Reviewer's report

Title: Screening for periodontal diseases by non-dental health professionals: A protocol for a systematic review and overview of reviews

Version: 1 Date: 05 Nov 2018

Reviewer: Reint Meursinge Reynders

Reviewer's report:

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Submitted to: Systematic Reviews

Full title: Screening for periodontal diseases outside dental settings in adults: A Systematic Review and Overview of Reviews Protocol

Article Type: Protocol

Peer reviewed by: Reint Meursinge Reynders

Recommendation: Major revision

Date: November 5 2018

Dear Dr. Teufer and co-authors,

In my previous peer review I pointed at the complexity of combing 2 different research designs in one protocol. This issue combined with the multiple research question and the challenges of conducting an overview of systematic reviews could make this double protocol difficult to handle. I asked the authors to carefully consider the alternative option to split this paper in 2 separate manuscripts 1) a protocol for a systematic review and 2) a protocol for an overview of systematic reviews. The authors have chosen to stay with their original plan and keep both research designs in a single paper.
The authors have made major improvements in this first revision of their paper. I thank the authors for having adopted the order of the items of PRISMA-P, which significantly facilitates the peer review process.

BRIEF SUMMARY OF THE PROTOCOL OF THE SYSTEMATIC REVIEW

This manuscript presents a protocol for both a systematic review and for an overview of systematic reviews. The main objective for the first research design is to assess the benefits and risks of screening for periodontal diseases in adults during periodic health examinations outside dental settings compared with no screening. The main objective for the second research design is to assess the effectiveness of early treatment of periodontal disease.

STRENGTHS OF THIS MANUSCRIPT

The authors of this protocol have planned a systematic review and an overview of systematic reviews on research questions that are important for patients, clinicians, researchers, and policymakers.

LIMITATIONS OF THIS MANUSCRIPT

The authors have worked hard to improve this manuscript and have addressed numerous issues raised by the peer-reviewers. However important changes in the methods and reporting are still necessary. I therefore recommend a 'Major revision'. My comments are described in the comments under here. A key problem is that outcomes are not defined and prioritized, which introduces the risk of selective outcome reporting into the review. Defining and prioritizing outcomes a priori is one of the key reasons for developing and publishing a protocol.

MY METHODS FOR THIS PEER REVIEW

I used the PRISMA-P checklist and its pertinent guiding paper (Moher 2015a, Shamseer 2015) and the Methodological Expectations of Cochrane Intervention Reviews (MECIR) standards (Higgins 2016a, Higgins 2016b) to assess how this protocol was reported. I further consulted the PRISMA checklist and its guiding document (Liberati 2009, Moher 2009), The RoB 2 tool (Higgins 2018), the ROBINS-I tool (Sterne 2016) and the AMSTAR 2 tool (Shea 2017). I also consulted the strategies to consider when peer reviewing a systematic review as described by Moher (2015b).

THE SYSTEMATIC REVIEW PROTOCOL

My comments and suggestions for the systematic review protocol are presented under here and follow the order of the 17 items of the PRISMA-P checklist (Moher 2015a, Shamseer 2015).

REPORTING AND METHODOLOGICAL ISSUES

ABSTRACT

Comment:

On page 3 line 55-57: Please delete the following sentences: 'We will employ two methodological approaches. To assess the effectiveness and risk for harms of screening for periodontal diseases during periodic health examinations, we will conduct a systematic review. To determine the efficacy of treatment approaches for early disease, we will employ an overview of systematic reviews.'

Replace these sentences with the following sentences: 'Two methodological approaches will be used: 1) a systematic review to assess the effectiveness and risk of harms of screening for periodontal diseases during periodic health examinations 2) an overview of systematic reviews to determine the effectiveness of treatment approaches for early periodontal disease.'

Comment:

Please note the differences between effectiveness and efficacy. Please explore the definitions and make sure that these terms are used correctly throughout the manuscript.
Comment:

On page 3 line 63: Please delete the following sentence: 'In general, we will synthesize data narratively.'
Replace this sentence with the following sentence: 'A systematic narrative synthesis will be conducted'

Comment:

On page 3 line 63 and 64: Please delete the following sentence: 'If we detect three or more studies that we deem to be similar enough, we will conduct meta-analyses.'
Replace this sentence with the following sentence: 'Criteria for conducting meta-analyses were defined'.

Comment:

On page 3 line 64-66: Please delete the following sentences: Outcomes of interest .................probing depths). Please present here what the primary outcomes and possibly the secondary outcomes will be. I have further addressed this issue in the section 'Outcomes and prioritization' (ITEM 13)

Comment:

On page 3 line 66-67: Please delete the following sentence: 'A panel of experts-----------------decision making'. I compliment the authors for having included this issue, but this group of stakeholders should be consulted in the protocol phase when research questions are formulated and outcomes are defined (See also the section 'Outcomes and prioritization). Therefore please change this sentence to: 'A panel of experts and patients representatives was consulted to prioritize these research questions and outcomes'.


