Editor's Page

Medical Research News in the Media: To Report What Is Worth Knowing

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"Obviously, a man's judgment cannot be better than the information on which he has based it."
– Arthur Hays Sulzberger, 1891-1968 (Publisher of the New York Times from 1935 to 1961).

Medical and biological research spearhead our efforts for preventing and treating diseases and promoting human health in general. In the past, epidemiological research discovered the causes of several disorders, such as the important link between smoking and lung cancer, or the association of cholesterol with heart disease. However, in recent years we have been witnessing a changing pattern of current research, driven mainly by the need to elaborate the pathophysiology and refine the treatment of several modern "serial killers", such as cardiovascular diseases and malignancies.

Information and conclusions gained from research do not comprise an end in themselves. No "eureka" is useful unless it benefits the way we approach a syndrome or disease. And of course, important findings have to be communicated to those who are likely to be interested; novel treatment modalities to the patients, and new issues of preventive medicine to the general public. For a long time, patients had no source of information about medical developments but their physician. However, today the pattern of communication has changed dramatically and a shift in the flow of information can be observed. Nowadays, news media (TV, radio, newspapers, magazines) and internet facilities are the principal sources of information, and gaining access to medical research news is no longer a difficult task. Although the contemporary quick dissemination of medical information is unequivocally beneficial, it may sometimes prove to be a double-edged sword.

The media have an important role to accomplish when propagating medical news. When this is not performed properly, misleading information may ensue. It is noteworthy to consider some examples. In 1984, the journal *Neurosurgery* published a preliminary, single blind study testing the effects of a new treatment for Alzheimer's disease.[1] Although the study included only four patients and changes of functional status were subjectively assessed by their families, the study gained high publicity with accompanying headlines such as "*Scientists Find First Breakthrough against Alzheimer's*" and "*Researchers Believe Treatment for Alzheimer's Disease Is Near*".[2]

More characteristically, in May 1997, the leading medical journal *New England Journal of Medicine* published the results of the Nurses' Health Study concerning the effect of sex hormone replacement therapy in postmenopausal women.[3] This study suggested that hormone use decreased cardiovascular mortality, but this survival benefit declined with long-term use due to an increase of breast cancer from 1.8% to 3.0%. We will ignore at this moment newer studies that have rejected the protective role of such a therapy, and we will scrutinize the way that the media dealt with this important issue of public health. The headline of the *Associated Press* agency was "*Study Links Estrogen and Breast Cancer*", whereas the finding of an absolute increase of 1.2% in the number of breast cancer diagnoses in treated women was conveyed as *"... after 10 years of hormone use, a woman's risk of dying of breast cancer was 43 percent higher than that of a non-user*".[4] Although this last was not wrong (the absolute increase of 1.2% corresponded to a relative increase of 43% in that population), it was quite misleading for the public. As Jim Hartz and Rick

Chappell note, "That made it sound like women were starting to drop like flies from breast cancer."[4] At the same time, the readership of the *New York Times* was getting a much more optimistic yet equally inaccurate message: *"Hormone Therapy Found to Cut Women's Death Risk*." Hopefully, the readers of The *Washington Post* were somewhat more lucky that day, given that the front-page headline, "*Women's Use of Hormones Has Benefits, Risks,"* was a more actuarial approach to the study.

The above cases show how inaccurate medical journalism may misinform groups of patients or the general public. Such cases of sensationalism in medical journalism may appear even in the face of benign intentions on both scientists and journalists. This unintentional sensationalism, meaning that exaggerated and hyperbolic medical information is reaching the public in a way that raises false hopes or undue fears, is a complex phenomenon involving both researchers and journalists.

As Professor Boudoulas says elsewhere in this issue, "Biomedical research, like any other human activity, is built on a foundation of trust."[5] Therefore, we must not turn a blind eye to cases of researchers who intentionally disseminate factitious and deceptive results of their "research" in order to gain benefits or publicity. Nor should we be swayed by journalists who are affected by the "U2 syndrome" proposed by Timothy Johnson (that is, if an editor or reporter becomes interested in something, then *you, too*, must be interested).[2]

Perhaps the most important factor leading to involuntary sensationalism is miscommunication between scientists and journalists,[6] as expressed by major differences in style and language used in each profession.

For example, medical researchers complain that the journalists are unable to understand the basic message of their work, fail to properly interpret statistics, probabilities and risk, and tend to oversimplify complex issues. On the other hand, medical journalists maintain that scientists most often speak in jargon, cannot explain their work simply and plainly; they frequently publish preliminary results without waiting until they obtain the unequivocal proofs, and finally, they fail to realize that "news" is a commodity that must be made relevant and appealing to the readership.

More accurate communication between researchers and medical journalists can be achieved in several ways. Both groups of professionals should educate each other, focusing on how the needs of the public can be met. For example, education of some journalists on scientific aspects would create a specialized group certified for handling medical news. On the other hand, it would perhaps be even more efficient if expert scientists interpreted and popularized some important medical aspects.

Moreover, journalists must be very careful when interpreting potentially questionable work. They must be aware that works in progress or works announced in scientific conferences have not yet entered any peer-review process, they should not be reported as definitive knowledge and a second source should be consulted before such works are communicated to the public.

Ideally, a specialized authority, who would act in the way that an editor takes responsibility for the review process and content of a medical journal, should supervise the interaction between researchers and journalists.

"The public have an insatiable curiosity to know everything—except what is worth knowing...." Oscar Wilde said more than 100 years ago. Reporting medical issues in a valid and timely fashion is not an easy task to accomplish. "The fundamental question in medical journalism," Timothy Johnson, MD, states, "is how best to identify, process, and report legitimate medical information to the general public."[2] Scientists and journalists must work together in order to provide the information that the public really needs; the solid, accurate and easy to understand piece of evidence that will promote health and welfare.

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