Reviewer’s report

Title: The effectiveness of guideline implementation strategies in the dental setting: A systematic review

Version: 0 Date: 23 Aug 2019

Reviewer: Anna Gagliardi

Reviewer's report:

I was pleased to review this systematic review of the effectiveness of strategies used to implement dentistry guidelines. The findings offer useful insight on implementation for an under-researched guideline subject area and also form the basis of important future research in this area. The findings would be strengthened and more useful if reporting of the rationale/purpose, methods, and results included more detail, additional analysis, and further discussion of the implications of the findings and what they add to the body of knowledge on guideline implementation.

BACKGROUND

Paragraph #2 - considerable research has evaluated practice according to guideline recommendations (i.e. many national-level/population-based studies in Australia and elsewhere) and identified the determinants of guideline implementation and use (i.e. Flottorp et al.) - this paragraph does not thoroughly recognize the depth and breadth of prior research

Suggest that, before specifying an aim related to implementation, that implementation be defined and described somewhere in the Background

The purpose statement (last sentence) is somewhat unclear and the wording could be more specific; for example: were the authors interested in identifying guideline implementation strategies for improving dental practitioners' adherence to them (meaning dentist adherence to guidelines on any topic, not just dental guidelines), or in identifying implementation strategies effective for changing/improving adherence to dental guidelines? And were the authors interested in only adherence (meaning behaviour change) or in any impact, for example, attitudes, knowledge, self-efficacy, patient satisfaction or experience or other patient-important outcomes, or clinical outcomes?

METHODS

Suggest adding a preliminary section labelled Research Design or Approach. To it, add the first sentence under Searches along with other general details justifying and pertaining to the design chosen; for example, why a systematic review rather than any other type of review, and according to what methods (since PRISMA pertains to reporting criteria and not methods). In
that section, also describe the expertise on the research team who took part in the systematic review.

Searches

Were the searches executed from October 2018 to April 2019, or were the databases searched for this time period; probably the former, so specify the timeframe for the searches (i.e. from inception, from 2000 onwards, and justify the timeframe chosen). Under Study inclusion/exclusion, the authors state that articles were included up to Apr 7, 2019, but it is not clear if they mean the databases were searched from inception to that date.

Were searches conducted according to the PRESS checklist for reporting of searches for systematic reviews?

Study inclusion/exclusion criteria

Suggest the authors use the PICO framework to articulate the eligibility criteria in greater detail; many of the details under the "Terminology" section pertain to P (population/participants) and I (intervention). Also specify what types of primary study designs were included/excluded.

Screening

A section on screening is lacking to identify who screened and how screening was performed, if a pilot test was performed, etc. There is one sentence about who assessed study eligibility under "Data extraction strategy", which could perhaps pertain to full-text screening? Suggest title/abstract screening and full-text screening be addressed in a section before data extraction.

Data synthesis

Many systematic reviews, even Cochrane systematic reviews, include 15 or fewer studies so it is unclear why the authors say that due to the small number of studies, they opted for qualitative synthesis. It is also unclear what they mean by qualitative synthesis, since the Results are reported as is typical for a systematic review. A qualitative synthesis generally means that data are extracted from qualitative studies (these authors included RCTs) or that a qualitative content analysis was performed (that does not seem to have been done here).

More detail is needed about who categorized studies according to EPOC, how they did so, and why EPOC was chosen over any other taxonomy of interventions such as ERIC.

Suggest that to truly describe and compare the characteristics of strategies, the authors describe the implementation approaches using a scheme specific to behavioural interventions such as Albrecht's WIDER criteria, and then describe those characteristics in the Results.
RESULTS

Suggest breaking up the results into sections typical of systematic reviews: first section Search Results, specify the reasons for full-text exclusions, and refer to the PRISMA diagram; next section Study Characteristics (i.e. publication dates, research design, country of first author) for included studies

Suggest that number of studies by type of implementation strategy (currently included in first paragraph of Results) be included in subsequent corresponding sections

Suggest reporting any qualitative assessment that was conducted and reported along with RCT results, as well as determinants (enablers, barriers) of guideline implementation and use, as well as any harms or unintended outcomes

Apart from Table 1, in which all data were extracted, include another table to further summarize the data; for example, it could relate type of implementation intervention to type of outcome and whether outcomes were positive or not as a way to help the reader digest the findings

The Results section concludes very abruptly; suggest the authors perhaps summarize the findings in a model or figure, and include a higher-level interpretation that could compare interventions and outcomes by guideline topic, which interventions achieved better outcomes/effect size, compare single versus multi-faceted, etc.

DISCUSSION

First paragraph reports that of 15 studies, 13 examined single interventions and 6 examined multifaceted interventions - shouldn't these be mutually exclusive?

Additional limitations: may not have identified all relevant studies; studies were largely published in the UK and US so unclear if the findings are transferrable to other settings, studies were relatively few (the authors specify "16 included studies" here rather than 15)

Much of the Discussion is a re-iteration of the Results rather than comparing the findings to reviews of guideline implementation on non-dentistry topics, and commenting on how the findings of this review can be applied, plus avenues for ongoing research.

Level of interest
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