Author’s response to reviews

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

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Author’s response to reviews:

Dear Dr. Reynders, dear reviewers,

Thanks for your comments. Please find below our responses to all issues raised.

Comments from Reviewer 1:

I apologize with authors for the not well opinion about the manuscript. In particular, my prejudices about the topic are strong, since I'm a dentist. However, in my opinion, the topic of the systematic review is not of interest. The question is: "Why a screening from general health practitioners should increase the rate of early diagnosis for periodontal disease?". As it is known, for all the patients a 6 months periodontal dental hygiene is recommended and a periodontal screening is performed without no other costs. Hence, another question that should be added to the systematic review is: "What is the cost-effectiveness of this screening of screening in adults during the periodic health examinations?"
Response: Thank you for your feedback. We understand your concern. Nevertheless, screening for periodontal disease is part of the Austrian periodic health examination, which is conducted by family doctors or general internists. As part of an evidence-based evaluation of the Austrian periodic health examination, we will assess the benefits and harms of screening for periodontal disease in such a primary care setting. Consequently, for Austria and presumably also for other countries the question is of high relevance.

Comments from Reviewer 2: None

Comments from Reviewer 3:

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.'

Response: Many thanks for your suggestion. We revised the text accordingly

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

Response: Many thanks for pointing this out. Because primary care settings are the most relevant settings for screening interventions, we think that “effectiveness” is the more appropriate term because it reflects the question “Does an intervention work in practice?”. We replaced “efficaey” with “effectiveness” throughout the manuscript.
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'  

Response: We revised the sentence accordingly.

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'.  

Response: We revised the sentence accordingly.

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)  

Response: We revised the sentence accordingly.

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'.  

Response: Many thanks for your suggestions, we revised the text accordingly.
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.

Response: Many thanks for your suggestion. We revised the text accordingly but we would prefer to keep the term “certainty of evidence” which is the new and preferred term by GRADE.

SECTION 1: ADMINISTRATIVE INFORMATION

TITLE (ITEM 1)

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.

Response: Thank you, you are making a very important point regarding dentists outside of dental settings. We replaced “outside dental settings” with “by non-dental health professionals” in the title.

INTRODUCTION

RATIONALE (ITEM 6)

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

Response: Thank you for the comment. We added some information to clarify the purpose of the review. As suggested before, we added “by non-dental health professionals”. More detailed information regarding the setting and the screening interventions can be found in the Methods under “eligibility criteria”.

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.

Response: We will update PROSPERO 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.

Response: We made the respective changes
ELIGIBILITY CRITERIA (ITEM 8)

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

Response: We made the respective changes

Please do not add other words to these terms such as 'types', publication etc.
Response: We made the respective changes

Please define in further detail some additional inclusion and exclusion criteria in Table 1. I will give some examples under here.
Response: We made the respective changes

Study designs

Change types of studies to Study designs
Response: We made the respective changes

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.
Response: We made the respective changes
Participants

Please delete 'Types of'

Response: We made the respective changes

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.

Response: We added more information the eligibility criteria of the participants. We added the sentence “We will not limit our target population by medical conditions, co-existent conditions, ethnicity, socio-economic status or further participant-related characteristics.”

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

Response: See response above, we added more information the eligibility criteria of the participants.

Because we will exclude participants with known periodontal diseases, we will not exclude patients that are undergoing any co-interventions, e.g., cleaning by dentists or dental hygienists in dental offices for other reasons.
Interventions

Please expand on the type of interventions. Which interventions and what devices for screening would be eligible and which won't? 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.

Response: We added more information to clarify these points. Because our intervention of interest is a single screening intervention during a periodic health examination, a minimum number of interventions is not relevant for our purposes.

Comparators

Please delete 'Types of'

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

Response: We made the respective changes.

Outcomes

Please delete 'Types of'

Please define eligible time points for measuring outcomes.

Response: We made the respective changes.

Timing

Define eligibility criteria for the timing of the follow-up.

Response: We added the definition.
Setting

Please delete 'Types of'

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

Response: We added the requested information.

Language

Please delete 'Publication'

Response: We made the respective changes.

