The Role of Medical Journals in promoting high quality systematic reviews: Perspectives from The BMJ

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BMJ standards for systematic reviews

- General standards for research papers, eg COI, funding declarations
- Protocol registration – desirable
- PRISMA reporting guideline required – checked by EPA, included with post publication materials
- Code required
- Data sharing statement required. Sharing is encouraged, not required

The BMJ Review Process

- Initial screening for scope/relevance
- Closer scrutiny by 2 editors
- Sent for review
- Reviews evaluated by at least 2 editors
- Discussed at manuscript meeting with statistical editor
  - Possible statistical or other in depth reviews
- Revision and acceptance
- Prepublication history, checklists, code posted with paper
- Postpublication review (rapid responses)

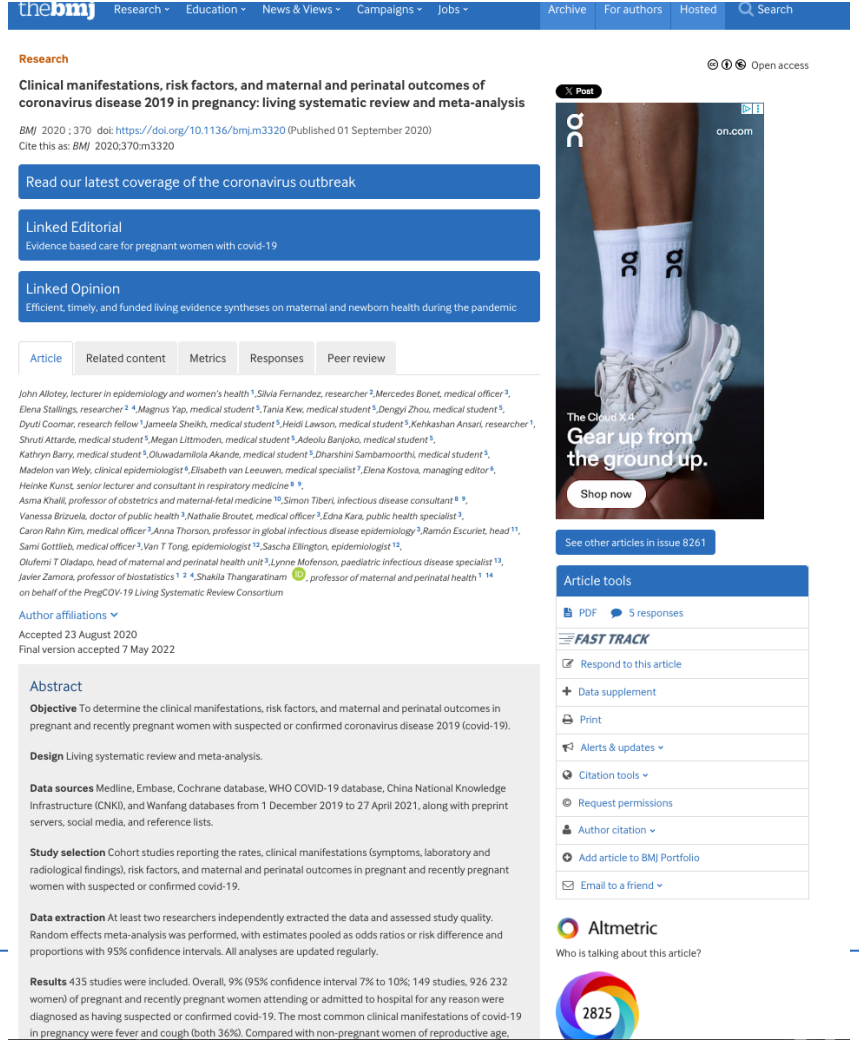
Most common methodological limitations

- Early rejection: Low novelty, unclear clinical implications, obvious methodologic flaws
- Later rejection: Problems identified by subject matter reviewers
  - Inadequate search strategy (missing studies)
  - Biased eligibility requirements
  - Author conflicts of interest

Post publication problems

- Included studies retracted, corrected, data incorrectly abstracted, or otherwise “problematic”
- We aim to correct the record (correct, retract, update)
- But…
  - Identified problems are tip of a large iceberg
  - Often relate to controversial research topics
  - Expertise and motivation of complainants difficult to adjudicate
  - Complainant COIs not always easy to discern

Living systematic reviews



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Research

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Clinical manifestations, risk factors, and maternal and perinatal outcomes of coronavirus disease 2019 in pregnancy: living systematic review and meta-analysis

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Read our latest coverage of the coronavirus outbreak

Linked Editorial
Evidence based care for pregnant women with covid-19

Linked Opinion
Efficient, timely, and funded living evidence syntheses on maternal and newborn health during the pandemic

