Belief

All articles in this journal are peer reviewed and are hopefully free of the biased, imaginative, and unsupported claims sometimes found in the media and lay press. The reader below, however, is somewhat skeptical about the extent to which hope mirrors reality.

Letter to the Editor

My spouse is a physician and voracious reader who subscribes to several medical journals. As a stay-at-home parent, I have the luxury of perusing these fine publications and find yours particularly refreshing because of the provocative letters from diverse writers. Hopefully this letter too will be deemed worthy of an editorial response.

How can readers distinguish belief from knowledge in medical writing and why don’t journal editors do a better job in separating the two? A belief may or may not be true, yet the proud owner of it, who may also be a medical writer, often adheres to it with a tenacity of conviction that defies logic. Conversely, knowledge implies that a belief is true and supported by reasonable evidence.1

I would hope that medical editors prefer knowledge over belief, at least when reporting research. Yet my reading of many journals suggests, at times, a callous disrespect of knowledge by some editors, who allow unsupported claims, one-sided literature reviews, and undisputed wishful thinking to freely grace the printed page. Some might call this bias, a systematic deviation from truth, resulting, at least in this case, from passionate belief.

Without passion and belief, medical articles would be boring, but too much of a good thing is clearly dangerous. Your thoughts on the matter are deeply appreciated.

Credibly yours,

Knute Knowledge, PhD
Believable Bay, USA

Editor’s Response

A simple response to Dr Knowledge might echo the words of English logician, Bertrand Russell: “I would never die for my beliefs because I might be wrong.”2 Unfortunately, belief can blind and the most passionate believers rarely possess the humility needed to entertain even the remote possibility of error. Some further elaboration might therefore be warranted.

Expectations and, perhaps more appropriately, obligations for distinguishing belief from knowledge in medical writing differ according to the type of composition. For purposes of discussion, let’s consider lay press publications (eg, newspapers, magazines, newsletters) and publications in peer-reviewed journals. My goal is to highlight common principles of good writing and reporting that apply, at least in part, to both venues.

Humans are obsessed with health, and there is no shortage of eager journalists to satisfy this hunger with daily publications in every conceivable media format. I find many of these fascinating, especially when I am not familiar with the topic, but when reading a topic in my own specialty, my response is generally “are you kidding?” This gut reaction stems from an obvious substitute by the writer of belief for knowledge, something that is likely equally prevalent outside my area of expertise but readily overlooked because of my ignorance on the topics.

Having worked with many journalists, I know they do not intentionally seek to deceive; rather, the process used often prohibits critical analysis. Journalists face restrictive deadlines that make expert opinion and patient testimonial the most efficient path to an engaging and provocative story. When research articles are discussed, journalists may not possess the skills in critical analysis needed to move beyond platitudes in the abstract and discussion sections. Such skills may also be lacking in the experts quoted, who may have undisclosed financial or intellectual conflicts of interest that further color their beliefs. Not surprisingly, writing based on expert opinion, personal patient experience, and cursory literature analysis is not the best way to separate knowledge from belief.

Writing for medical journals should presumably overcome the shortcomings of lay press writing: authors must disclose any conflicts of interest, craft a manuscript that adheres to a rigid organizational format (eg, abstract, introduction, methods, results, and conclusions), cite published literature to support their assertions, and successfully navigate the arduous peer review process before publication. Shouldn’t these requirements be enough to allay the concerns of Dr Knowledge? Ideally, yes, but the theoretical virtues of peer review are not always realized.

Just as journalists are well intentioned, I suspect the vast majority of authors, editors, and peer reviewers at medical journals have no desire to deceive readers. Most physicians,

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The first 2 concepts above are well discussed in the medical literature, corresponding to the themes of conflict of interest and levels of evidence, respectively. The last 2—balance and perspective—receive far less attention despite their critical importance.

Very few medical articles are truly fair and balanced. More often, the viewpoint is distinctly myopic, reflecting a personal, institutional, or regional bias of preconceived best practice. Just as “fish discover water last,” successful clinicians may be the last to acknowledge alternative, and possibly superior, approaches to patient care.

The importance of diverse opinions in defining best practice is highlighted in the Institute of Medicine (IOM) report on trustworthy clinical practice guidelines: “the guideline development group should be multidisciplinary and balanced, comprising a variety of methodological experts and clinicians, and populations expected to be affected by the . . . guideline.” The IOM cites research that experts are more likely to recommend procedures they perform, single-specialty guideline groups reach different conclusions than multispecialty groups about the same evidence, and primary care providers can differ markedly from specialists in perceptions about intervention appropriateness.

If we limited medical articles to only those with diverse, balanced authorship, there might be little left to publish. The point is not to mandate such a criterion, which may be impractical or impossible to meet, but to highlight the ease with which belief can masquerade as knowledge when balance is lacking. Readers are left to bear the burden of deciding the impact of balance, or a lack thereof, on the credibility of a given report. They also gain some reassurance when the authors expressly seek diversity of opinion and views, taking time to present contrasting viewpoints in a thoughtful and deliberate manner.

The balance just discussed relates to accommodating diverse viewpoints at a single time point, which is related to, but distinct from, historical perspective that spans years, decades, or even centuries. Oliver Wendell Holmes recognized more than a century ago the fleeting nature of expertise: “Experience must be based on the permanent facts of nature. But a glance at the prevalent modes of treatment of any two successive generations will show that there is a changeable as well as a permanent element in the art of healing; not merely changeable as diseases vary, or as new remedies are introduced, but changeable by the going out of fashion of special remedies, by the decadence of a popular theory from which their fitness was deduced, or other cause not more significant. There is no reason to suppose that the present time is essentially different in this respect from any other [italics added]. Much, therefore, which is now very commonly considered to be the result of experience will be recognized in the next, or in some succeeding generation, as no such result at all, but as

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a foregone conclusion, based on some prevalent belief or fashion of the time.\textsuperscript{5}

Holmes’s observation leads to an inescapable conclusion: it is very likely that someone 20 or 30 years from now reading medical articles written by, or quoting, the foremost medical experts of our day will wonder how such smart individuals could tout such crude treatments, fatuous theories, bizarre hypotheses, and crazy conclusions. The corollary, of course, is that many smart doctors at any moment in time engage in foolish and questionable practices, which only become apparent decades later, by which time new foolish and questionable practices have taken the place of the old ones.

A crystal ball showing the future might be the best antidote for generational conceit, but for now, the only reasonable solution is to temper current beliefs by the humility gained from studying the accomplishments and failures of generations past. Authors are obliged to put current writings in the context of history, by reconciling their conclusions with prior publications. Although access to historical information is facilitated by electronic search engines, the process of reconciling the findings with evolving beliefs, methodology, and technology is difficult. Readers should take heed when medical articles are written in the historical vacuum of self-importance, considering all prior efforts inferior to current (delusory) brilliance and not worth mentioning.

To conclude, there is nothing wrong with expressing beliefs in medical writing, but it is terribly wrong to substitute belief for knowledge. Beliefs based on personal passion should be clearly separated from knowledge based on “permanent facts of nature” that have withstood the test of time. Readers of all medical articles, whether in the lay press or the best medical journals, must remain vigilant skeptics, a task that will hopefully be aided by the words above.

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References