

Evaluation of Spin in the Abstracts of Systematic Reviews and Meta-analyses Covering Treatments for Achilles Tendon Ruptures

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Background

Approximately 18 in every 100,000 people have experienced a ruptured Achilles tendon. Despite the prevalence of this condition, treatment options remain contested.

Hypothesis/Purpose

The objective of this study was to evaluate the use of spin — reporting practices that may exaggerate benefit or minimize harm — in abstracts of systematic reviews related to Achilles tendon repair. We also evaluated whether particular study characteristics were associated with spin.

Study Design

Cross-Sectional

Methods

We developed a search strategy for Ovid MEDLINE and Ovid Embase for systematic reviews focused on Achilles tendon treatment. Following title and abstract screening of these search returns, these reviews were evaluated for spin (according to a previously developed classification scheme) and received AMSTAR-2 appraisals by 2 investigators in a masked, duplicate manner. Study characteristics for each review were also extracted in duplicate.

Results

Our systematic search returned 251 articles of which 43 systematic reviews and meta-analyses were eligible for data extraction. **We found that 65.1% of included studies contained spin (28/43). Spin type 3 was the most common type, occurring in 53.5% (23/43) of abstracts.** Spin type 5, 6, 1 and 4 occurred in 16.3% (7/43), 9.3% (4/43), 7% (3/43), and 5.3% (1/43) respectively. Spin types 2, 7, 8 and 9 did not occur. AMSTAR-2 appraised 32.6% (14/43) of the studies as “moderate” quality, 32.6% (14/43) as “low” quality, and 34.9% (15/43) as “critically low” quality. No systematic reviews were rated as “high” quality.

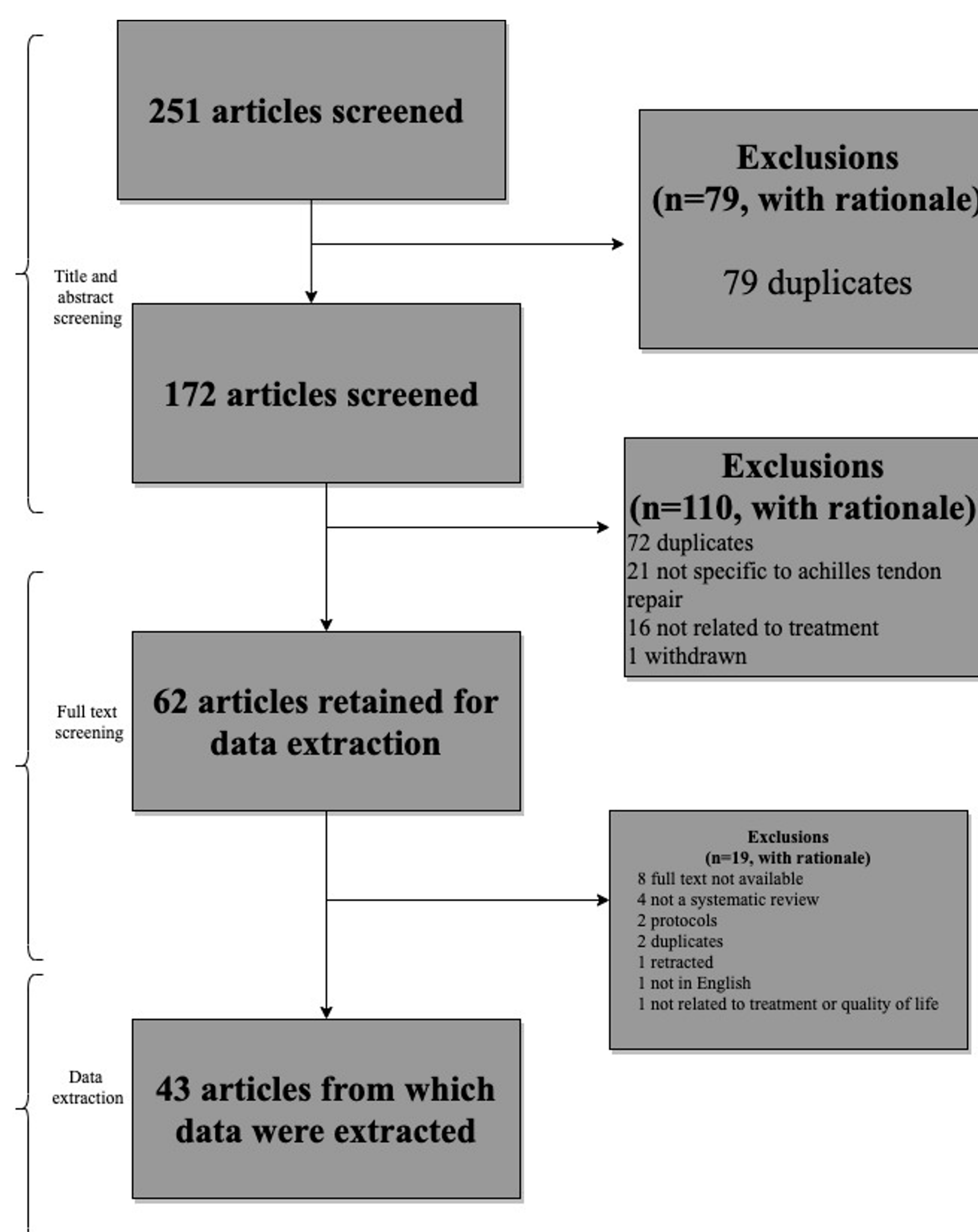


Figure 2. Flow diagram

Figure 2: Flow diagram of article included and excluded

Table 1. Spin types and frequencies (%) in abstracts (n=43)

Nine most severe types of spin	Abstracts (%) with spin
1) Conclusion contains recommendations for clinical practice not supported by the findings.	3 (7.0)
2) Title claims or suggests a beneficial effect of the experimental intervention not supported by the findings.	0 (0)
3) Selective reporting of or overemphasis on efficacy outcomes or analysis favoring the beneficial effect of the experimental intervention.	23 (53.5)
4) Conclusion claims safety based on non-statistically significant results with a wide confidence interval.	1 (5.3)**
5) Conclusion claims the beneficial effect of the experimental treatment despite high risk of bias in primary studies.	7 (16.3)
6) Selective reporting of or overemphasis on harm outcomes or analysis favoring the safety of the experimental intervention.	4 (9.3)
7) Conclusion extrapolates the review’s findings to a different intervention (ie, claiming efficacy of one specific intervention although the review covers a class of several interventions).	0 (0)
8) Conclusion extrapolates the review’s findings from a surrogate marker or a specific outcome to the global improvement of the disease.	0 (0)
9) Conclusion claims the beneficial effect of the experimental treatment despite reporting bias.	0 (0)

**Due to 24 studies not investigating interventions necessitating safety outcomes or measures, n=19.

Summary

Spin was present in abstracts of systematic reviews and meta-analyses - covering Achilles tendon tear treatment. Steps should be taken to improve the reporting quality of abstracts on Achilles tendon treatment as well as other common orthopaedic conditions.

Clinical Relevance

Spin traditionally is present in randomized controlled trials and more recently within systematic reviews in several fields. Physicians use abstracts to quickly assess treatment efficacy which is why abstracts should be free of spin and underreporting of data found. In order to avoid negative patient outcomes, articles should be free of spin within the abstract.

References

1. Yavchitz A, Ravaud P, Altman DG, et al. A new classification of spin in systematic reviews and meta-analyses was developed and ranked according to the severity. *J Clin Epidemiol.* 2016;75:56–65. doi:<http://dx.doi.org/10.1016/j.jclinepi.2016.01.020>

