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Revisiting the need for a literature search narrative: a brief methodological note.

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The abstract: ‘In this method note, we question if the primary search strategy in a systematic review should be accompanied by a search narrative. A search narrative could offer a conceptual and contextual report on the search strategy, which we suggest might benefit the peer review of literature searches and increase engagement with, and discussion of, the literature search strategy from review stakeholders, topic experts and lay users of research. Search narratives would also increase the transparency of decision-making in literature searching.’

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BACKGROUND

HIGH QUALITY LITERATURE SEARCHING IS AN IMPORTANT COMPONENT OF ANY SYSTEMATIC REVIEW (1, 2). FAILURE TO CREATE AND REPORT AN ACCURATE SEARCH STRATEGY CAN COMPROMISE THE IDENTIFICATION OF STUDIES, THEREBY LIMITING AND POTENTIALLY BIOSING THE EVIDENCE-BASE OF A SYSTEMATIC REVIEW (3-7). THIS RUNS THE RISK OF UNRAVELLING CONFIDENCE IN THE REVIEW AND ITS FINDINGS (8).

CONDUCT AND REPORTING GUIDELINES, SUCH AS MECIR (9), PRISMA (10), AMSTAR (11) AND MOOSE (12), AND HANDBOOKS, SUCH AS THOSE PRODUCED BY COCHRANE AND CRD, SET OUT WHICH ELEMENTS OF THE LITERATURE SEARCH PROCESS SHOULD BE REPORTED IN SYSTEMATIC REVIEWS (13, 14). CHECKLISTS TO SUPPORT PEER-REVIEW OF LITERATURE SEARCH STRATEGIES, SUCH AS PRESS (15), AND VALIDATION METHODS SUCH AS 'INQUISITIO VALIDUS INDEX MEDICUS' (16), HAVE ALSO BEEN DEVELOPED. PEER-REVIEW OF LITERATURE SEARCHING IS ENCOURAGED AS A MECHANISM TO IDENTIFY ERRORS IN SEARCH SYNTAX (E.G. SPELLING), OMISSIONS IN SEARCH COVERAGE, OR LIMITATIONS IN SEARCH APPROACH.

THE IMPLEMENTATION OF PEER-REVIEW OF LITERATURE SEARCH STRATEGIES REMAINS LOW. IN A RECENT SYSTEMATIC REVIEW OF METRICS OR METHODS USED TO EVALUATE LITERATURE SEARCH EFFECTIVENESS, WE FOUND THAT ONLY 52% OF STUDIES REPORTED PEER-REVIEW OF THEIR SEARCHES FOR THEIR REFERENCE STANDARD LITERATURE SEARCH (8), A FINDING SIMILAR TO A STUDY BY PATRICK ET AL (17).

THE BARRIERS TO SEARCH STRATEGY PEER-REVIEW HAVE NOT BEEN FORMALLY EVALUATED. INFORMALLY, THE AUTHORS QUESTION IF THE TECHNICAL AND TOPIC KNOWLEDGE TO PEER-REVIEW A LITERATURE SEARCH STRATEGY IS ONE BARRIER, PERHAPS ALSO BEING LINKED TO THE TIME IT TAKES. AS AN INDICATION, HAUSNER ET AL. (2016) REPORTED THAT THE TIME TAKEN TO QUALITY APPRAISE LITERATURE SEARCHES USED IN EFFECTIVENESS EVALUATION WAS BETWEEN 0.5 TO 6.75 HOURS (18). THERE IS ALSO AN ISSUE WITH TRANSPARENCY OF SEARCH STRATEGY REPORTING. YOSHII ET AL.
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IN THE APPENDIX OF THE REVIEW AND ALONGSIDE THE PRIMARY LITERATURE SEARCH STRATEGY. IN BIO-MEDICAL REVIEWS, THIS MIGHT BE THE MEDLINE SEARCH STRATEGY.

WE ENVISAGE TWO SECTIONS TO THE NARRATIVE:

1. **Conceptual:** The purpose or aim of the literature search strategy is defined

   This should be a short and specific statement to set out the purpose and aims of the literature search. This might duplicate the research question, inclusion criteria or information need, or statement of decision problem, in which case it can be re-stated here or omitted.

   As it relates to PRESS, this would aid the conceptual understanding of the search, enabling a peer-reviewer or search user to begin to consider whether the research question has been suitably translated into search concepts (22). This is what Craven and Levay argue should be included but such narratives are still uncommon (8).

