Reviewer’s report

Title: Defining the gap: A systematic review of the difference in rates of diabetes-related foot complications in Aboriginal and Torres Strait Islander people and non Indigenous Australians

Version: 0 Date: 09 Jun 2017

Reviewer: Peter Lazzarini

Reviewer's report:

Thank you for the opportunity to review this really interesting systematic review on the prevalence of diabetic foot complications in indigenous compared with non-indigenous populations in Australia. I congratulate the authors for undertaking such a timely and overall well-designed and written (particularly the background and discussion) systematic review in such an important area of diabetic foot epidemiology in Australia. I think this paper adds important new knowledge in this regard and I look forward to it being published.

However, I think the results could be displayed much better which would make this paper much easier to interpret for the reader and a much more powerful paper. There are also a few other minor areas of this paper that need at least some minor revision or clarification before I believe it's ready for publication. Please see my specific revision comments below.

Once the editors feel these revision comments listed below have been satisfactorily addressed I would be very happy to see this paper published in JFAR and look forward to citing it in future. I commend the authors for undertaking this really important piece of work.

Abstract

1. Background: The 4th sentence doesn't read quite correctly for some reason, please check to clarify

2. Aim: I'd suggest aligning the aim in the abstract with that in the main text. In short just cut and paste the same aim from main text into abstract

3. Main Body: This is an unusual sub-heading for an abstract and seems to contain both the methods and results of the abstract. I'd suggest simply separating this into Methods and Results

4. Main Body: Sentence 1 or 2: I'd suggest the author should clarify something about the papers they were searching for, e.g. MESH terms and keywords for diabetic foot, prevalence
and indigenous were used in the search. At the moment I know what you are trying to say but you could be searching for anything if the reader was reading the Methods of the Abstract alone

5. Results: As per comments in the Results in the Main text, it would be really useful to have a summary statistic (e.g. % or OR) or range or something quantitative to report the difference of these rates between indigenous and non-indigenous Australians to make this a much more powerful paper. At the moment we rely on the authors to say the rates are higher in indigenous populations, but by how much the reader is left asking

6. Conclusion: Could be more powerful if you included indigenous Australians had disproportionally higher rates (eg 3-6 fold or something as per comment above) and also developed at younger ages as the authors highlighted nicely in their main text. Also would be useful to add a sentence on what future studies are required as again the authors articulated nicely in their main text conclusion

Background

1. Nice background rationale! However, just be careful with old references and references that are contained in reports of other original literature, best to be as up-to-date and original as possible. In saying that you may want to read this AIHW diabetes report (and more recent similar reports) that will give you some specific diabetic foot indigenous v non-indigenous data that might be a useful addition to this background:


Methods

1. Data sources: It might be useful to say that Table 1 is an example of your search string as it only contains your Medline search

2. Data sources: Need to add in somewhere in here that reports were not eligible for inclusion as that comes up in limitations. As I was reading I was thinking you hadn't found many applicable reports (as per the AIHW report I cited above) and it was not until the limitations that I realised why. Thus, this needs to be stated clearly in the methods

3. Assessment of study quality: I think the authors should add a little more detail on the Strobe checklist items, and most importantly define how they categorised this checklist into overall study quality (e.g. high, moderate, low quality) as seems to be stated in the results later
4. Analysis: I think it would be useful to add an analysis section if only to state what the summary statistics were. For example you will report % for prevalence or incidence, OR for magnitude of difference etc

5. Analysis: Also was there any intention in the study protocol to do meta-analysis? Its fine if not or if the heterogeneity of the studies or data precluded it but might be useful to mention. As a meta-analysis may have helped later on with summarising your results better, but I realise that is easier said than done

Results

1. Overview of included studies: There seem to be an unusually high number of books identified in the search (n=437) for the databases searched. Just clarify if that is the case.

2. Overview of included studies: Just review the overall flow of this paragraph as it's a bit confusing. Whilst its technically correct it seems to jump around a bit in terms of what was excluded, not excluded and included

3. Figure 1: Ideally it would be preferable to add the specific reasons with numbers for the excluded records from the title/abstract screen as the authors did for the full text articles excluded

4. Figure 1: There seems to be a minor error in the Prisma flowchart in the full text excluded papers. The last paper mentioned "one further article included upon handsearching …" should probably be in a box of its own with an arrow heading back to studies included. At the moment it looks as if its been excluded and thus the numbers don't add up, but its easy to correct

5. Characteristics of included studies: Again perhaps re-order the flow to make it easier to read, eg report on overall sample sizes, study designs, locations, characteristics reported, outcome definitions etc together, rather than discussing standalone studies like the authors have done with the Fremantle study.

6. Rates of foot complications: At the moment this results section is very descriptive and more akin to a discussion and nearly should be in the Discussion section. I would strongly suggest the authors add to Table 2 with an additional Summary Table of results with reported ranges or ORs or similar for each type of diabetic foot complication (e.g. amputations, DFU, DPN, PAD etc). At the moment its very difficult for the reader to work out which diabetic foot complications have been reported, what the rates were and what the differences were between indigenous and non-indigenous groups. I think a Summary Table will not only make this paper much easier for the reader to interpret, but also give it a much more powerful message and make it a much more powerful piece of work.
7. Quality appraisal: I really like the Quality Table in the Supplement and think this could probably be moved into the main paper.

8. Quality appraisal: As per results I think the authors need to summarise the overall quality of papers more objectively rather than describing quality (e.g. 100% of papers reported study design, settings, participant eligibility criteria). Also as per comments in the methods I think the authors need to define what are the categories of different quality using the strobe tool (e.g. does >75% items met mean its high quality or <30% items are low quality etc?) which will then really aide the first point in this comment

9. Included studies & Quality appraisal: It would be useful to report the agreement between both raters for these too items, however, if you haven't or can't its best to add this in the limitations

Discussion

1. First paragraph: This is where it would be nice to be able to refer to the summary table to then have some way of quantifying the increased overall rates in diabetic foot complications between indigenous and non-indigenous people (e.g. Overall, although there was anecdotally high heterogeneity between studies, indigenous populations had 3-6 fold higher rates for nearly diabetic foot complications compared to non-indigenous populations. I'd refer the authors to what they reported for the Canadian indigenous populations (ie 16 times more likely) which is really powerful, rather than only stating 'high rates'.

2. Last paragraph before limitations. I'm just wondering if you could use indigenous diabetic foot programs such as those programs developed, led and rolled out by Jason Warnock, Sara Jones and Deb Schoen just to illustrate to the reader if those are the programs you think might help in the last paragraph before limitations

3. Limitations: I'd suggest the authors just add some of the other limitations I've highlighted in comments above to tighten this up for the reader. Remember to add reports were not eligible in the methods.

4. Otherwise I congratulate the authors on a pretty good discussion, particularly a nice comparison and summary of their results comared to other nations and the collective generated hypotheses from this discussion. Also the authors make some really nice recommendations for future research and a nice conclusion

5. Lastly: I'll leave it to the Editors, but the referencing and headings seems a little non-standard and may need to be formatted.
Level of interest
Please indicate how interesting you found the manuscript:

An article of importance in its field

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

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare I currently supervise a Masters of Research student who is researching a similar topic and has drafted a similar literature review. However, I don’t think this is a conflict of interest but I will declare it and leave it to the Editors to judge.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal