

‘Bad’ Cholesterol & Death From Heart Disease Link Questioned



By Lila Abassi — June 15, 2016



Heart disease via Shutterstock

Sometimes the greatest discoveries in science occur when the prevailing dogma is challenged. It has been taught and accepted that low density lipoprotein (LDL) is considered the ‘bad’ cholesterol — the one that blocks arteries and causes heart disease. Most in the medical field would readily agree that the use of statins, a class of medication to help reduce cholesterol, is effective in preventing death overall as well as death from heart attacks and strokes.

A recent [meta-analysis published](#) ^[1] in *BMJ Open* journal seems to disagree. The researchers analyzed 30 cohort studies that included a total of 68,000 elderly subjects, where 28 of them included data regarding all-cause mortality and deaths from heart disease in nine cohorts. They found an inverse relationship in 16 of the studies between LDL levels and all-cause mortality with 14 having statistically significant results — that is, representative of 92 percent of the total participants.

Of the nine studies looking exclusively at death from heart disease, seven showed no association and two of those studies showed the highest cardiovascular mortality in those with the lowest LDL; these were statistically significant. The study concludes that LDL is inversely related to death in people over age 60, and that current guidelines for treating cholesterol need to be re-evaluated.

“Lowering cholesterol with medications for primary cardiovascular prevention in those aged over 60 is a total waste of time and resources whereas altering your lifestyle is the single most important way to achieve a good quality of life,” stated co-author of study, [Sherif Sultan](#) ^[2], MD, professor of vascular and endovascular surgery at the University of Ireland. “Cholesterol is one of the most vital molecules in the body and in the elderly prevents infection, intracerebral bleeds, cancer, premature cataracts, muscle pain and fatigue and this must be protected and nourished.”

It seems a good idea to investigate how substantial this meta-analysis is. All recommendations for whom to treat, and how aggressively to treat them, come from well-established [guidelines](#) ^[3] based

on rigorous studies — all showing a positive association between cholesterol levels and heart disease. This meta-analysis is based on cohort data that could have come from poorly conducted studies. Cohort data look at exposure or risk factors, and an outcome and an association does not imply causation – other factors influencing the outcome may have been overlooked or unaccounted for. Randomized controlled trials are the gold standard in determining cause and effect, especially long-term clinical trial data.

The authors also have [biases](#) [4] against cholesterol as a cause of heart disease because four of them have written books challenging this belief, and nine of them belong to “The International Network of Cholesterol Skeptics.” This could have contributed to cherry picking data. Also, they only used one database, PubMed, to gather papers for inclusion in their study, which means they could have missed other relevant studies. Additionally, only LDL levels were looked at — they didn't take into account total cholesterol, triglycerides, ratio of LDL to HDL (or ‘good’ cholesterol) – these may have influenced the mortality outcome.

“There have been several studies that tested whether higher cholesterol increases the risk of heart disease, by lowering cholesterol in elderly patients and observing whether this reduces their risk of heart disease,” said [Tim Chico](#) [2], MD, a cardiologist at Sheffield University, UK. “These have shown that lowering cholesterol using a drug does reduce the risk of heart disease in the elderly, and I find this more compelling than the data in the current study.”

This meta-analysis is too riddled with problems to provide sound evidence that statins are no longer necessary or a waste of time.

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Links

[1] <http://bmjopen.bmj.com/content/6/6/e010401.full>

[2] <http://www.dailymail.co.uk/wires/pa/article-3638103/Link-cholesterol-heart-disease-older-people-called-question.html>

[3] <https://circ.ahajournals.org/content/early/2013/11/11/01.cir.0000437738.63853.7a.full.pdf>

[4] <http://www.nhs.uk/news/2016/06June/Pages/Study-say-theres-no-link-between-cholesterol-and-heart-disease.aspx>