Research Brief

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Same family, different species: Methodological conduct and quality varies according to purpose for five types of knowledge synthesis

Summary

We examined a convenience sample of five related knowledge synthesis methods used to synthesize evidence on interventions. We found differences in methodological conduct and quality across the types of knowledge synthesis methods, which are likely attributable to the purpose of the knowledge synthesis method. Across these types of knowledge syntheses, methodological conduct and quality of reporting could be improved.

Implications

Although all of the knowledge synthesis methods that were examined can be used to synthesize evidence, the challenge lies in determining which method is the most appropriate for a particular research question. Researchers should be aware of the methodological differences in order to select the best knowledge synthesis method to address knowledge user needs.

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What is the current situation?

- Five knowledge synthesis methods are commonly used by researchers to synthesize evidence. However, the process of determining which knowledge synthesis method is most suitable for a particular research question has not been well-established.

What is the objective?

- To characterize methodological conduct, and quality of reporting for five commonly used knowledge synthesis approaches: overview of reviews, scoping reviews, rapid reviews, systematic reviews, and network meta-analyses.

How was the review conducted?

- This is a retrospective analysis of a convenience sample of 5 published databases of knowledge syntheses: systematic reviews (n=300), overview of reviews (n=74), scoping reviews (n=494), network meta-analyses (NMA; n=456), rapid reviews (n=84).

- Reporting characteristics and methodological conduct details were abstracted by one reviewer and verified by a second reviewer.

- Methodological quality was appraised using the A MeaSurement Tool to Assess systematic Reviews (AMSTAR) tool. AMSTAR Items not relevant to a specific knowledge synthesis type were not scored during the assessment process and the total score was adjusted for knowledge synthesis types based on the number of relevant items (i.e. maximum obtainable score for a given knowledge synthesis type).

- Data analysis involved quantitative (e.g. frequencies) methods.

What did the review find?

- Reporting the use of a protocol ranged from 4% for rapid reviews to 32% for systematic reviews.

- The use of two reviewers for citation and full-text screening ranged from 20% for scoping reviews to 60% for NMAs.

- Data abstraction was performed in duplicate for 11% of rapid reviews and 54% for NMAs, and risk of bias appraisal ranged from 6% for scoping reviews to 41% for NMAs.

- NMAs consistently scored the highest on the AMSTAR tool, likely because the purpose is to estimate treatment effects statistically. Scoping reviews scored the lowest (even after adjusting the score for not relevant items) likely because the purpose is to characterize the literature.