

Chocolate is delicious! But it won't cure (or prevent) heart disease

By ACSH Staff — June 23, 2015



It seems like every week, there's another study on the health

benefits of chocolate getting major news coverage. There's a reason for this: people like to eat chocolate, and they're eager to read coverage of health studies that justify their chocolate habit. They'll click on the article with the catchy, sensational title about how eating chocolate is making them healthier, for example: [Two chocolate bars a day can SLASH the risk of heart disease and stroke](#) [1]. These headlines are known as clickbait, and although they're great for increasing page views, they most often have very little to do with the actual conclusions of the study that the article is covering.

The most recent example of the Internet getting carried away with chocolate science is the study titled [Habitual chocolate consumption and risk of cardiovascular disease among healthy men and women](#) [2], published in the journal *Heart*. For the study, lead author Phyo Myint (yes, that's not a typo) of the University of Aberdeen and colleagues obtained data on chocolate consumption from Food Frequency Questionnaires filled out by almost 21,000 men and women in Norfolk, England. Those filling out the questionnaires reported how much chocolate, including singles/squares, snack bars, or hot chocolate they consumed each day. After a follow-up period of 11 years, higher intake of chocolate (up to 100 g/day) was associated with a lower risk of cardiovascular disease (CVD) and stroke, compared to those who did not eat chocolate. Surprisingly, the reduced risk of CVD was found for milk chocolate as well as dark chocolate.

Not so fast. This study has several limitations that do not warrant over-hyped headlines like Eating chocolate prevents heart disease. Self-reported data is the first major limitation of this study, as it is often unreliable, because [people cannot accurately recall](#) [3] exactly how much of a certain food they ate over a period of time. Also, people tend to (sometimes purposely) underestimate how much they consume.

Because this is an observational study, the results cannot provide evidence of causality. It can't be concluded whether it was the chocolate (as opposed to other, unmeasured lifestyle factors) that led to lower CVD risk. Those who consumed more chocolate tended to be younger and leaner (lower BMIs), while the non-chocolate consumers had the highest mean BMI, highest proportion of participants with diabetes, and highest levels of inactivity. Therefore it could be possible that those

who know they are at risk of heart disease due to other lifestyle factors might deliberately eat less chocolate than those who have a perceived healthy risk profile. In other words, the study's authors may have gotten cause-and-effect backwards. As with any observational study: correlation does not equal causation.

Despite what a large proportion of the media coverage states, the conclusion of the study is not actually consuming chocolate slashes heart disease risk. The real study conclusion is this: There does not appear to be any evidence to say that chocolate should be avoided in those who are concerned about cardiovascular risk. So the take-away point is not so much eat chocolate for a healthy heart, but more so if you're generally healthy, don't worry about moderate chocolate consumption leading to increased risk of heart disease.

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Links

[1] <http://www.mirror.co.uk/news/technology-science/science/two-chocolate-bars-day-can-5888955>

[2] <http://heart.bmj.com/content/early/2015/05/20/heartjnl-2014-307050>

[3] <http://acsh.org/2015/06/memory-based-dietary-information-leads-to-inaccurate-guidelines/>