

Australian Pharmaceutical Physicians Association Symposium

By Melissa Sweet

27 May 02

Copyright Melissa Sweet 2002

About ten years ago, a pharmaceutical company paid for myself and other journalists to attend a conference in Europe where scientists and doctors were presenting papers on their research into antioxidants and vitamins.

As I recall, this was about the time when excitement about the potential benefits of such substances was peaking - when there was evidence from observational studies suggesting they were beneficial in preventing diseases such as cancer. The major randomised controlled trials, showing no such benefits, were yet to be published.

At that conference, a scientist was enthusiastically discussing the results of his study suggesting vitamin E supplements were beneficial for preventing heart disease. I thought this looked like an interesting story.

A fellow journalist was alarmed. But the findings aren't statistically significant, he said. I argued back - surely the scientist wouldn't be talking about his results, surely they wouldn't be being presented if there wasn't some merit to the study, I countered.

The truth was that I was reluctant to give up what looked like a good story, one that I thought would be of interest to my readers.

The other unfortunate truth was that I had little real understanding of the different forms of medical and scientific evidence. I was not equipped with the knowledge needed to critically evaluate such research findings and the researcher's enthusiastic promotion of his results.

If a scientist or a doctor said something was true, that in itself was evidence enough to merit coverage. No wonder the pharmaceutical company was happy to pay for me to attend such a conference; a ready sucker for claims that might be made about its products.

A few years after that, I attended a course run by Les Irwig, professor of epidemiology at the University of Sydney, and his wife Judy, which was designed to give journalists the tools to critically appraise research and

health claims. Les used hormone replacement therapy as an example of a medical practice coming into widespread use before top-level evidence was available to support the suggestion it would reduce the risk of heart disease.

The course was quite confronting in some ways because it opened my eyes to what a gullible journalist I had been. In particular, I remembered reporting claims made by various experts about the benefits of HRT. I hadn't known enough to ask the tough questions about what sort of evidence was available to back these claims.

It was several years ago that Les Irwig was using HRT as an example in his course. It was at a time when observational studies suggested that women who took HRT were less likely to have heart disease.

Since then, most of you will be aware, the results of RCTS have raised serious doubts about this assumption. Indeed, a recent JAMA article reports that an international team of women's health experts is now discouraging the use of HRT for many postmenopausal conditions.

It says that coronary heart disease, fractures, depression, urinary incontinence were all cited in the past as prime reasons to initiate HRT - but are losing favour as valid indications for it, as evidence from high-quality clinical trials accumulates.

The JAMA quotes University of California researcher Deborah Grady, MD, MPH renouncing her earlier recommendation to prescribe HRT for heart disease. Her previous recommendation was based on observational studies which it now appears suffered badly from selection bias. "The problem with these studies is that we [now] know that the women who take oestrogen are just different from the women who don't," Grady says. "They're healthier, they're wealthier, they have a better health profile."

Selection bias in observational studies was probably also one of the reasons that such studies produced far more optimistic findings about antioxidants than did subsequent RCTs.

The HRT and antioxidant stories have undoubtedly made many clinicians and scientists more cautious about interpreting findings from observational studies.

They are also a reminder that the media could be far more sceptical and cautious in reporting health research findings. Media coverage is often extreme - either overly promotional or providing an exaggerated picture of risk.

This reflects many factors - the characteristics of newsworthiness, the competitive nature of news-gathering, the influence of corporate and other vested interests upon the media, and the fact that many journalists have not been trained in evaluating research findings.

Many journalists - like me - end up covering health with no specific training in the area. Not that it can be assumed that journalists with a medical or health background will necessarily have a good grasp of how to critically appraise health claims.

Indeed, a recent - admittedly small - study of Australian doctors published in the BMJ suggests many practising doctors do not have a good understanding of EBM concepts such as absolute versus relative risk. Admittedly, it was a small study.

When I sit down to research and write a story, a major part of my job is to gather as much evidence as possible, in a variety of forms from a variety of sources. I listen to individual anecdotes, read research reviews and journal articles and ask various experts for their opinions.

But that is only part of my job. The much harder part is to write the story. A story, not a summation of evidence. To write a story which engages my reader or audience. I will be out of a job as soon as I forget that this is the crucial part of my task.

After all, there is no point gathering the most valid and reliable evidence in the world, if no one wants to read it.

Critics of the media often forget that journalists are only one small cog in the media machinery. And journalists who specialise in health are an even smaller cog.

Our definitions of what makes a good story do not always coincide with others in the media hierarchy. There are many people other than

individual journalist or reporter who contribute to a story and its presentation.

