THE ENDOWMENT FOR MEDICAL RESEARCH

New Studies on Sugars and Cinnamon

Lesson # 17

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In our previous lesson, ***Giving Sugar an Aroma of Pure Health***, we discussed the recent research studies in leukemia, other cancers, cardiovascular diseases, diabetes, LDL cholesterol, cognitive function and memory improvement.

Sugar metabolism is a major contributor of diabetes and diseases. The USDA tested 49 herbs, spices and medicinal plants for their phytonutrient effects on glucose metabolism. The results were published in the *Journal of the American College of Nutrition*. The study shows that methylhydroxychalcone polymer, the active ingredient in cinnamon increases cells glucose uptake and signals certain cells to turn glucose into glycogen, preventing diabetes.

New glycomic discoveries are popping up like popcorn in university studies all over the world. Glycobiology, during the last two decades, has concluded that glycoproteins are the cellular communication system of the body, the Operating System (OS).

Glycoproteins cover the surface of cells while glycolipids are part of the interior system of the cell. There is evidence that trehalose is the sugar used to build unique glycolipids. Trehalose is the building block in a number of cell wall glycolipids.

This research suggests cinnamon plays a role in glucose metabolism and blood pressure regulation. Other studies published in *Diabetic Care* show cinnamon not only helps control blood sugar levels but also triglycerides, total cholesterol and the 'bad' LDL cholesterol in those with type II diabetes.

It has been reported that a group of polyphenolic polymers found in cinnamon may function as antioxidants to potentiate insulin action, and therefore, may also be beneficial in the control of glucose intolerance and diabetes.

Other papers indicate there are beneficial effects of cinnamon proanthocyanidins on the formation of specific advanced glycation. Proanthocyanidins are oligomers and polymers of flavans. We know from studies that proanthocyanidins suppress production of the protein endothelin-1 that constricts blood vessels.

These studies give us evidence supporting the French Paradox that the intake of proanthocyanidins and other flavonoids from red wines prevent a higher rate of cardiovascular diseases and diabetes in their citizens on high-fat diets. It also appears that proanthocyanidin activity plays a role in the stabilization of collagen and maintenance of elastin — two critical proteins in connective tissue that support organs, joints, blood vessels, and muscle.

I am excited about the Pilot Survey (started June 1, 2011) to gather data from participants around the world using a blend of cinnamon, trehalose, and bio-available ionic multi-trace minerals. This is a Pilot Survey designed for the participant to enjoy. The participants will enjoy the amount of T/C+ that is comfortable for them. Even a smaller amount is much better than none. It can be sprinkled on toast and on your cereal. You can enrich apple butter or apple sauce by stirring T/C+ into it. It improves oatmeal, cream of wheat, Malt-O-Meal, and other hot cereals. It can be sprinkled on ice cream or whipping cream, on pancakes and waffles and salads. Fruit pies baked with T/C+ instead of regular sugar makes for the best mouth watering homemade pie you ever ate. Or, take any ready-made apple pie and sprinkle lots of T/P+ on top. Add it to pears, rhubarb, puddings, and custards, hot chocolate or in your coffee. Be creative and share your recipes with us.

Glossary: **Flavonoids** (or bioflavonoids): plant metabolite coloration pigments; **French Paradox**: Two French doctors or the observation that French people suffer a relatively low incidence of coronary heart disease, despite having a diet relatively rich in saturated fats. **glycation**: Formation and accumulation of advanced glycation has been implicated in the progression of age-related diseases; **oligomers**: protein subunits **polyphenolic**: Phenolic acids are plant metabolites. Recent interest in phenolic acids stems from their potential protective role against oxidative damage diseases (coronary heart disease, stroke, and cancers); **Proanthocyanidins** are a class of polyphenols that provide cell protection and have flavor. They are much stronger than vitamin C or vitamin E.; **USDA**: United States Dept of Agriculture

Reference Sources:

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