Why you don’t have to feel guilty about those Valentine’s Day chocolates



[My Valentine’s gift to you: I reworked and updated this article that I originally published last year to reflect the latest finding on the beneficial effects of chocolate.]

What the world doesn’t need this Valentine’s Day is yet another cheery article about the health benefits of chocolate. Some of what you see out there is the result of an aggressive marketing push by Big Cocoa, an industry that boasts 101 billion dollars in sales internationally, of which 22.4 billion is in the U.S. alone. Consumption is growing at an annual rate of six percent.

The chocolate industry has fueled demand by underwriting research that shows that chocolate is healthy for you. And there’s ample reason for believing this, as we’ll soon see. But popular bars may be a “Trojan Horse” for added sugar, poor quality vegetable oils, and cheap emulsifiers. A teentsy Mars bar lists among its ingredients 26 grams of carbohydrates, delivering 166 calories.

A recent study suggests that even milk chocolate might reduce the risk of heart disease and stroke, but its conclusions have been challenged on the basis that chocolate consumption might simply be a marker of affluence that’s associated with better health outcomes.

It turns out that milk chocolate may contain as little as 10% of the cocoa flavanols responsible for chocolate’s health benefits; Even dark chocolate varies in the potency of its beneficial compounds because processing (“dutching”) degrades polyphenols.

So let’s summarize with a full recitation of chocolate’s health benefits:

Chocolate helps circulation: Cocoa is a potent inducer of nitric oxide, a chemical messenger that causes blood vessels to relax and expand. Epicatechins in chocolate act as antioxidants, protecting the endothelium, the lining of the arteries. In a 2007 experiment 22 heart transplant recipients received either 40 grams (1.4 ounces = 4 small squares) or a placebo. There was a rapid improvement in circulation: “Dark chocolate induces coronary vasodilation, improves coronary vascular function, and decreases platelet adhesion 2 hours after consumption. These immediate beneficial effects were paralleled by a significant reduction of serum oxidative stress.” Epidemiological studies confirm that, among dark chocolate consumers, heart attacks and strokes are reduced. Interestingly, NO-dependent vascular effects of flavanol-rich cocoa may be greater among older people, in whom endothelial function is more disturbed. The antioxidants in dark chocolate may also protect the arteries by forestalling oxidation of LDL cholesterol.

Chocolate keeps you slim: Sounds counter-intuitive, but there's evidence that cocoa administration decreased visceral adipose tissue in rats. In humans, chocolate has been shown to suppress ghrelin, which promotes satiety.

Chocolate may reduce the risk of atrial fibrillation: Will your heart go pitter-patter when you consume your favorite chocolate treat? Not according to the latest study. High chocolate consumers (greater than 3 times per week) were found to enjoy 35% reduced risk of developing atrial fibrillation. This may be the result of an anti-fibrotic effect of cocoa flavanols on heart muscle.

Chocolate combats high blood sugar and insulin resistance: In a large survey of multiple studies involving 1,139 subjects, consumption of dark chocolate was associated with improvements in numerous cardiometabolic parameters; there were "significant declines in blood glucose and insulin and triglycerides, as well as another indicator of insulin resistance called HOMA-IR." Nitric oxide generation explains some of cocoa's effects on blood pressure; it also seems to be a natural ACE-inhibitor.

Chocolate is brain food: A recent study shows that chocolate consumption was positively associated with a wide range of measurements of cognitive function in subjects ranging in age from 23 to 98. Chocolate feeding to rats with experimentally-induced Alzheimer's Disease slowed neuronal decline and improved maze performance.

Chocolate improves mood, alleviates stress, and enhances focus and concentration: A recent Nestle-sponsored study demonstrated that 30 healthy adults who consumed 40 grams of dark chocolate per day had lower levels of stress hormones. Chocolate supports the production of certain "feel-good" neurotransmitters like phenylethanolamine (PEA). Consumption of cocoa flavanols results in acute improvements in mood and cognitive performance during sustained mental effort.

Chocolate feeds beneficial gut microbes: The centrality of the microbiome to many aspects of overall health is a hot theme of current research. Thus, it comes as no surprise that the health benefits of chocolate may be due, at least in part, to the prebiotic effects of cocoa polyphenols.

Chocolate fights wrinkles and skin photo-aging: At least one small Korean study showed that cocoa flavanols administered to women with moderately photo-aged skin improved skin hydration, wrinkle depth and skin elasticity.

Chocolate can make you feel sexier(?): This is where the science gets a little tenuous. While reputed to be an aphrodisiac, chocolate may gratify simply because it stimulates the *nucleus accumbens*, the brain structure associated with pleasure and reward, whether sex or food-related. There's some possibility chocolate could help erectile dysfunction because of its impact on nitric oxide—the Viagra molecule. A 2006 article in the *Journal of Sexual Medicine* entitled "Chocolate and Women's Sexual Health: An Intriguing Correlation"posits that women's scores on the Female Sexual Distress Scale are lower the more chocolate they consume. Many magazine articles have cited this as authoritative evidence that chocolate makes you sexier, but the authors of the study are careful to note that correlation is not causation—it may be that these selfsame women eat more Mexican food, read Cosmopolitan, or can afford sexy lingerie!

For a deeper dive on the science behind the health benefits of chocolate, see this article: "Cocoa and Dark Chocolate Polyphenols: From Biology to Clinical Applications"

A handy review of chocolate products with a rating of their flavanol contents can be found here [pay wall].

My current favorite is Madegasse PURE DARK CHOCOLATE BAR 92%. Obtain a nice discount on this product via Thrive Market. I always have a couple of squares before doing my show; do you agree with me that it seems to enhance my mental acuity?

Happy chocolate sampling, and Happy Valentine’s Day!