CORRESPONDENCE

Comments about the appraisal of systematic reviews in restorative dentistry [version 1; peer review: awaiting peer review]

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Abstract
Adequate adoption of evidence-based practice is deeply rooted in accessing methodological quality and completeness of systematic reviews and meta-analyses reporting. Nonetheless, this assumption might be flawed if the methodological quality assessment has not been properly conducted. Taking the former statement into consideration, this correspondence article encourages the improvement of future methodological quality assessment manuscripts, especially in the field of restorative dentistry. Thus, this article addresses a methodological quality assessment about systematic reviews in restorative dentistry by Sarkis-Onofre et al. in the May 2019 issue of the \textit{Journal of Esthetic and Restorative Dentistry} as an example of appraising appraisals of reviews for increasing the awareness of reviewers, authors, and readers.

Keywords
data management, dentistry, evidence-based medicine, evidence-based practice

This article is included in the \textit{Research on Research, Policy & Culture} gateway.
Comments about the appraisal of systematic reviews in restorative dentistry
Dear respectable Advisory Editors and readers:

I read with great interest the publication by Sarkis-Onofre et al.1 “Systematic reviews in restorative dentistry: discussing relevant aspects,” in the Journal of Esthetic and Restorative Dentistry in the May 2019 issue. This well-written methodological quality assessment of systematic reviews or systematic review of systematic reviews stated that “This study was not registered in PROSPERO since PROSPERO indicates that “Reviews of methodological issues need to contain at least one outcome of direct patient or clinical relevance in order to be included in PROSPERO.” However, Item #30 (Type of Review) of the PROSPERO registration has the option of “Review of reviews.” Interestingly, despite the fact that the above-referenced review falls in the PROSPERO’s review of reviews category, it was neglected to being classified as such. Therefore, the authors’ arguments not to register their protocol in PROSPERO are not valid.

Moreover, the authors1 mentioned that the previous version of their review2 has a protocol available upon request. However, their first paper,2 which is in Portuguese language in a Brazilian University Magazine, does not back up the updated version of the review properly since their first version does not consider any protocol in the text.

Their critical appraisal using AMSTAR-2 appears in Table 2. Five of the 16 included review studies had between one and four items out of their AMSTAR-2 16 items referenced to the legend “Authors reported different information by e-mail however, it was not found in the article.” This reporting method may not be the most scholarly, safe, and respectful to present their findings, especially when the authors of their included review studies accepted to provide further clarification about their methodology.

Particularly, I am an author of Afrashtehfar et al.3 “Failure rate of single-unit restorations on posterior vital teeth: a systematic review,” and I regretted the online communication with their corresponding author when I was requested to provide further information. Perhaps Sarkis-Onofre et al. should have dedicated more time to conduct an adequate assessment. For example, their negative categorization of the AMSTAR-2 items 4, 7, and 16 from Afrashtehfar et al.3 may be mistaken. A comprehensive literature search (item 4) can be considered in the former paper since it searched for published papers over 20 years with no language restriction, using four databases and displaying the search strategy of each in the Appendix section. Additionally, the review screened eight journals and also searched manually in the reference list of all identified studies. Next, the list of excluded primary studies and justifications (item 7) were provided in Supplemental Table 6 (i.e., full-text excluded articles and reasons for exclusion). Regarding any potential sources of conflict (item 16), it is well-stated on the first page of the review that this study was “Supported in part by a Knowledge Transfer Grant from the Network for Oral and Bone Health Research.” Additionally, there is a section at the end of the paper for Acknowledgements where librarians and statisticians were thanked for their services.

Moreover, the search and eligibility criteria for Sarkis-Onofre et al.1 were systematic reviews that met PRISMA-P, including adults over 18 years of age with direct composite resin restoration in posterior teeth compared with other materials or techniques used in posterior teeth regardless of the outcome up to October 15th, 2017. However, some articles that fully suited their inclusion criteria were not included. For example, Afrashtehfar et al.5 “Failure of single-unit restorations on root filled posterior teeth: a systematic review” was not included despite being available from November 21st, 2016. Therefore, their search strategy and their search conduct (including the elimination of duplicates),6 as well as screening,7 raise some severe methodological concerns.

This review of reviews has a collaboration with well-known evidence-based medicine experts from Canada, Tricco and Moher,9 which usually rely on the talent from their research team for screening and assessing the literature.

After a brief analysis, this letter encourages the improvement of future methodological quality assessment manuscripts to:

- Address clarification with authors of potentially included studies safely and respectfully to avoid accusation, especially if there is no consensus on the matter from different experts (i.e., two experts as a minimum).
- Take the time and effort necessary to assess the review paper of interventions according to AMSTAR-2.4 At least two experts should also determine this in the field instead of two research students.
- Spend sufficient time with expert librarians to develop an adequate search strategy in multiple databases.
- Use a reference manager and do not rely on removing the duplicates by selecting only one category (i.e., authors’ names). The available categories should be combined to avoid removing records that may share the same publication journal, year, or authors.
A PRISMA checklist\textsuperscript{10,11} should be submitted, reporting compliance with each item by indicating the paragraph and page where they can be found in the review/appraisal. All the required reporting should be included in the quality assessment.

**Data availability**

**Underlying data**

No data are associated with this article.

**Authorship contribution based on the ICMJE criteria**

Kelvin Ian Afrashtehfar: Conceptualization, Data Curation, Formal Analysis, Funding Acquisition, Investigation, Methodology, Project Administration, Resources, Software, Supervision, Validation, Visualization, Writing – Original Draft Preparation, Writing – Review & Editing.

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**References**

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