Investigating Systematic Reviews Outside Health Sciences

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Background/Objectives

Originally developed for medicine and related fields in support of evidence-based practice, systematic reviews (SRs) are now published in other fields. We investigated non-health sciences disciplines that are publishing systematic reviews.

Methods

We searched the Scopus database for articles with "systematic review*" in the title or abstract. Results were limited to review articles. Articles were examined by reviewers to determine if they a) were classified as SRs by the authors, b) written in English and c) addressed a non-health sciences topic. We reconciled differences for articles on which there was not initial consensus, and grouped remaining articles according to Scopus subject areas.

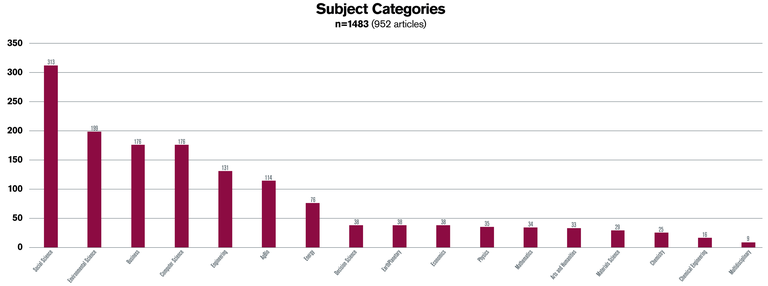
Our filtered result set included 952 self-described systematic reviews outside the health science disciplines. We then examined a random sample of 90 articles and compared each article's methodology to health sciences systematic review criteria.

SR Methodology Analysis

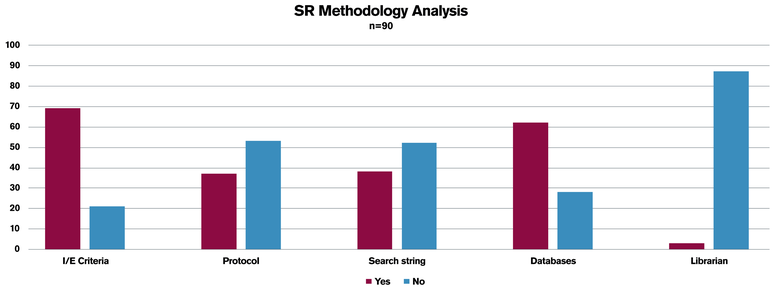
- Are inclusion/exclusion criteria specified?
- Is a systematic review protocol or equivalent cited as the basis for the research methodology?
- Is there a specific search string included?
- Are databases or other resources specified?
- Was a librarian involved in the process?

Results

Our results show that the non-health science disciplines with the highest number of self described systematic reviews appear to be the social sciences, environmental science, business, computer science and engineering (Figure 1).



Details about inclusion/exclusion criteria and the databases used were often included. A majority of our sample did not clearly describe the search strategy or use published SR protocols as a basis for methodology. Librarians were consulted in only 3 of 90 articles we examined (Figure 2).



Limitations

- The term "systematic review" seems to be inconsistently defined and applied, thus making it difficult to compare across disciplines.
- A novel methodology was created and implemented for this project.
- A randomized sample of approximately 10% of the total data set was assessed.

Discussion/Conclusion

- Less than half of the articles included complete search strings or other search details, making reproducibility difficult.
- Some SRs used health sciences protocols while others used a discipline specific SR methodology or novel protocols such as exemplar articles.
- The lack of librarians consulted may have contributed to the lack of reproducibility and other quality issues.
- Opportunity exists for librarians working in these fields to collaborate with researchers and to provide guidance on systematic reviews.

Next Steps/Questions

- How do individual non-health sciences disciplines define systematic reviews, and how do they use SRs? Involve subject matter experts in this phase of research.
- Develop a comprehensive list of discipline specific protocols. What do they have in common with health science SR protocols, and how do they differ?
- Analyze the entire data set for additional information.

References

JBKocher, M., & Riegelman, A. (2018). Systematic reviews and evidence synthesis: Resources beyond the health sciences. College & Research Libraries News, 79(5), 248.
Rethlefsen, M. L., Farrell, A. M., Osterhaus Trzasko, L. C., & Brigham, T. J. (2015). Librarian co-authors correlated with higher quality reported search strategies in general internal medicine systematic reviews. J Clin Epidemiol, 68(6), 617-626.
Higgins, J., Green, S., Cochrane Collaboration., & Wiley InterScience (Online service). (2011). Cochrane handbook for systematic reviews of interventions.
Joanna Briggs Institute. (2014). Joanna Briggs Institute Reviewers' Manual. Adelaide: The Joanna Briggs Institute.