2. **Contextual:** A worked explanation of the search strategy

   This should be narrative detail that is presented alongside the search syntax itself. How much detail to offer is an inexact science but, based on some assumptions sourced from the PRESS guidelines, these are the common areas that we feel additional information would be warranted to assist with peer-review:

   - **Logic Operators:** the use of Boolean logic and/or proximity operators in the search strategy can be explained, if not clear. Why has adjacency been set at three spaces, for instance;
   - **Use of field codes:** for example, clarity on what ti,ab,kw,ot,rn. mean in OVID and why these field codes are being used;
Use of controlled syntax: why terms are being focused, why terms are not being exploded and, if lines have been exploded, a very brief summary of what additional terms are captured, since this is not clear;

Explanation of non-specific controlled syntax: for example, ‘tanning’ as a MeSH term would not look out of place as an activity term in a search on sun protection but it is a MeSH term which, in fact, relates to the tanning of hides and not of humans;

Qualification of unclear search terms or use of truncation: a brief explanation of the relevance of any unclear search terms (in context of the review’s aim) or a very brief summary of search terms that were tested but not ultimately included in the search strategy. The rationale for the use of truncation may also be of benefit; and

Any limitations: for example, why search syntax is indicated to search on title only and not title or abstract; rationale for date or language limits and choice of search filters.

Worked Example

In Figure One, we present a worked example of how we envisage the search narrative might look. We have used an example from a systematic review to identify model-based economic evaluations of pharmacogenetic and pharmacogenomic tests (23). We have broken up the search to clearly show the population, the search filter, the search logic (where the lines are combined), and any limits that are being used.

Discussion

The rationale for Craven and Levay’s search narrative is compelling. Our suggestion is to extend their idea to provide not only a conceptual narrative but also contextual information to explain how a collection of search terms constitutes a systematic literature search strategy. As noted
Above, it is worth remembering that search strategies, as presented in systematic reviews, represent the final draft and best iteration of many hours of work. Without some form of explanation, the decisions made on search structure, or search term selection (in particular any topic-specific peculiarities which may benefit future literature searches), and search terms that were tested but not incorporated, for example, are lost.

We also question whether recording a more detailed search narrative – as we set out in Figure One – will improve the efficiency and uptake of peer-review, perhaps also opening up the search strategy to topic experts without literature searching expertise, or other review users, such as lay users of research (24). There may be benefit when searches come to be updated, where time and memory have lapsed (or the literature searcher has changed) since the search strategy was designed and previously run. In these circumstances, the search narrative may serve as aide-memoire.

A question remains on the level of detail required in the search narrative. Just as there is no empirical data for what constitutes an effective search (4), there is no guidance on what constitutes effective peer-review of literature search strategies, and no consensus on what constitutes ‘good searching’. How much detail to record will depend on the complexity of the search and review topic, the proximity of the reader to the project or topic, and the experience of the reviewer. If the intention is also to make reviews and search narratives more accessible to a lay audience, more detail may be needed, but this would need to balance with ensuring the length of the narrative provided did not also act as a barrier to accessibility.

We anticipate that note-taking is part of search strategy and protocol or review development (25). In the authors’ experience, completing a search
NARRATIVE WOULD NOT INVOLVE MUCH FURTHER WORK OTHER THAN REPORTING THE
NOTES WRITTEN AT THE SEARCH STRATEGY DEVELOPMENT STAGE.

Summary

In this method note, we question if the primary search strategy in a
systematic review should be accompanied by a search narrative. A search
narrative could offer a conceptual and contextual report on the search
strategy, which we suggest might benefit the peer-review of literature
searches and increase engagement with, and discussion of, the literature
search strategy from review stakeholders, topic experts and lay users of
research. Search narratives would also increase the transparency of
decision-making in literature searching.

Highlights

· What is already known

In 2011, Craven and Levay put forward the idea for a search narrative. They
argue that presenting a search strategy explains how studies were located
but that the inclusion of a search narrative explains why.

· What is new

In this method note, we re-visit this idea and develop it through the
exploration and presentation of a worked example of a search narrative. We
explore if the idea for a search narrative can be extended to present
conceptual and contextual detail on the literature search strategy.

· Potential impact for RSM readers outside the authors’ field

We ask if the use of search narratives, which provide both conceptual and
contextual detail on the primary literature search strategy, can increase
the uptake of peer review of literature search strategies. We also ask if
providing greater detail on the structure and decisions behind literature
search strategies could benefit topic experts without literature searching
expertise, or other review users, such as lay users of research.
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Figure One: the search narrative