

Rapid reviews and the methodological rigor of evidence synthesis: a JBI position statement

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ABSTRACT

The demand for rapid reviews has exploded in recent years. A rapid review is an approach to evidence synthesis that provides timely information to decision-makers (eg, health care planners, providers, policymakers, patients) by simplifying the evidence synthesis process. A rapid review is particularly appealing for urgent decisions. JBI is a world-renowned international collaboration for evidence synthesis and implementation methodologies. The principles for JBI evidence synthesis include comprehensiveness, rigor, transparency, and a focus on applicability to clinical practice. As such, JBI has not yet endorsed a specific approach for rapid reviews. In this paper, we compare rapid reviews versus other types of evidence synthesis, provide a range of rapid evidence products, outline how to appraise the quality of rapid reviews, and present the JBI position on rapid reviews. JBI Collaborating Centers conduct rapid reviews for decision-makers in specific circumstances, such as limited time or funding constraints. A standardized approach is not used for these cases; instead, the evidence synthesis methods are tailored to the needs of the decision-maker. The urgent need to deliver timely evidence to decision-makers poses challenges to JBI's mission to produce high-quality, trustworthy evidence. However, JBI recognizes the value of rapid reviews as part of the evidence synthesis ecosystem. As such, it is recommended that rapid reviews be conducted with the same methodological rigor and transparency expected of JBI reviews. Most importantly, transparency is essential, and

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the rapid review should clearly report where any simplification in the steps of the evidence synthesis process has been taken.

Keywords: evidence synthesis; knowledge synthesis; rapid reviews; research methodology

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Introduction

Rapid reviews aim to provide *more timely* information for decision-makers (such as health care planners, providers, policymakers, patients, and others), often at a *reduced cost*. Rapid reviews generally follow similar steps to systematic reviews; however, because the objective is to expedite the review process, standard workflows and processes involved in a systematic review^{1,2} may be omitted, modified, or simplified.

Various definitions of rapid reviews exist,^{1,2} with the most recent proposed by the Cochrane Rapid Review Methodology Group. If an organization produces rapid reviews only for decision-making, then this definition can be used: “A rapid review is a form of knowledge synthesis that accelerates the process of conducting a traditional systematic review through streamlining or omitting a variety of methods to produce evidence for stakeholders in a resource-efficient manner.”^{3(p.81)} This definition highlights the importance and intention of rapid reviews to specifically meet the needs of stakeholders/decision-makers.

One of the key barriers to the use of research evidence in decision-making is the lack of timely and/or relevant research. Policymakers and health care planners often need to make difficult decisions in short timeframes, and when research is available, rapid reviews provide a practical, feasible, and efficient way to summarize this evidence.⁴ In some settings, due to constraints in funding, resources, or methodological expertise, rapid reviews may be all that is possible. It is likely that, in the majority of these cases, some evidence is better than no evidence. It should be acknowledged that rapid reviews do present a risk where evidence may have been missed or inadequately appraised or synthesized, and these potential limitations need to be sufficiently reported.⁵

Demand for rapid reviews

The demand for rapid reviews has exploded in recent years. This has been especially apparent during the

COVID-19 pandemic, where more than 3000 rapid reviews were conducted to inform dynamic decision-making.⁶ This demonstrates the utility of rapid reviews as a type of evidence synthesis to inform urgent, rapid health system responses. There is also an increased public awareness of urgent issues impacting the health system and the need for rapid dissemination of public health measures that in turn drives the need for rapid responses.⁷

Increasingly, health care decision-makers seek quality evidence in a short timeframe to support urgent and emergent decisions related to procurement, clinical practice, and policy. Rapid response reports are ideally tailored to the contextual needs of health care decision-makers, representing a range of options about depth, breadth, and time-to-service delivery. A rapid review is an emerging approach that allows evidence to be brought to the forefront of health care decision-making in a timely, relevant way; however, it may require methodological trade-offs when compared with systematic reviews.⁸

The JBI approach to evidence synthesis

JBI is an international collaboration that is world-renowned for its evidence synthesis and implementation methodologies.^{9–12} JBI has developed and published guidance on 11 different types of evidence synthesis, as outlined in Table 1.^{13–23}

In this paper, we present the JBI position statement for rapid reviews.

