

My 15 Minutes of Fame

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The reporting of “medical news” has become an important part of the barrage of information available in print, in electronic media, and, of course, in the 4 billion or so sites on a Google search for health-related topics. My own brush with this phenomenon came about through co-writing an editorial¹ on one of the most pedestrian issues that one can imagine: How much water should one consume each day above and beyond that dictated by thirst? We concluded that drinking excess amounts of water above that induced by thirst was not backed by scientific evidence, although the question had not been well studied. What I learned about the media and the reporting of health-related issues from this experience may be instructive to others who happen to have their work become the object of a press release and thereby stumble into the world of health reporting.

First, I learned that there are at least three kinds of “journalists.” True reporters want to encapsulate scientific findings and pass on the information to an audience. They may ask a “probing” question but mostly will simply want to know the outcome of the study or the review and the significance of the findings.

Second, there are the talk show hosts. They are quite innocuous, will mostly give you 5 min, will not really prepare to discuss the issues with you, and will be quite happy to fill some air time. If it is Australia, then the air time will be when you are typically asleep, however. There are some extended radio and television talk shows. Often these are on public radio or local cable stations, and here, too, the experience is quite benign and comfortable. Their producers may book another “expert” just to be sure you are not tongue tied or, worse yet, boring.

Then there are the “health or medical reporters,” and they can be a problem. Health reporting has become a staple of television and print news, and it can be quite pernicious. Reporters often misunderstand the nature of research and the interpretation of scientific results.

The nature of observational studies often leads to great confusion for the public, because journalists tend to treat every observational research study as though it actually creates a new

“fact.” The result is often a complete muddling of the issue with an assumption that causality had been established. The investigators who performed the studies typically appreciate the limitations of their studies; health reporters often do not.

Perhaps an even more unfortunate aspect of health reporting, particularly on the common “lifestyle” issues regarding what you should eat or drink or avoid, is the desire to abide by journalistic impulses to give credence to “both sides of the story,” even though, in many of these issues, one side is often the position of an advocate who has a large economic stake in his or her position. For example, one of the reporters of our study felt compelled to cite the opinions of Fereydoon Batmanghelidj. He apparently is, as described by the *Wall Street Journal*,² “a controversial researcher who extols the benefits of water in two books, and calls relying on thirst to regulate hydration ‘the greatest tragedy in medical history.’ He and other water aficionados believe that by the time people feel thirsty, they are already dehydrated.” Other beverages, particularly caffeinated ones, according to this view, simply do not count. This is nonsense,³ but it gains credibility by the journalist’s mentioning it as part of the attempt at “balance.”

Some of the counterarguments can, of course, have real validity. Michaud *et al.*⁴ found in a careful and important observational study that compared with individuals who drank less water than is typical, particularly those who smoke, individuals who drank large amounts of water (by self-reporting) showed a trend to lower rates of bladder cancer. What was found was that self-reported fluid intakes that approximate typical fluid intake in the United States reduce the risk for bladder cancer compared with low fluid intake. The reporter, however, described the results as follows: “For instance, a 10-yr study of nearly 48,000 men published in the *New England Journal of Medicine* in 1999 found the risk of bladder cancer fell 7% for every cup of water subjects drank per day.” Not exactly. One had to compare the risk for bladder cancer with those who drank unusually small amounts of fluid each day to show that incremental amounts of fluid were protective. The reporter’s efforts to show some expertise in the matter led to inappropriate conclusions.

Of course, the investigators whom the reporter approaches may also inject their own biases in a forum that does not have the scientific rigor found in a peer-reviewed publication. An example of this phenomenon was one journalist’s citation of a study about hydration and blood viscosity. The study’s author told the reporter that “some fluids like juice have been shown to increase blood viscosity, whereas water decreases it, at least temporarily.” The health implication is that high blood viscosity may lead to vascular consequences such as stroke and that water but not juices may be beneficial to prevent stroke. The actual article found nothing of the kind given that it was an observational study and not a therapeutic trial. The authors of that study were careful to point out the limi-

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tations of the data and struggled in the discussion to find a biologic basis other than that individuals living in desert climates may become dehydrated. No study has shown increased blood viscosity in the low water drinkers or reduced blood viscosity in the high water drinkers. In fact, the relationship between blood viscosity and stroke is likely due to underlying issues of hematocrit and fibrinogen levels, but when one has the opportunity to speak to the press, caution may fly out the window, and claims that are not justified by the data arise. Although authors are entitled to their theory about the implications of their work, they are not entitled to conclusions beyond the data they have or justified in making lifestyle recommendations just because the “cameras are rolling.”

Drinking large amounts of water cannot be recommended as a prevention of stroke, unless you also deal with the well-defined risk factors such as smoking, hypertension, high blood lipids, diabetes, and obesity. Drinking a few extra glasses of water can be harmful if it substitutes for really effective, established measures. Unfortunately, the combination of a microphone and/or a reporter and a notepad along with an investigator who has toiled in a laboratory for many years without public recognition can lead to “irrational exuberance.”

Finally, if you publish an article that reaches the popular media, you are likely to encounter the celebrity expert injected into the discussion. One journalist wrote in regard to our editorial, “Whether the average human *needs* that much (water), many diet advisers—from the late Robert Atkins to Oprah Winfrey—firmly believe that drinking extra water helps people feel fuller and makes the body retain less fluid, even though some concede the benefit may be as much behavioral as metabolic.” There is absolutely no rational basis for drinking more water to promote water excretion above that consumed. Dealing with Oprah Winfrey’s opinions is more than most scientists can handle.

If you try to be cautious and highly circumscribed in discussing your results or hypotheses, then you will likely become enmeshed in a discussion that goes well beyond “the data,” and if you happen to land on Australian talk radio, then be prepared for difficulty in understanding the dialect, particularly at 11:30 p.m.

Whether the public is well served by the interaction of the media and health information is quite unclear. The need for objective health information has been attempted by many groups, public agencies, and for-profit enterprises, but as long as the medical reporter is involved without a rigorous review of his or her pronouncements by health professionals with expertise in the specific topics under discussion, one is likely to see ongoing frustration and confusion about the validity of the information. Moreover, the media would be well served to rely on clinicians who understand the nature of research data and the limitations of both observational and experimental research studies. One encounters this kind of insight in major television network reporting, but the local evening news or the local newspaper is unlikely to have such resources. They would be better off concentrating on the weather.

DISCLOSURES

None.

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How Many Different Roads May a Cell Walk down in Order to Become a Fibroblast?

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Renal interstitial fibroblasts are an essential component of the kidney interstitium and presumably the main effector of renal fibrogenesis, a process responsible for pernicious interstitial deposition of matrix and eventual loss of organ function. The origin of these matrix-producing cells has been a matter of debate for a long time. As early as 1867, fibroblasts (they were called contractile cellular elements at the time) were thought to be descendents of migrating leukocytes.¹ This theory was widely accepted until 1970, when Ross *et al.*² proved in a very elegant set of experiments using parabiotic rats that fibroblasts are mostly of local origin. These fibroblasts were subsequently classified as type I (of three types) interstitial cells by Bohman³ and were thought to be a relatively homogeneous cell population.

Today, we know that fibroblasts can be much more heterogeneous than previously thought.⁴ Some preexisting, resident fibroblasts convert to myofibroblasts during fibrogenesis, the term myofibroblast implying the *de novo* expression of α -smooth muscle actin (α -SMA), whose expression is otherwise typically or physiologically confined to vascular smooth muscle cells. Immu-

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