



Background

Some measures, such as registry platforms and methodological protocols, increase the transparency, reproducibility and accountability to multiple stakeholders. However, the uptake of such recommendations and good practices is challenging. The Strengthening the Evidence in Exercise Science (SEES Initiative) proposes that lively surveillance, openness and respectful feedback to authors and journal editors may foster the efforts to reduce the avoidable waste in research. Herein, our aim was to quantify the practices regarding registration, methodological protocol, selective reporting and data sharing on systematic reviews with meta-analyses (SRMAs) from selected journals in the field of exercise sciences, from January to July/2019.

Methods

- This work derives from the SEES Initiative. Our assessment is based on PRISMA<sup>1</sup> and AMSTAR-2<sup>2</sup>.
- Structured search queries using PubMed/MEDLINE were conducted for 9 journals on a monthly basis.
- Eligible criteria were SRMAs summarizing clinical trials with at least one arm consisting of interventions of physical activity/exercise or observational studies with well defined physical activity exposures.
- Two independent researchers extracted the information: (1) public database registration; (2) registered and published outcomes; (3) publicly available methodological protocol; (4) statement of data availability.

Results: Adherence to recommended practices in 63 SRMAs

- **32 (50.7%)** were registered, all in the PROSPERO database.
- **2 (3.1%)** had a publicly available methodological protocol.
- **10 (31.2%)** had apparent selective reporting, either omitting or switching outcomes from the registration to the publication.
- **18 (28.5%)** had data sharing statements present in reviews.
- **One** article stated no additional data available for sharing, **7 (11.1%)** indicated the need to contact corresponding authors, **7 (11.1%)** made data available in a supplementary material, and **3 (4.7%)** in public repositories.

Results: Numbers of included and analyzes SRMA per journal

Journal	Included SRMAs (n)	SRMAs with registration (n)	SRMAs having protocol (n)	SRMAs having data sharing statement (n)
American Journal of Sports Medicine	3	0	0	0
British Journal of Sports Medicine	17	15	1	4
European Journal of Preventive Cardiology	4	2	0	0
International Journal of Behavioral Nutrition and Physical Activity	2	2	0	2
Journal of Physiotherapy	2	2	0	0
Journal of Science and Medicine in Sport	6	0	0	0
Medicine and Science in Sports and Exercise	1	0	0	0
Scandinavian Journal of Medicine & Science in Sports	6	1	0	0
Sports Medicine	22	10	1	12
Total	63	32	2	18

Conclusions

Although several guidelines and journals endorse registration of SRMAs and highlight the importance of available methodological protocols to increase transparency and reproducibility, a low proportion of SRMAs followed these practices. Likewise, less than 1/3 of SRMAs declared data sharing policy, and only 10 (out of 63) made the summarized data readily accessible.

References

1. Liberati A, et al. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: explanation and elaboration. PLoS Med. 2009 Jul 21;6(7):e1000100.  
2. Shea BJ, et al. AMSTAR 2: a critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. BMJ. 2017 Sep 21;358:j4008.

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Funding:

FAPERGS (Fundação de Amparo à Pesquisa do Estado do Rio Grande do Sul)

Disclosure:

None

Sees website: <https://sees-initiative.org/>

Protocol: <https://osf.io/ntw7d/>