

Science and clinical practice

Marcus Müllner, Univ.-Prof., MD

Many physicians who only work in the clinical field tend to think that most science and research topics do not relate much to their clinical routine, as these topics deal with animal experiments, laboratory work, molecular genetics or, in the case of clinical studies, dealing either with highly selected patient groups or very rare diseases... so why bother?

But one should not forget that scientific findings always need to be re-evaluated in real life. A therapy proven to work under ideal research conditions will not necessarily work in the clinical every day routine. On the contrary, scientific results obtained at university hospitals or other research institutions are often not applicable to primary care patients, as they frequently show different characteristics regarding their illness than the patients selected for various studies.

How do we learn to interpret scientific results and use them in clinical work? How can we practise evidence-based medicine? The answer is that we have to learn how to design, critically analyse and present research studies.

One way of acquiring these skills is by attending international conferences. They keep you updated on the latest scientific news, presented by leading international researchers in their different fields of expertise. Ideally, research findings and clinical implications are integrated during such meetings. Apart from examples on how to critically analyse research results, you also have the opportunity during independent scientific presentations to become familiar with scientific research methods and new considerations. By questioning the results and methodology of such presentations, you can improve your analytical skills. Are the questions asked relevant to the research subject? Does my common sense agree with the methodology? Are the results applicable to every day routine? In case that such questions are not dealt with during the presentation, they should be discussed at the end. This does not only help your understanding, but also allows the presenting person to improve his/her work.

I therefore recommend that every clinician should attend international conferences and take advantage of the diverse mix of speakers present at such conventions.

We hope that the next generation of medical doctors will acquire the skills of critical analysis of research studies during their medical school, but meanwhile our generation will have to make an extra effort to try and learn how to practise evidence-based medicine.