Comment:

On page 3 line 67: Please modify the sentence: 'Two investigators will independently rate……………approach'

Modify this sentence to: 'Two investigators will assess independently the strength of the body of evidence for each outcome using the GRADE (Grading of Recommendations Assessment, Development and Evaluation) approach.'

PRISMA-P CHECKLIST

Comment:

The authors have correctly completed the PRISMA-P checklist (Moher 2015, Moher 2016, Shamseer 2015)

SECTION 1: ADMINISTRATIVE INFORMATION

TITLE (ITEM 1)

Comment:

I suggest changing the title to: 'Screening for periodontal disease of adults by non-dental health professionals: A protocol for a systematic review and overview of reviews'

I suggest this title, because the main objective of this systematic review is screening for periodontal disease of adults by non-dentists. Please consider that outside dental settings could imply that patients are assessed by dentists in non-dental settings. Please address this issue throughout the manuscript.
REGISTRATION (ITEM 2)
No issues to address.

AUTHORS (ITEM 3)
No issues to address.

AMENDMENTS (4)
No issues to address.

SUPPORT (ITEM 5)
No issues to address.

INTRODUCTION

RATIONALE (ITEM 6)

Comment:
The authors have presented a sound background section. However there are still some issues that I want the authors to address (See next comment).
Comment:

On page 5 line 120 the authors write:

If I understand the intervention correctly I presume that the authors refer to interventions for the screening of periodontal disease by non-dental health professionals during periodic overall health exams. If this the correct interpretation then please describe: 1) the characteristics of this screening intervention and 2) its pertinent operators and 3) potential settings 4) the characteristics of health exams. For example the following statement on page 5 line 120 creates confusion on the pertinent operators: 'health professionals who are not dentists'. Are dental hygienists included in this group? Do the authors refer exclusively to physicians? Only GPs or also specialists etc? Please address these issues throughout the manuscript.

OBJECTIVES (ITEM 7)

No issues to address

SECTION 3: METHODS

PROSPERO

Please make sure that the PROSPERO registration is updated and congruent with the final protocol at the end of the last revision phase of this manuscript.

Please delete the subheading title 'Study design' and leave the sentence on page 7 line 156-158 as it is, i.e., 'We will employ..............examinations'. Leaving the subheading title 'Study design' would create confusion, because this subheading title will be used as the first item under Eligibility criteria.
ELIGIBILITY CRITERIA (ITEM 8)

Comment:
Please adopt the following items precisely from PRISMA-P and maintain the same order: Study designs, Participants, Interventions, Comparators, Outcomes etc.

Comment:
Please do not add other words to these terms such as 'types', publication etc.

Comment:
Please define in further detail some additional inclusion and exclusion criteria in Table 1. I will give some examples under here.

Study designs

Comment:
Change types of studies to Study designs

Comment:
The section 2.1 covers the methods for the systematic review (KQ1-3). Therefore systematic reviews should not be included, but explicitly excluded. On the contrary in section 2.2 (overview of systematic reviews) systematic reviews are included in the eligibility criteria for study designs.
Participants

Comment:
Please delete 'Types of'

Comment:
Please consider the following variables with regard to eligible participants: sex, age, country, city, medical condition, co-existent conditions (co-interventions), ethnicity, socio-economic status, experience with the interventional procedure, and other participant-related characteristics.

Many of these variables for the item 'Participants' were not defined by the authors. Some of these variables are described in Table 1, but not in sufficient detail.

Comment:
Excluding patients that are undergoing co-interventions, e.g., cleaning by dentists or dental hygienists in dental offices, could be an important issue.

Interventions

Comment:
Please delete 'Types of'

Comment:
Please expand on the type of interventions. Which interventions and what devices for screening would be eligible and which wont? Please define eligibility criteria for the starting point of the interventions, the minimum number of interventions, the duration, and how interventions are delivered. Please define the intervention: What it is and what it is not. Some of these variables are described in Table 1, but not in sufficient detail.
Comparators

Comment:
Please delete 'Types of'

Comment:
On page 8 line 172: Please delete: 'of interest'.

Outcomes

Comment:
Please delete 'Types of'

Comment:
Please define eligible time points for measuring outcomes.

Timing

Comment:
Define eligibility criteria for the timing of the follow-up.
Setting

Comment:
Please delete 'Types of'

Comment:
Please explain what an office-based and a non-office based primary care setting is.

