluating the protective properties of phytonutrients and polyphenols which can act as scavengers of highly reactive oxidizing compounds within the brain.

A study of green tea extract recently published in the journal *Phytomedicine* adds to the growing body of evidence demonstrating the protective properties of a select group of polyphenols known as flavonols for both dementia and strengthening cellular defenses. The compounds were able to exert antioxidative effects on the destructive free radicals. "What was really exciting about this study was that we found when green tea is digested by enzymes in the gut, the resulting chemicals are actually more effective against key triggers of Alzheimer's development than the undigested form of the tea," researchers said.[16]

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