Rapid reviews versus other types of evidence synthesis

It has been said that rapid reviews are not a type of evidence synthesis²⁴ unto themselves and that many different types of evidence syntheses can be completed rapidly.^{25,26} In light of this, all the review types listed in Table 1 could be undertaken using a “rapid approach.” Rapid reviews can therefore be considered similar to living reviews, which are not necessarily a review type, but rather an approach or mindset when conducting any type of review. Living

Table 1: Review types for which published JBI guidance is available

1. Systematic reviews of qualitative evidence ¹³
2. Systematic reviews of effectiveness ¹⁴
3. Systematic reviews of text and opinion ¹⁵
4. Systematic reviews of prevalence and incidence ¹⁶
5. Systematic reviews of economic evidence ¹⁷
6. Systematic reviews of etiology and risk ¹⁸
7. Mixed methods systematic reviews ¹⁹
8. Diagnostic test accuracy systematic reviews ²⁰
9. Umbrella reviews ²¹
10. Scoping reviews ²²
11. Systematic reviews of measurement properties ²³

reviews refer to systematic reviews that are continuously updated as new studies emerge to ensure their relevance.²⁷ Like rapid reviews, many types of evidence syntheses can be “living.” Rapid reviews and living reviews should be considered approaches to evidence synthesis, rather than novel evidence synthesis types.

Most of the methodological inquiry and guidance on rapid reviews has focused on reviews of inter-ventions, although investigations into other review types are emerging.^{28,29} There is an increasing amount of methodological research evaluating deviations or omissions from the traditional systematic review process, and whether these omissions present genuine threats to the validity of the results in systematic reviews. For JBI’s evidence synthesis toolkit, investigation on the impact of omitting or abbreviating review processes for other review types could be an important program of future methodological research. Additionally, automation, machine learning, artificial intelligence, and the digitization of evidence are further areas of work that offer opportunities to streamline review processes.

Different types of rapid evidence products

There are four major rapid evidence products that differ from one another in their purpose, methodological rigor, comprehensiveness, and the time taken for their production.²⁵ These include: i) inventories—a list of available evidence sources that

lack appraisal, synthesis, and recommendations, and can be completed within a few hours to a few days^{30,31}; ii) rapid response briefs—a summary of already existing synthesized evidence (systematic reviews or guidelines) without formal analysis, which can be completed within days to weeks^{30,31}; iii) rapid reviews—appraised and synthesized knowledge products that can be completed within weeks to months; and iv) automated products—rapid evidence products produced by computer-based analysis from databases of extracted studies to address queries defined by the user, which can be completed within days to weeks.^{32,33} The product that is the closest to a systematic review is the rapid review; a rapid response brief is closest to an overview of reviews if only systematic reviews are included. Inventories and automated products are further from the systematic review process and are not the focus of this paper.

The SelecTing Approaches for Rapid Reviews (STARR) is a decision tool that offers researchers guidance on planning a rapid review.³⁴ The tool includes 20 items that cover interactions with the decision-maker(s) who commissioned the rapid review; scoping the literature; selecting streamlined approaches to literature searches, methods for data abstraction, and synthesis; as well as reporting the methods used in a rapid review. STARR is useful as a starting point to select broad approaches that may be considered for a rapid review.