Many of the stories that I have written have had their origins in an anecdote - the news manager who says, for example, that there is an outbreak of whooping cough at his kid's day-care or the editor who says that when he went to his GP recently, he was given Celebrex for his golf elbow "just in case" - even though he hadn't complained of the pain or asked for a treatment.

In some ways, the values of the news media run counter to medical notions of evidence. If a careful medical review of the evidence concludes, for example, that powerlines are not associated with an increased risk of childhood cancer, you can bet your bottom dollar that news editor will demand the journalist find the story about a family living near powerline whose child has cancer. The powerful anecdote, the story of exceptionalism - the man bites dog rather than dog bites man story - will make headlines every time ahead of a sober review of evidence.

While it is useful for a journalist to understand concepts of EBM, this is not to say that it is our role to be an advocate for EBM or to promulgate it as the only correct world view. Even staunch advocates of EBM would acknowledge that good evidence alone is not the sole solution to health problems.

Part of the role of the media is to provide a forum for many different voices - not only those with an evidence-based view of the world. There are plenty of examples of "evidence" being held up as an almost holy grail, and being used to advance less than holy causes.

That said, it is hard to argue otherwise than that the media could do a better job of better informing itself and its audiences about evidence in the broadest sense of the word. If we are reporting a doctor's comments which are being disseminated as part of a marketing campaign, we should say so.

It would be good if there were no more stories quoting an expert saying this drug is the best thing since sliced bread - there was an example of that just recently on national TV - without mention of the fact that this is part of a manufacturer's PR campaign.

Similarly, it would be good if, when there is uncertainty or weaknesses in the evidence that we are reporting, it was acknowledged. If the study we are reporting suggests a new treatment may cure cancer - but in mice - let's make that clear at the beginning of the story rather than as an easily missed footnote.

If we are reporting evidence suggesting benefits or risks from a particular drug or intervention, let's put them into some real context - and not just frame them in a way which makes them sound better or worse than they really are.

Of course, all of this is far more difficult than it might sound - particularly when you consider the constraints that journalists work under, which sometimes are not fully understood or appreciated by our critics.

As any student of medical literature knows, it is no easy task to work out what the evidence really means. Especially if you have to summarise it in 350 simple words or less which can be understood by a general reader to whom terms such as randomised controlled trial and statistical significance are meaningless jargon.

A recent BMJ contained a delightful example of how statistics can say one thing but mean another. The people of Kerala, a state in India's south, have the highest levels of literacy (nearly universal for the young) and longevity (a life expectancy of about 74 years) in India. But it also has, by a very wide margin, the highest rate of reported morbidity among all Indian states.

At the other extreme, states with low longevity, with woeful medical and educational facilities, such as Bihar, have the lowest rates of reported morbidity in India. Meanwhile, there is also evidence that people in the US consider themselves sicker than people in Bihar.

Another recent BMJ article - analysing the benefits of statins - provides yet more evidence of why it is so difficult for media to put such issues in a broad context. The article says statins - which have been widely reported in the western media as veritable wonder drugs - are an example of rich Western societies investing in preventive treatments that will benefit only a minority of those who take them for a long time.

One trial found that treating for one year 1000 people who had previously experienced a myocardial infarction would be expected to avoid four deaths, six non-fatal myocardial infarctions, and two non-fatal strokes. [These results can also be expressed two other ways](#)¹. That the risk of death from all causes was reduced by 33% over the 5.4 years of follow-up. And the risk of death from all causes was reduced by 4% over the 5.4 years of follow-up.

The difference between these methods of expression is of, course that one refers to relative risk reduction, the other to absolute risk reduction.

These are not easy concepts to get across in a medical forum, let alone in the mass media.

A letter to the BMJ raising the different ways of preventing same evidence said the lack of medical and media understanding of such concepts was worrying.

“I have the impression that much government policy is driven by those who read headline medical information without really understanding it, with profound cost and workload consequences. In terms of cost effectiveness this study showed that we need to treat 30 patients with simvastatin for 5.4 years for each life saved, at a current cost of £58,000 per life saved.

Letter writer urged colleagues to stick to “absolute risk” and “absolute risk reduction” when reporting results?

“It seems to me that “relative risk reduction”, though useful as a research concept in discriminating between effective and ineffective treatments, is a concept which is too easily misunderstood by the majority of people.

:The results will not look so impressive using absolute risk reduction, but at least politicians and the public would not be led into thinking that every advance is a miracle cure, that medicine has all the answers. Even better, the health professions might not get blamed when things don't appear to have gone so well as expected, because the public's expectations would not be set so high.”

Article raises important questions for journalists who cover health at time of ever-increasing pressure on health dollars - and I am sure we have all heard more than enough about the cost pressures facing the PBS.

Equally the article raises important issues for those presenting information to media for public dissemination, whether researchers, research funders, private interests.

ENDS