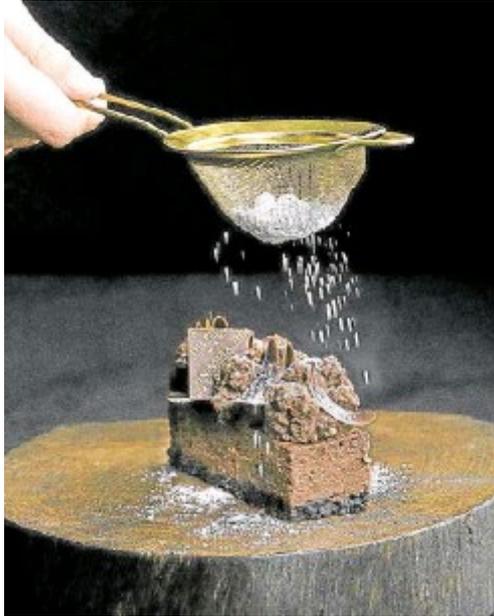


## IS CHOCOLATE A SINLESS INDULGENCE?

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A middle-age patient who read last week's column on the health benefits of coffee asked us if the same could be true for chocolates. The patient has a sweet tooth especially for chocolates; yet, her blood sugar has remained under control.



We have to quickly add that she's an avid ballroom dancer aside from her regular gym schedule. No doubt, this has helped burn all the excess calories she takes in. She also limits her carbohydrate intake so she can have some room for desserts, including her daily indulgence in chocolates. For her, it's her emotion and energy booster every time she feels depressed and easily fatigued.

It sounds counterintuitive, but some studies suggest that chocolates and the moderate indulgence in them may be good for one's cardiovascular health. Specifically, it can reduce the risk of developing heart disease and stroke.

But just like anything good in life, chocolates taken in excess may have not-so-favorable effects on the body. The key is moderation. So, depriving oneself of chocolates completely is not really scientifically founded.

Since 400 A.D.

Nutrition history books tell us that man has been eating chocolates in the form of cocoa since 400 A.D., and it has been considered by the early Greek physicians to have some medicinal effects.

They have been known to be rich in polyphenols such as catechins, anthocyanidins, and proanthocyanidins, which are potent antioxidants that can protect the body from the harmful effects of environmental stressors including bacteria and viruses.

Some health scientists even consider chocolate and cocoa products as functional food, which are health food products that can help protect against common chronic diseases like heart, brain, lung and other organ diseases including cancers.

However, the reports are mixed regarding its health benefits. A well conducted systematic review and meta-analysis published by professor Terence Chin Tan and his colleagues in the *Nutrients* journal showed no significant benefit on parameters related to skin, blood pressure, cholesterol profile, cognitive or brain function, blood glucos, and quality of life. The studies included were short-term research (4-6 week studies). Another way to interpret the study though was that it also showed no bad effects on the parameters studied. And we presume all the participants of the studies included in the meta-analysis enjoyed their regular indulgence in their chocolate products.

### Recommended

Several years ago, we recall heart and brain specialists enthusiastically recommended chocolates, particularly dark chocolate products, to their patients with a history of stroke and heart attack. This was after a landmark study—also a systematic review and meta-analysis—was presented in one of the European Society of Cardiology scientific sessions and published in the *British Medical Journal*. Conducted by British investigators, the study showed that chocolate lovers had a 37-percent lower risk of cardiovascular disease (CVD) and a 29-percent lower risk of stroke compared with individuals who rarely ate chocolate.

However, Dr. Adriana Buitrago-Lopez (University of Cambridge, United Kingdom) and colleagues stressed that chocolates have to be taken in moderation and warned about the possible adverse effects of excessive intake. Chocolate products are considered calorie-dense foods, and because of the high calories it contains, too much intake of chocolate can possibly lead to being overweight and obese, or it may enhance the development of diabetes.

“Although overconsumption can have harmful effects, the existing studies generally agree on a potential beneficial association of chocolate consumption with a lower risk of cardiometabolic disorders,” the study authors stated. “Our findings confirm this, and we found that higher levels of chocolate consumption might be associated with a one-third reduction in the risk of developing cardiovascular disease.”

What can explain the beneficial effects of chocolates? The authors gave the same age-old known favorable effect, which is the high content of polyphenols present in cocoa products. They added that polyphenols can enhance the body’s production of nitric oxide, which dilates the blood vessels and enhances the integrity of the arteries. By doing so, the progressive narrowing of the arteries, called atherosclerosis, is markedly slowed down. Medical science labels this benefit as an enhancement in endothelial function.

Paradoxical as it may sound, polyphenols in chocolates may help regulate the secretion of insulin and help regulate blood sugar and cholesterol levels

### Moderation

But aside from this, the polyphenols in chocolates can also prevent the clotting of blood inside arteries by reducing the stickiness of some blood elements such as the platelets.

Chocolates also have a

modest beneficial effect on the blood pressure. Paradoxical as it may sound, the authors said that polyphenols in chocolates may also help regulate the secretion of insulin and help regulate the blood sugar and cholesterol levels. So, contrary to what many believe, moderate chocolate intake may actually help prevent diabetes. We have to emphasize the word “moderate” and to choose chocolate products with the least sugar added.

In the British study, overall chocolate consumption was recorded and analyzed without distinguishing between dark milk or white chocolate. Chocolate in any form was included. Asians were included in one of the studies in the analysis.

Overall, the pooled meta-analysis found that moderate levels of chocolate consumption compared with the lowest levels of chocolate consumption reduced the risk of any cardiovascular disease by 37 percent and stroke 29 percent. There was also no association noted between chocolate consumption and the risk of heart failure, which was a previous concern. No risk of developing diabetes, particularly in women, was observed.

This study validates similar findings of previous meta-analyses and other studies in different populations suggesting a favorable, or at least a neutral (no good or bad effect) relationship between chocolate or cocoa consumption and heart diseases with metabolic disorders in the body.

The jury is still out with regards the final verdict on the health effects of chocolates, but from where we stand right now with the available scientific data, adding chocolates to your dessert plate may not be such a bad idea that you should feel guilty about.