Article | Related content | Metrics | Responses | Peer review

John Allotey, lecturer in epidemiology and women's health [1], Silvia Fernandez, researcher [2], Mercedes Bonet, medical officer [3], Elena Stallings, researcher [2 4], Magnus Yap, medical student [5], Tania Kew, medical student [5], Dengyi Zhou, medical student [5], Dyuti Coomar, research fellow [1], Jameela Sheikh, medical student [5], Heidi Lawson, medical student [5], Kehkashan Ansari, researcher [1], Shruti Attarde, medical student [5], Megan Littmoden, medical student [5], Adeolu Banjoko, medical student [5], Kathryn Barry, medical student [5], Oluwadamilola Akande, medical student [5], Dharshini Sambamoorthi, medical student [5], Madelon van Wely, clinical epidemiologist [6], Elisabeth van Leeuwen, medical specialist [7], Elena Kostova, managing editor [6], Heinke Kunst, senior lecturer and consultant in respiratory medicine [8 9], Asma Khalil, professor of obstetrics and maternal-fetal medicine [10], Simon Tiberi, infectious disease consultant [8 9], Vanessa Brizuela, doctor of public health [3], Nathalie Broutet, medical officer [3], Edna Kara, public health specialist [3], Caron Rahn Kim, medical officer [3], Anna Thorson, professor in global infectious disease epidemiology [3], Ramón Escuriet, head [11], Sami Gottlieb, medical officer [3], Van T Tong, epidemiologist [12], Sascha Ellington, epidemiologist [12], Olufemi T Oladapo, head of maternal and perinatal health unit [3], Lynne Mofenson, paediatric infectious disease specialist [13], Javier Zamora, professor of biostatistics [1 2 4], Shakila Thangaratinam, professor of maternal and perinatal health [1 14] on behalf of the PregCOV-19 Living Systematic Review Consortium

Author affiliations

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Abstract

Objective To determine the clinical manifestations, risk factors, and maternal and perinatal outcomes in pregnant and recently pregnant women with suspected or confirmed coronavirus disease 2019 (covid-19).

Design Living systematic review and meta-analysis.

Data sources Medline, Embase, Cochrane database, WHO COVID-19 database, China National Knowledge Infrastructure (CNKI), and Wanfang databases from 1 December 2019 to 27 April 2021, along with preprint servers, social media, and reference lists.

Study selection Cohort studies reporting the rates, clinical manifestations (symptoms, laboratory and radiological findings), risk factors, and maternal and perinatal outcomes in pregnant and recently pregnant women with suspected or confirmed covid-19.

Data extraction At least two researchers independently extracted the data and assessed study quality. Random effects meta-analysis was performed, with estimates pooled as odds ratios or risk difference and proportions with 95% confidence intervals. All analyses are updated regularly.

Results 435 studies were included. Overall, 9% (95% confidence interval 7% to 10%; 149 studies, 926 232 women) of pregnant and recently pregnant women attending or admitted to hospital for any reason were diagnosed as having suspected or confirmed covid-19. The most common clinical manifestations of covid-19 in pregnancy were fever and cough (both 36%). Compared with non-pregnant women of reproductive age,

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Guidance for living reviews

"Living systematic reviews at *The BMJ* will be handled by our research team and must meet our usual methodological standards. Most traditional systematic reviews that we publish seek to provide a conclusive, clinically actionable answer to important clinical questions, often in areas where the research is mature. In contrast, early versions of living systematic reviews may tackle important questions in areas where evidence is preliminary and expected to evolve. We will consider living systematic reviews that address a research question of immediate importance where decisions must be taken on the basis of available evidence even when it is incomplete."

Macdonald H, Loder E, Abbasi K. Living systematic reviews at *The BMJ BMJ* 2020; 370 :m2925 doi:10.1136/bmj.m2925

Living systematic reviews: the BMJ rationale

- Best when
  - Evidence is rapidly evolving
  - Uncertainty exists: new evidence might change conclusions
  - High public health relevance

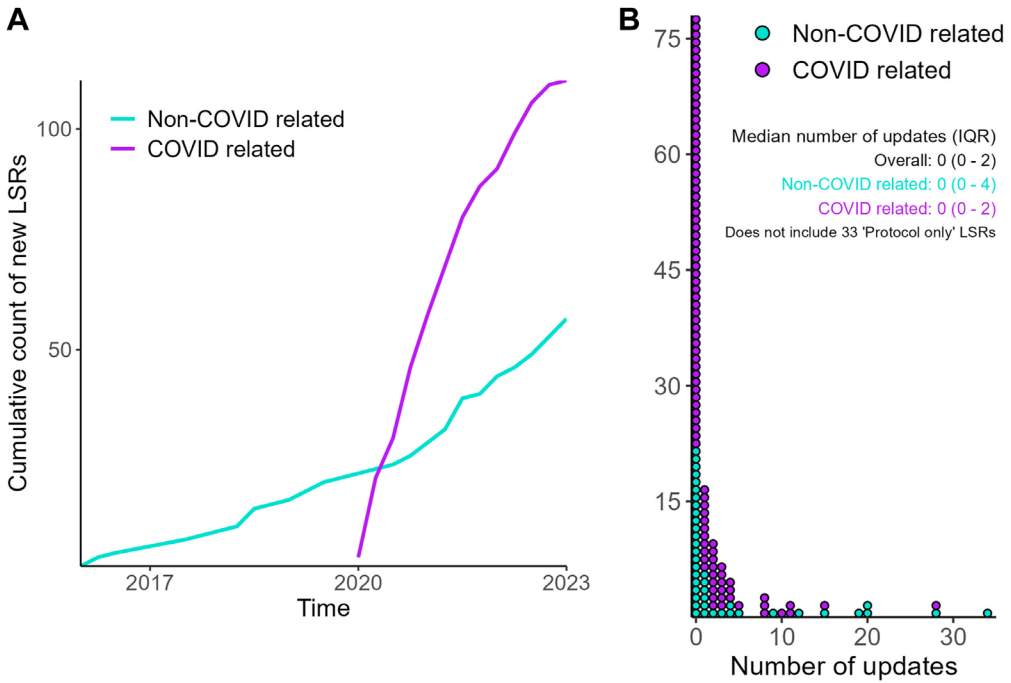
Living systematic reviews: Lessons learned