Countries
No issues to address

Language
Comment: Please delete 'Publication'

Date of search

Comment:
Date of search in table 1 is not an eligibility criteria and should go under 'Information sources' (ITEM 9).
INFORMATION SOURCES (ITEM 9)

Comment:
Combining items 9 (information sources) and 10 (Search strategy) is fine, but then please change the title of this section to: Information sources and search strategy.

Comment:
Why were studies prior to 2007 not included?

Comment:
On page 9 line 203-204: An experienced information specialist is not the indicated person to perform the searches. This should be done by 2 reviewers independently (As the authors have presented in section 'Selection process'). Probably the authors wanted to state: 'An information specialist with expertise in searches in the literature of the health sciences was consulted to develop our search strategy'.

Comment:
Please also conduct grey literature searches in Google Scholar.'

Comment:
When the Search strategy has been completed, please describe the limitations of the search strategy for example: language restrictions, no experts available with database searching skills, no information scientist involved, search strategy not peer-reviewed, time or financial constraints etc. (Shamseer 2015).
SEARCH STRATEGY (ITEM 10)

Comment:
Please ask an additional information specialist of the health sciences to peer review the search strategy (McGowan 2016 Sampson 2009).

Comment:
The authors ask multiple questions and use one broad search strategy for all 3 research questions. Wouldn't it be better to create a separate search strategy for each question?

Comment:
In the Supplemental material (Search strategy) please change 'Suchen' and 'Ergebnisse' to respectively 'Searches' and 'Results'.

STUDY RECORDS (ITEM 11)

Item 11a: Data management

No issues to address

Item 11b: Selection process

Comment:
The excluded studies and the rationale for their exclusion should be given in an additional file to the completed review. Please state this in the protocol.
Comment:

On page 10 line 224: Please delete: 'Two independent reviewers will screen abstract and full text articles and evaluate the eligibility for inclusion.' Please insert: Two reviewers (also present the abbreviated names of the two reviewers) will independently screen abstracts and full text articles and assess their eligibility (Lefebvre 2011).

Comment:

Please note that study selection methods are conducted on a pilot group of studies to calibrate reviewers and to fine-tune eligibility criteria.

Comment:

Please also report that authors will be contacted in the case of uncertainties about the eligibility of an article.

Item 11c: Data collection process

Comment:

Consider Shamseer's statement (2015) in the PRISMA-P guideline: 'Data extraction forms should be developed a priori and included in the published or otherwise available review protocol as an appendix or as online supplementary materials.' I ask the authors to apply this statement. Define all data items in detail in these extraction forms (See ITEM 12) and upload these forms to an additional file. Please note that a careful preparation of data extraction forms a priori will save you tons of time when conducting the review.
DATA ITEMS (ITEM 12)

Comment:
Pre-specify all data items that will be extracted in the data collection forms and define them precisely (See ITEM 11c). Try to anticipate on as many uncertainties as possible that could arise and explain assumptions that might be made (Shamseer 2015).

OUTCOMES AND PRIORITIZATION (ITEM 13)

Comment:
Research questions and their outcomes should be developed in the protocol phase through consulting a variety of stakeholders such as patients, clinicians, researchers, government bodies etc.

PRISMA P states: 'All outcomes for which data will be sought should be defined including their prioritization' (Shamseer 2015). Therefore please define a priori the various preferred outcomes regarding the benefits of screening for periodontal disease by non-dental health professionals (KQ1) and order them according to their priority!!! Do the same for KQ2 and KQ3. Please define also the pertinent time points for measuring these outcomes. Please consult what is reported in the PRISMA-P Statement on this issue (Shamseer 2015) and what is reported in other review protocols published in Systematic Reviews. What is defined on outcomes under the eligibility criteria (ITEM 8) is not sufficient.

Comment:
The section 'Outcomes and prioritization' should occupy a substantial part of the protocol (Shamseer 2015). Please consider that one of the key reasons to prepare a protocol is to carefully define outcomes a priori in order to reduce bias related to selective reporting of outcomes (Shamseer 2015). I understand that not all outcomes can accurately be predicted a priori, but this should also be explained in the protocol.
Comment:
Please also define pertinent surrogate and composite outcomes and how to deal with them.

RISK OF BIAS (ITEM 14)

Please refer to the RoB 2 tool since this has just been launched (on 12 September 2018), which is a revised tool to assess risk of bias in randomized trials and can also be used for individually-randomized cross-over trials (Higgins 2018). The authors have included the correct reference [34].

DATA SYNTHESIS (ITEM 15)

Comment:
Please adopt the PRISMA-P framework for presenting the section 'Data synthesis' and maintain the PRISMA-P order (15a-15d) for presenting the various issues.