There are several ways that rapid reviews can be expedited through the efficient utilization of team resources. Process maps or work flowcharts outline specific activities, activity dependencies, timelines, and allocated accountabilities to ensure the entire team understands all aspects of the project, along with each individual role and associated responsibility. Concept mapping utilizes diagrams to demonstrate complex relationships between constructs, and is recommended for visualizing the interpretation of, and relationship between, studies included in the evidence synthesis. These are tools that can be used to expedite the evidence synthesis process and produce a rapid review. Other emerging approaches that combine human and machine learning are also being discussed in the literature. This approach combines methods such as crowdsourcing and automation tools for various steps of the review, which facilitate the production of reviews in a shorter amount of time than systematic reviews.³⁵

Assessing the quality of rapid reviews

There is currently no specific tool to critically appraise the methodological quality of a rapid review. Rather, tools to assess the risk of bias or quality of systematic reviews are used, such as ROBIS,³⁶ the JBI critical appraisal tools,²¹ or the assessment of multiple systematic reviews (AMSTAR). The AMSTAR tool is likely more commonly used than the others, based on the number of citations for each in Google Scholar (searched on January 17, 2022). The most up-to-date version of this tool³⁷ covers 16 items related to the conduct of a systematic review, including the protocol, literature search strategy, study selection, data extraction, risk of bias/appraisal, meta-analysis, and conflict of interest. Many of these items are relevant to rapid reviews, and so the tool can easily be tailored for their appraisal (ie, exclusion of items related to meta-analysis if this was not conducted in the rapid review). Quality assessment can also provide important information to decision-makers regarding how trustworthy the rapid review results are for decision-making.

JBI and rapid reviews

To date, apart from its well-established, well-documented, and systematic approach to the development of evidence summaries,³⁸ JBI has not endorsed a specific approach to the modification of its existing systematic review guidance to accommodate a rapid review. Indeed, the hallmark of JBI reviews are their comprehensiveness, rigor, transparency, and focus on applicability to clinical practice. Given this, it is unclear at the present time how JBI would endorse and publish abridged reviews for rapid decision-making purposes.

However, there are some circumstances in which JBI does conduct rapid reviews for policymakers and other commissioning agencies due to time or funding constraints. In these cases, a standard methodology for the rapid review is not followed; rather, the approach is tailored to the timeframes, the resources available, and the needs of the funders. This aligns with JBI's pragmatic ethos that is applied to all programs and products.^{39,40} When conducting these reviews, the urgent need to deliver timely evidence to decision-makers is acknowledged, although conflicts exist with JBI's mission to produce high-quality, trustworthy evidence. The increasing demand for a more rapid delivery of the

available evidence and the need to maintain methodological rigor in the conduct of evidence synthesis do not need to be completely irreconcilable. It is the responsibility of the review team to conduct their rapid review with as much rigor and transparency as is expected of JBI reviews. Details regarding the decisions to be made when tailoring rapid review methods are beyond the scope of this article; however, we direct readers to resources provided on the methodological conduct of rapid reviews.^{25,30} Most importantly, the dimension of transparency is essential, and the rapid review should clearly report where any abbreviations in the methodological process have been taken.

Rapid reviews, despite their limitations, represent a substantial effort by the review team within very short timelines, and where relevant, may be of use to audiences other than the funding body. One way to ensure broader dissemination beyond the purpose of providing evidence for the decision-maker is for authors to return to their rapid review after meeting the needs of the funders and complete the additional steps to meet publication and methodological standards. These rapid reviews can then evolve into full evidence syntheses and could be converted into "full" systematic reviews for publication in journals that do not accept rapid reviews. However, this often takes substantial resources (funding, time) that many review teams may not have, for example, in low-resource settings. We encourage authors wishing to publish in *JBI Evidence Synthesis* to refer to the journal guidelines.

Conclusion

Rapid reviews have a valuable and necessary place in the evidence synthesis toolbox, particularly where they are needed to provide rapid-turnaround evidence for decision-makers who need guidance in fast-paced contexts. Although there are several definitions of rapid reviews, at JBI we believe the simplest definition is that they are reviews characterized by the omission, abbreviation, or simplification of the traditional steps in a systematic review. Due to the urgent need for trustworthy evidence, reviewers may consider measures to streamline their approaches and conduct reviews more efficiently, without compromising on quality, and it is hoped that automation methods will provide solutions to this challenge. As methodological guidance and

guidelines for various forms of evidence synthesis evolve over time, a more robust and coherent methodology for rapid reviews may also take shape.

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