Randomized clinical trials: in pursuit of higher standards

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Received: 2 July 2014 / Revised: 2 July 2014 / Accepted: 2 July 2014 / Published online: 15 July 2014
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As clinicians we aim to practice evidence-based medicine (EBM) for which the best source remains the peer-reviewed scientific journals. Whereas there is a move towards the use of registries to analyse and compare medical practice, one of the pillars of EBM is the publication of randomized controlled trials (RCTs). In their article on methodological reporting quality, Chen et al. [1] looked at the quality of randomized trials in three leading publications: the *Spine Journal*, *Spine* and the *European Spine Journal*. Although the execution of blinded RCTs in the field of surgery and rehabilitation is fraught with difficulties, their findings are sobering. We could certainly be doing better at a number of different levels.

At the start, clinicians embarking on an RCT should consult someone with a sound knowledge of medical statistics to help calculate an adequate sample size. Allocation sequence and concealment are the cornerstones in the process of randomization and deserve full attention and commitment from the researchers. The choice of outcome measures must be made before the start of the study as well and it is always best to have independent observers. All these seem obvious, but more often than not it is given insufficient attention. Industry sponsoring has had considerable attention of late, and for good reason; mentioning any industry participation is mandatory.

The next step that is in need of improvement is at the peer reviewing level. Reviewers should be aware of the pitfalls represented by inadequate methodology or under-reporting of methodology. With the ever-increasing number of paper submissions, editors are constantly looking out

for candidate reviewers. A good clinician, however, does not always have the adequate training to spot the shortcomings in scientific publications. To improve the quality of the reviewing process, the *European Spine Journal* is organizing a workshop on reviewing techniques during the upcoming EuroSpine meeting in Lyon in October 2014 (<http://www.eurospine.com/home-lyon-2014>, htneurospinelyon.org).

Finally, the editors must be attentive to intercept in time those papers where poor study methodology damages the quality of medical reporting. Best is to do so early in the reviewing process, although this is not always possible. Expert's comments at the end of a paper are often very educational as are the 'Letters to the Editor' that offers observations around methodological shortcomings. Reaching for a higher standard in RCTs is a worthwhile endeavour, and one that challenges all participants, including the readership. I hope a study like Chen et al.'s is repeated in 4 years, and as a community of clinicians we could pride ourselves on a better outcome.

Conflict of interest None.

Reference

1. Chen X, Zhai X, Wang X, Su J, Li M (2014) Methodological reporting quality of randomized controlled trials in three spine journals from 2010 to 2012. *Eur Spine J*. doi:10.1007/s00586-014-3283-1

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