Item 15a. Describe criteria under which study data will be quantitatively synthesized

Comment:
Criteria for a quantitative synthesis: Use this as the subheading
Criteria for conducting a quantitative synthesis include: 1) each included study addresses the same question 2) low risk of bias in the included studies 3) consistent outcomes between studies 4) low publication bias 5) a high number of included studies and 6) low heterogeneity (Borenstein 2009a, Deeks 2011).
Comment:

Please report here on the random effects model that the authors are planning to use.

Comment:

Please report what software will be used to conduct the meta-analyses.

Item 15b. If data are appropriate for synthesis, describe planned summary measures, methods of handling data, and methods of combining data from studies, including any planned exploration of consistency (such as I2, Kendall's $\tau$)

Comment:

Create the following subheadings and expand on them: Summary measures; Unit of analysis issues; Missing data; Clinical heterogeneity; Statistical heterogeneity.

Item 15c. Describe any proposed additional analyses (e.g., sensitivity or subgroup analyses, meta-regression)

Comment:

Create the pertinent subheadings: sensitivity or subgroup analyses, meta-regression

Comment:

Please explain why no subgroup analyses are planned.

Item 15d. If quantitative synthesis is not appropriate, describe the type of summary planned
Comment:

Create a subheading: Qualitative (narrative) synthesis

Please seek further guidance for this section in the PRISMA-P guidance document (Shamseer 2015).

META-BIAS(ES) (ITEM 16) Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies)

Comment:

Define strategies for assessing and dealing with selective reporting:

1) Assess protocols of the eligible studies 2) check differences between protocols and the final study 3) contact authors to obtain additional information etc. 4) consult the literature of statistical methods for dealing with missing data (Higgins 2011c).

Comment:

Define strategies for assessing and dealing with publication bias (Borenstein 2009b).

CONFIDENCE IN CUMULATIVE ESTIMATE (ITEM 17) Describe how the strength of the body of evidence will be assessed (such as GRADE)

Comment:

This section is not congruent with the GRADE approach and should be adapted. Please consult the following references: Schünemann 2013 and Schünemann 2016.
OVERVIEW OF SYSTEMATIC REVIEWS PROTOCOL

In my previous systematic review I provided a list of references on overviews of systematic reviews. I ask the authors to consult these references in further detail to improve this section of the manuscript. Currently this section is under-reported (Detail is lacking).

In particular I ask them to consult the following 6 papers: Lunny 2016, Lunny 2017, Lunny 2018, McKenzie 2017a, McKenzie 2017b, and Pollock 2017. Please also consult the 5 overviews of systematic reviews that were used in Pollock's article (2017).

Under here I have provided some but not all key issues that require attention for this protocol for an overview of a systematic review. Additional key issues will become clear after consulting the 6 papers referenced above.

Comment

Several of my comments for the systematic review also apply to this protocol for an overview of systematic reviews. Please cross-check.

Comment:

Methods of overviews of systematic reviews are rapidly evolving and an methodologist with experience with these reviews should be consulted.

Comment:

Articles on the current methods for conducting these overviews of systematic reviews are not included in the references of the manuscript of this protocol.

Information sources

Why not including Embase?
Comment

Why was ROBIS (Whiting 2016) chosen and why not AMSTAR 2 (Shea 2017) or both?

Comment:

Please consider: How to deal with overlapping reviews, i.e. same studies are included in one or more systematic reviews.

Comment:

What statistical analyses will be used?

Comment

Please state that since conducting overviews of systematic reviews is a new and developing methodological field, potential modifications of the methods will be applied during the conduct of the overview. Modifications will be reported with rationale.

DIFFERENCES BETWEEN THE PROTOCOL AND THE REVIEW

Comment:

The authors should explain in a separate section how they plan to deal with differences between the protocol and the review.
DISCUSSION

Comment:

Please present the limitations of this paper. For example language bias will be present, because only articles published in English and German will be eligible. Please expand on other issues, e.g. the challenges of conducting an overview of systematic reviews (still relatively new with non-consolidated research methods).

REFERENCES USED IN THIS PEER-REVIEW

Borenstein 2009a


Borenstein 2009b


Deeks 2011

Higgins 2011c


Higgins 2016a


Higgins 2016b


Higgins 2018


Lefebvre 2011

Liberati 2009


Lunny 2016


Lunny 2017


Lunny 2018


McGowan 2016

McKenzie 2017a


McKenzie 2017b


Moher 2009


Moher 2015a


Moher 2015b


Moher 2016

Pollock 2017


Sampson 2009


Shamseer 2015


Schünemann 2013


Schünemann 2016

Shea 2017

Sterne 2016

Whiting 2016

**Level of interest**
Please indicate how interesting you found the manuscript:

An article whose findings are important to those with closely related research interests

**Quality of written English**
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published
Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

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Were you mentored through this peer review?

No