

The Truth about Red Wine

As consumers of science, we're familiar with exaggerated headlines and claims that seem to overpromise. We assume that behind these claims, there were scientists that properly set up experiments and allocated their funds to investigate relevant issues. We expect that beyond every study is a meaningful and applicable conclusion. We then rely on journalists to read lengthy scientific publications and glean the important bits, allowing us to understand these powerful conclusions after reading the one-liner at the top of the page. Then, who is to blame when incorrect or exaggerated conclusions become propagated at a wide scale?

In his popular novel, *Houston, We have a Narrative: Why Science Needs Story*, science writer Randy Olson described one side to this relationship when he stated, "That's a whole lot of exaggeration, leading to the telling of bigger and more exciting stories than what actually exist in the real world. This is bad news for science, which seeks to document the real world, regardless of how good the story."

A simple solution is to place blame with journalists that are boiling down complicated scientific concepts. Yet, journalists are merely the secondary source, deriving their information from scientific publications. If news articles and press releases were similarly as detailed and complex, they would not be palatable to readers. All too often, claims and promises are formed in research labs, when trying to develop meaningful conclusions.

No claims have been more exaggerated and more disputed than those concerning red wine and its healing properties. In 1995, it was announced that among 6,000 men and 7,000 women, those who drank three to five glasses of wine a day had a 49% lower rate of death over a ten-year period. Great news, right? Unfortunately, the researchers did not account for any other life factors such as exercise, diet, or family history that could also account for these findings. Without all factors considered, how could a decrease in death rate be attributed to red wine alone?

Again in 2015, red wine was held up as the new fountain of youth when resveratrol, an antioxidant found in red grapes, was discovered. A study was conducted that showed that a resveratrol pill could prevent the formation of amyloid plaques, protein tangles that cause memory loss in Alzheimer's disease. Amazing! However, to achieve these same results, a person would need to drink 1,000 glasses of wine a day to consume the same amount of resveratrol in the study. Furthermore, it is unknown whether resveratrol can reduce or reverse existing amyloid plaques.

In the past, it was asserted that red wine could reduce the risk of prostate, as well as lung and colon cancer. However, this result was only seen in light to moderate drinkers. After a certain point, too much red wine outweighs the perceived benefits. Years later in 2015, a Harvard study debunked these claims. They found that even half a glass of wine a day can increase the risk breast cancer by 13%. For men, drinking a couple glasses of alcohol a day was associated with a 26% increased risk of cancers such as liver, colon and esophageal cancers. With all of this back

and forth, it is no wonder why the same headlines that proclaimed red wine to be the cure for cancer didn't get the same attention when the 'oh wait, no it's not' article came out. Quite often, first impressions can be the most powerful, leaving lasting impacts.

The public will probably always remember hearing that a glass of wine a night does the heart good.

However, all types of alcohol are considered carcinogenic and consumption should always be kept in check. Exciting stories make for good headlines and stick in the minds of readers. Publications that have retracting or overriding statements have minimal exposure and more than likely will not be covered. Should the media be held accountable for their exaggerated claims and often false statements? Or is it in the hands of the scientists to emphasize the meaning and ramifications of their work, so they do not get overstated? Even if scientists properly state the consequences of their study, is there any way for their results and work to be properly conveyed to the public, without exaggeration?

Likely, exaggeration will continue to run rampant whether it originates in the research lab or the newsroom. Every consumer should approach press releases with a healthy dose of skepticism. Digging a bit deeper into primary sources would have revealed that studies on red wine and their correlations with cancer prevention were weak at best. It is tempting to put the onus on researchers or journalists, yet both groups are providing content for their jobs and are heavily influenced by public opinion. The public must demand better accountability for science, rather than latching on to claims that are too good to be true.

Source: <https://www.cnn.com/2015/12/17/health/health-effects-of-red-wine/>