

EDITORIAL

Spin of results in scientific articles might kill you

That is a shocking title, right? This is actually a classic example of spin, which is an overenthusiastic and often misleading presentation of the results of a study.¹ In fact, spin of results in scientific articles might kill the readers' ability to interpret the results of a study by themselves. If clinicians only believe on every conclusion written by scientific articles, their patients might build false hope of recovering from a disease for example.²

Unfortunately, spin is very common.³ Spin can appear in the title, abstract or in the full text.⁴ Spin has been identified in several healthcare studies, such as in 98% of clinical trials abstracts of physical therapy interventions for low back pain⁵ and in 68% of abstracts from a wide range of medical fields.¹

The most severe types of spin in abstracts are: recommendations of an intervention, or title suggesting a positive effect, that are not consistent with the study findings; selective reporting of positive and negative outcomes; safety based on non-statistically significant results; selective reporting of harm outcomes; and the conclusions are overstated to other interventions.⁶ Spin may lead clinicians to make poor clinical decisions.⁷ Moreover, misleading messages can be disseminated by press releases and news coverage^{8,9} leading to unpredictable consequences for patients and consumers or research in general. For example, a recent published randomized controlled trial¹⁰ evaluated three distinct exercise groups for treating patellofemoral pain in women, and found no statistically significant differences between the intervention groups for the primary outcome 'pain intensity'. However, if the authors had focused only in the secondary outcome 'strength' in their conclusion section, that would have been a clear spin statement.

The responsibility of providing adequately, consistent and transparent information is given to the authors, journal editors and reviewers, especially because it is their obligation to follow the research code of conduct for research integrity¹¹ and ethical principles on research.¹² In order to improve the awareness of transparency and integrity of research healthcare abstracts and their dissemination to all

stakeholders, we recommend the following actions to be taken by journal editorial policies:

1. Mandatory use of reporting guidelines, not only for full text but also for abstracts,^{13,14} highlighted as one of the 'instructions for authors';
2. Proper checking if authors have followed the adequate reporting guidelines for abstracts and full text, checking also for abstracts consistency of reporting and interpretation with the full text;
3. Awareness of spin in the abstracts and full texts, with adequate interpretation of results and conclusions of trials and reviews;
4. More flexibility with the abstract word count;
5. Intensive training for journal editors and reviewers with regard to spin.

In order to present higher quality scientific articles published in healthcare research, we highly recommend that journal editors and reviewers follow these recommendations, which will also provide higher research credibility within all stakeholders. Furthermore, consumers of research should not rely only upon abstracts for decision making, when they should actually read and interpret the corresponding full texts by themselves. Again, critical appraisal skills training is urgently needed.

Conflicts of interest

The authors declare no conflicts of interest.

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