[IMAGE]

Chocolate: The Next Miracle Food?

By Dr. Jacob Schor

You heard it right: Chocolate is rapidly becoming the next miracle food. If minimally processed, it contains the highest flavanol content of any food. [Flavanols are phytonutrients also found in various fruits and vegetables and associated with numerous health benefits.] The problem is that these valuable compounds are nearly all destroyed when the cocoa beans are heated during processing. For a number of years, chocolate companies have put a great deal of effort toward figuring out how to preserve the flavanols in chocolate, and it appears some of them have succeeded. Several research papers report striking effects from eating these "special" chocolates regularly, including that eating chocolate lowers blood pressure, improves cholesterol levels, and lowers blood sugar. One of the most intriguing suggests chocolate even prevents sunburn - not by rubbing the chocolate into one's skin, but by eating it. Let's learn more about how chocolate is not only good (really good), but also good for you.

Chocolate for Blood Pressure

chocolate - Copyright â Stock Photo / Register Mark A number of recent "chocolate papers" have been published. Which is the most interesting? That honor should probably go to researchers from Harvard who solved what we could call the Kuna Puzzle. The Kuna are a group of indigenous people living along the coast of Panama who for the most part live as their ancestors did, hunting and fishing. However, some have moved to Panama City. The Kuna stand out in the medical literature because they have no age-related increase in blood pressure; 60-year-olds have the same blood pressure as 20-year-olds - that is, as long as they stay out of Panama City. Once a member of the Kuna moves to the city, their blood pressure tends to rise. Of those who live in Panama City, 45 percent of Kuna ages 60 and older have elevated blood pressure.

Why the Kuna don't suffer from hypertension as they age has been a long standing puzzle, up unto recently. In 2006, Harvard researchers explained the Kuna's apparent "immunity" to hypertension. They carefully modified the Kuna diet and realized that island-dwelling Kuna drink large quantities of flavanol-rich cocoa on a daily basis (5 cups or more) and incorporate it into numerous recipes. On the other hand, Kuna who live in the city consume far less cocoa, and what they do consume is commercially produced and thus has little flavanol content.

In simple words, for non-city-dwelling Kuna, eating flavanol-rich chocolate keeps their blood pressure down. Recall that chocolate contains the highest flavanol content of any food when minimally processed, but these valuable compounds are nearly all destroyed during standard processing (which involves heating). So, when the Kuna switch from unprocessed, "homemade" chocolate to city, store-bought, processed chocolate, they no longer get the chocolate protection.

chocolate and blood pressure - Copyright â Stock Photo / Register Mark Typically, cocoa loses over 70 percent of its initial polyphenol content (flavanol is a polyphenol) during manufacturing. The heat destroys it. In the past several years, researchers and food scientists have developed ways to preserve the polyphenol and particularly the flavanol content of chocolate. These high-flavanol chocolates have allowed for the study of chocolate's potential benefits.

There is little doubt any more that these chocolates lower blood pressure. Eating them activates specific enzymes called *nitric oxide synthases*. These enzymes increase the amount of nitric oxide made in the blood. Nitric oxide is a potent vasodilator and improves the function of blood vessels.

How much is enough? A March 2010 study published in the *American Journal of Hypertension* suggests that as little as 6 grams per day of high-flavanol chocolates lowers blood pressure. Certainly any chocolate lover could manage 6 grams a day, right?

Chocolate and Heart Health

Chocolate protects against heart disease in more ways than lowering blood pressure. It also decreases blood markers of vascular inflammation and improves cholesterol levels. A 2008 paper published in the *Southern Medical Journal* reported that after one week of eating a daily dose of chocolate providing 700 mg of flavanols, subjects' low-density lipoprotein cholesterol levels (the "bad cholesterol") fell by 6 percent and their high-density lipoprotein cholesterol (the "good cholesterol") rose by 9 percent.

Chocolate as an Edible Sunscreen?

In a double-blind study published in the *Journal of Cosmetic Dermatology* last year, researchers in London gave chocolates to 30 healthy volunteers. Half ate a high-flavanol chocolate and the others ate a low-flavanol chocolate. A minimal erythema dose (MED), a measurement of how much sun exposure it takes to trigger a sunburn reaction, was calculated at the start of the experiment and again three months later. Volunteers who ate the regular chocolate had no change in sun sensitivity. But in those who ate the

high-flavanol chocolate, the length of time it took for their skin to start to "burn" more than doubled. In other words, they could tolerate twice the sun exposure without burning as before they started eating the chocolate.

Most people, if given a choice between eating chocolate or slathering oneself with sunscreen, would not even consider this a choice, but a no-brainer.

Let the Eater Beware: Not All Chocolate Is Created Equal

These are all fascinating studies, but there is one problem. Standard chocolates, the kind most people eat regularly, contain only small amounts of flavanol. These chocolate research studies used special chocolates with much higher than normal flavanol content. Flavanol content was preserved through special low-temperature processing. So, as tempting as it might sound to purchase a chocolate bar next time you are at the checkout while grocery shopping, don't do it with the rationale that it will improve your health. Those chocolates do not contain enough flavanol to work their health magic.

girl eating chocolate - Copyright â Stock Photo / Register Mark That said, more and more companies, large and small, are working to produce high-flavanol chocolate. For example, there are two major companies that claim to have figured out how to preserve the flavanols in chocolate. One is the Belgium chocolate manufacturer Barry Callebaut, who has developed a special refining process marketed under the brand name Acticoa. This brand of chocolate has been used in most of these recent research papers. Callebaut does not currently sell its chocolate in North America, though a rumor hints that it will introduce it to the U.S. market this summer.

The other company marketing high-flavanol chocolate is part of the Mars candy company and sells their product under the brand name CirkuHealth. This product line replaces Mars' older specialty brand called CocoaVia, which was manufactured and sold for about 10 years, but discontinued in 2009.

That something as delicious and pleasurable as chocolate might offer profound health benefits is almost too good to be true. We still can't say definitively that chocolate prevents high blood pressure, heart disease or sunburn, but I'm sure you'd be willing to volunteer for the next study! For now, talk to your doctor for additional information.

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