- Timing/triggering of updates
- How long should a review live?
- Speed vs quality
- ***Intentions > author resources***
- Journal processes and resources are strained
  - Version control and technical editing
  - Review process

Review of health related LSRS 2021-2023

- Authors identified 549 records for 168 individual LSRs
- Most related to covid, but non-covid LSRs are increasing
- Updates to covid-related LSRs searched/updated more frequently
- Suggestions: “more explicit prespecified updating strategies and better use of web-based platforms for disseminating results.”

Nevill CR, Sharifan A, O'Mahony A, Tahir H, Robinson W, Modha U, Kahale LA, Khamis AM, Akl EA, Smith EA, Sutton AJ, Freeman SC, Cooper NJ. Capturing the influx of living systematic reviews: a systematic methodological survey. J Clin Epidemiol. 2025 Oct;186:111904. doi: 10.1016/j.jclinepi.2025.111904. Epub 2025 Jul 23. PMID: 40712752.



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Living systematic reviews: undesirable consequences

- Do these confer authority on a small group of experts?
- Academic rewards and recognition?
- Funding can be uncertain

Yet Another Problem with Systematic Reviews: A Living Review Update

Research Culture Influences on Systematic Reviews and the Meta-Research Articles That Study Them

BACKGROUND

Living systematic review update to 'The Problems with Systematic Reviews'.(1)

METHODS

We conducted literature searches to identify articles published or indexed between May 2022 to May 2023. We performed thematic analysis to code problems across four domains of systematic review conduct (i. comprehensive, ii. rigour, iii. transparent, iv. objective).

RESULTS

We included **152 new articles** that highlight flaws in published systematic reviews articles. Total included articles in living review = **637.**

We identified **68** discrete problems identified (up from 67). The new problem is a **lack of diversity in review authorship teams.**

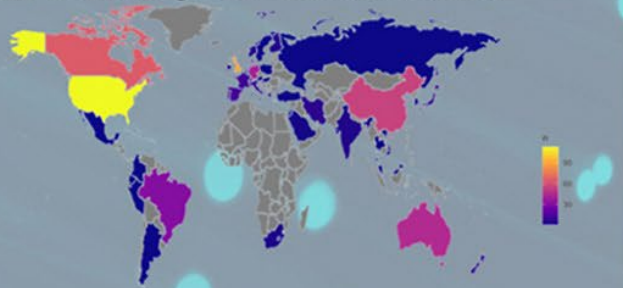
Common themes across new papers

Fast science: Flawed systematic reviews on COVID-19.

Research waste: Duplication and redundant reviews.

Incentives: Conflicts of interest impact the conclusions of systematic reviews.

Most articles scrutinising systematic reviews come from the global West and China.



Do the Problems Affect the Reliability of Systematic reviews?

Seventy-seven of the 637 included articles examined whether the identified problems impacted the interpretation of the systematic review in question.

Of these, 55/77 articles concluded that the associated problems led to a potential impact to the interpretation or conclusions of the systematic reviews assessed.

(1) Uttley, L., *et al* (2023). The problems with systematic reviews: a living systematic review. *Journal of Clinical Epidemiology*, *156*, 30-41. (http://systematicreviewlution.com)

PROSPERO #CRD42020181371; Open Science Framework https://osf.io/2hmv9/

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Updated systematic review guidelines: a wish list

- Should all systematic reviews have a “retirement” date?
- Clear directions about how to handle pre and post-publication questions about included studies
  - Who should investigate/adjudicate? How (automated tools, check of Retraction Watch)?
  - What level of concern or threshold justifies adjustments to the published SR?
  - Statute of limitations?
- Should INSPECT-SR be recommended where applicable?
- More direction about visual presentation of results (eg ROB next to Forest plot)
- Remember that journal resources are limited

Thank you!

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