Date of search

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

Response: We made the respective changes.

INFORMATION SOURCES (ITEM 9)

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.

Response: We made the respective changes.
Why were studies prior to 2007 not included?

Response: Our aim is to focus on the most recent and relevant evidence. Because of time and budgetary constraints, we will limit the searches to the last 12 years.

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'.

Response: A trained information specialist and Cochrane trial search coordinator will conduct our searches in collaboration with a dental professional.

Please also conduct grey literature searches in Google Scholar.'

Response: We added Google Scholar to the search strategy for the grey literature.

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).

Response: We added a justification why we limit the searches to the past 12 years. We also point out that our searches are limited to English and German languages. According to the PRESS statement, there are no further limitations that we would need to present.

SEARCH STRATEGY (ITEM 10)

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

Response: According to our information specialist, this is the most suitable form because intervention, population/target disease and types of studies are the same for KQs1-3. A second person will peer review the search (see protocol).

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

Response: We made the requested changes.

Item 11b: Selection process

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.

Response: We made the requested changes.

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).

Response: We made the requested changes but we did not add any names because the exact reviewers still need to be determined.

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

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

Response: We made the requested changes.
Item 11c: Data collection process

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.

Response: We'd be happy to provide the data abstraction sheet as a webappendix if the editors think that this is of interest for readers.

DATA ITEMS (ITEM 12)

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).

Response: We added more information about data items.

OUTCOMES AND PRIORITIZATION (ITEM 13)

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.
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.

Please also define pertinent surrogate and composite outcomes and how to deal with them.

Response: Since the first submission of the protocol, we have completed a prioritization task of outcomes following GRADE. We present the results in this section. We added the results of the process of prioritizing outcomes and defined primary outcomes (ranked as “critical”) and secondary outcomes (ranked as “important”).

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].

Response: We added this information.

DATA SYNTHESIS (ITEM 15)

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

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)

Response: We added the requested information.

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

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

Response: We added the requested information.

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 τ)

Response: There is text on the assessment of consistency in the protocol.

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)

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

Please explain why no subgroup analyses are planned.

Response: We added the requested information.
Item 15d. If quantitative synthesis is not appropriate, describe the type of summary planned

Create a subheading: Qualitative (narrative) synthesis

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

Response: We revised the text and added the requested information.

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

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).

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

Response: We added the requested information.

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

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

Response: We revised the text and added a table defining grades of certainty of evidence (Table 2)
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.

Response: Many thanks for pointing out these papers. We took them into consideration when we revised the text.

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

Response: We cross-checked and took comments from the systematic review part into consideration when appropriate.

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

Prof. Gartlehner who is co-author of this paper hast already conducted and guided some overviews of reviews. One protocol with a comparable approach to this paper was already published in Systematic Reviews: Matyas, N., Auer, S., Gisinger, C., Kil, M., Aschenberger, F. K., Klerings, I., & Gartlehner, G. (2017). Continuing education for the prevention of mild cognitive impairment and Alzheimer’s-type dementia: a systematic review protocol. Systematic reviews, 6(1), 157.
Results of this systematic review and overview of reviews are currently in submission process.

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

Response: We reviewed the provided papers on conducting an overview of systematic reviews and added them as references.

Information sources

Why not including Embase?

Response: According to our information specialist, Epistemonikos is more important than Embase for searches of systematic reviews.

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

Response: We considered the use of a domain-based approach supported by signaling questions as it is done in the ROBIS tool as state of the art and suitable for our overview of systematic reviews.

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

Response: We will apply a best evidence approach. We will categorize all included studies via type of treatment and will only synthesize data from the most recent review with low risk of bias in every category narratively. This information can be found in our submission.

What statistical analyses will be used?

Response: We will only synthesize data from the most recent review with low risk of bias in every category narratively.
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.

Response: We added this information to the section “differences between the protocol and the review”.

DIFFERENCES BETWEEN THE PROTOCOL AND THE REVIEW

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

Response: We added a section addressing this issue to the protocol.

DISCUSSION

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).

Response: We added text about limitations to the Discussion.