

# Latest Coffee Study Is Being Hyped



By *Chuck Dinerstein, MD, MBA* — July 11, 2017



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The media is alive with a new report sure to satisfy the confirmation bias of a billion people; drinking coffee is good for you!! And evidently, the more, the better.

At least that is what the media has chosen to tell us in their interpretation of an article in the journal *Annals of Internal Medicine* entitled [Association of Coffee Consumption With Total and Cause-Specific \[2\] Mortality Among Nonwhite Populations \[2\]](#).

Aren't these the same media groups that decades ago lifted Center for Science in the Public Interest, the now-famous environmental litigators, into popular culture when that group used "science" to claim coffee *caused* breast cancer? Indeed they are the same media companies, just a new generation of journalists who still embrace weak observational studies sure to get attention.

As is almost always the case with food or drinks, it was an observational study and based on self-reported recall of behavior—both notoriously unreliable. Sorry to be the downer while you are drinking your upper, but it's our job to sort through hype and share real data, even if it's an inconvenient truth while you drink your morning or afternoon coffee.

First, here is their conclusion:

*Compared with drinking no coffee, coffee consumption was associated with lower total mortality after adjustment for smoking and other potential confounders*

Coffee enthusiasts should be feeling great...until I explain the phrase "after adjustment."

What does that mean? Let's look at the actual data and we'll see.

Consumption	% of participants	Hazard Ratios Adjusting for		
		Age Sex Ethnicity	Smoking	Other co-founders
None	16%	1.0 (reference)	1.0 (reference)	1.0 (reference)
1-3 cups/month	7%	1.0	.98	1.0
1-6 cups/week	13%	.99	.94	.97
1 cup/day	31%	.97	.88	.88
2-3 cups/day	25%	.95	.80	.82
> 4 cups/day	7%	1.11	.80	.82

Confounders—variables that make studies less reliable— included body mass index, education, physical activity, alcohol consumption, caloric intake, fats eaten and preexisting illness—and the authors simply say they were taken into account. Taken into account? Secret statistical sauce? Isn't this how polls got November 2016 and Brexit and too many other things wrong to recall? Who watches the watchers?

Should we or should we not drink coffee?

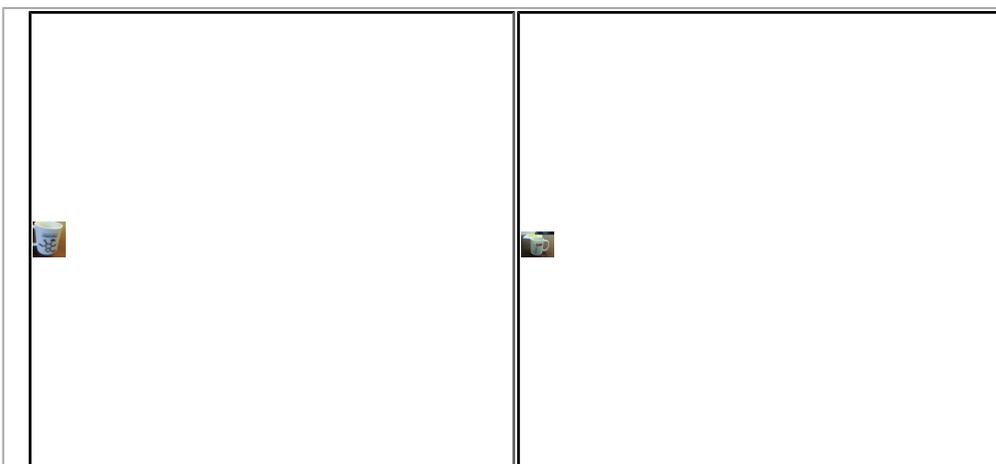
It's never that simple unless you are a *Washington Post* reader. The authors weakly indicate, “Our findings support the recent dietary guidelines from the U.S. Department of Agriculture, which indicate that moderate coffee consumption can be integrated into a healthy diet and lifestyle...”

Which means nothing, really.

So let us consider this from a behavioral point of view. We cannot control age, gender or ethnicity so the first model should reflect our baseline condition.

An interesting factoid to be noted here is that coffee *must* have a toxic limit because at greater than four cups mortality rises (for both caffeinated and decaffeinated subgroups too). The second model adjusted for smoking, something we can control. In this case, the data showed ‘dramatically’ improving mortality, although coffee dosage seems a bit odd— a one cup difference (six cups per week vs. seven) resulted in 6% less mortality. Doesn't smell right.

We even talk about toxicity on, you guessed it, the coffee cups that we give to donors because caffeine is far more toxic than a lot of products environmental groups have terrified people about:



Finally, if we include additional variables we might control, BMI, caloric intake, fats eaten, physical activity and alcohol consumption we find similar numbers, although the benefit of increasing intake accrues only to the caffeinated among us.

Who can claim to control for all of that and not really just be data dredging?

Here is the question: are we looking at coffee drinking as an isolated behavior or as a marker for other lifestyle choices? In what I perceive to be the real world, coffee consumption has little impact on our mortality unless it is “excessive” (by the study definition more than four cups/day) and then the effect was deleterious.

If you believe that coffee confirms some benefit by itself, you have data to make that argument – but only when controlling for smoking, diet and physical activity...and only for the caffeinated.

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[1] <http://www.shutterstock.com>

[2] <http://annals.org/aim/article/2643433/association-coffee-consumption-total-cause-specific-mortality-among-nonwhite-populations>