

Letter from the editor

Getting behind the headlines

Helping the public make sense of medical news

“Drug halves breast cancer returns” shrieked the headline,^[1] when the first clinical trials of Herceptin (trastuzumab) for non-metastatic disease were published almost two years ago.^{[2] [3] [4]} It was closely followed by a quote from a “leading cancer expert” who called the results “stunning”. The headline (and several others like it) wasn’t exactly wrong; but neither did it tell the whole story. The study it referred to showed that, after one year, 92.5% of women with early stage breast cancer who took Herceptin were cancer free; but so were 87% who did not take the drug^[3] (both groups had received standard chemotherapy before they were randomised). Definitely an important result and one about which researchers were justifiably excited; but perhaps not as “stunning” as the headline implied.

The widespread reports in the media about the new research on Herceptin also tended to overlook two other key details: that the drug is only suitable for the one in five women with HER-positive cancer; and that it is linked to heart problems. In one study, nearly one in five women had to stop taking it because of its effects on the heart.^[2]

The coverage of Herceptin is one example of how the media often gives an over-simplified picture of research results. More recently, journalists reported a review of the Million Women Study which suggested that HRT may increase the risk of ovarian cancer.^[5] “HRT linked to 1,000 deaths from cancer” was one headline^[6]; “70 women die each year from cancer after taking HRT” another.^[7] Again, the numbers used weren’t incorrect, but what most journalists failed to report was the absolute risk of ovarian cancer: 22 per 10,000 among women who did not take HRT, compared with 26 per 10,000 in women taking it.

Numerous other examples include reports that the blood pressure drug isradipine “could curb Parkinson’s Disease”^[8] (based on an experimental study in mice); that the Chinese herb ginseng could give cancer patients a “physical and emotional boost”^[9] (a small, randomised, and as yet unpublished trial, with a high drop-out rate); and that hormone therapy “offers new hope for ovarian cancer patients”^[10] (a phase II study of letrozole, an aromatase inhibitor, with only 42 patients); and that the herbal supplement echinacea “puts colds on the run”.^[11]

This last story was based on a systematic review^[12], which did, indeed, seem to suggest that echinacea could reduce the chance of catching a cold; but as the studies it included each used different types of echinacea and also different dosages, the review could not tell anyone who might wish to try it what type of echinacea to buy, how much to take, when to start taking it or for how long. Nor is it known how safe echinacea is to take in the long term.

The mainstream media is where most people get their information about new medical research. Yet, as the examples above illustrate, the way that research is reported can be misleading. Journalists may be inclined to ignore anything which gets in the way of a good headline, or at least to bury it deep within the story, although in many cases reporters are only repeating the ‘spin’ put on studies in the press releases churned out daily by research institutions and journals eager for publicity.

It is not surprising if the readers, in particular people with chronic disorders, are alternately confused, elated or depressed by stories about new research — and probably end up waiting anxiously in the GP's surgery for enlightenment.

But are GPs in any position to explain research findings to their patients? Not according to one study, which found that 75% of GPs in the UK admitted having problems understanding statistics commonly found in medical journals.[13] In particular, research shows that clinicians have trouble with the concept of risk and that the way evidence for an intervention is presented alters doctors' perceptions of its effectiveness and affects treatment decisions.[13] [14]. Randomised studies have found that GPs' prescribing habits are more likely to be influenced by data presented as relative risk reduction than data presented in any other way.[13] [15]

One study of Danish GPs, for example, looked at how the presentation of risk influenced their willingness to prescribe drug treatment for an imaginary (and sometimes fatal) disease.[15] Research on this make-believe drug had shown that 99% of people who took it were alive five years later, compared with 98% who did not get it. The information about the drug was presented in four different ways. One group of GPs was given only the relative risk reduction (50%); a second group was given the absolute risk reduction (1%), plus the baseline risk; a third, the numbers needed to treat (the drug had to be used by 100 people in order to prevent one death from the disease after five years); and a fourth group got all the risk information. The GPs who were told the drug reduced deaths by half were far more willing than any of the other groups to prescribe it. Predictably, relative risk reduction is also the form of presentation most favoured by the pharmaceutical industry [13] — and often, as the example of Herceptin demonstrates, by the media.

If GPs have problems with interpreting clinical data it is difficult to see how they can help patients make meaningful decisions. As the authors of the Danish study argue, to truly achieve the implementation of evidence-based medicine, we need to develop doctors' ability to assess the evidence.[15] Just as crucially, we need to help patients (especially those with chronic conditions who may be taking drugs for years) understand it too.

This is where *BMJ BestTreatments*, the online information service for patients, comes in. Like *BMJ Clinical Evidence*, on which it is based, *BMJ BestTreatments* rates thousands of different treatments according to the best research, and describes in detail their benefits and risks, in plain language that patients can understand. We also publish a simple animated module explaining the concept of risk, and we tend to avoid reporting relative or absolute risk reduction in isolation. Where possible, when reporting studies for a lay audience, we present the risk in both the control and the treatment group.

Our latest initiative is the development of an online news information service which will publish high-quality, accessible analysis and commentary on any new research hitting the headlines. Our service will, in plain language, set new studies in the context of previous research, explain precisely what the new results are and to whom they are relevant, explain any limitations of the research, and appraise its quality. Such a service, we feel, could benefit not only the public, but doctors too. All our patient information, including the news service, is now freely available in the UK at www.askbootshealth.com.

Only with the clearest and fullest information are patients able to weigh up the potential benefits of treatment against the risk of harms and, in partnership with their clinicians, make genuinely informed decisions about their health care.

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