Author's response to reviews


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Author's response to reviews:

Dear Prof Paulo Lotufo,

Thank you very much for your response to our manuscript. We appreciate the constructive comments from you and the reviewers, and are grateful for the opportunity to send you a revised manuscript. We have provided a point-by-point response to the issues raised below. We hope that we have addressed your concerns satisfactorily, and that you are now able to accept this paper for publication. If further revision is required then please let us know.

Yours sincerely,

Victoria Hall

Reviewer: Rodrigo Diaz Olmos

1. “Only a minor revision that relates to the use of "type 2 diabetes" instead of "type II diabetes" as it is used in the manuscript.”

We have changed the terminology in the manuscript accordingly.

2. “Perhaps a few additional words in ‘Methods’ regarding the nature of the systematic review (observational studies) and the way the results are described could clarify the reading”.

We have aimed to clarify this in the Methods. We conducted a systematic review of all papers published on diabetes in Sub-Saharan Africa between January 1999 and March 2011 and available on PubMed. We searched mainly for articles providing data from this region on diabetes prevalence, diabetes outcomes (chronic diabetes complications, infections, and mortality), access to diabetes diagnosis and care, and the economic burden caused by diabetes. We would kindly prefer to show further details of the review in the annexes to the paper, as presently done.
Reviewer: Isabella Bensensor

3. “I think the review could be more focused on diabetes type 2 than type 1 or Gestational. The inclusion of all of them dilutes the importance of diabetes type 2”

This review aimed to describe the status of all types of diabetes in the region, not just type 2 diabetes, and we feel it would both be a shame to remove the information on Type 1 and Gestational diabetes and mark a divergence from the aims of the review. However, as can be seen in the manuscript, type 2 diabetes is already given the most attention in the results and the discussion.

4. All the information should be in US$ dollars.

We have converted all values into US dollars, using the year 2000 conversion rate according to the online-available “International Monetary Fund, World Economic Outlook Database, April 2009”. A reference to this conversion database has been added to the manuscript.

Reviewer: Dermot Maher

5. Some restructuring of content would be useful. Some information presented in the Results is not directly relevant to the issue of the epidemiology of diabetes in sub-Saharan Africa and would better belong either as “scene setting” in the Background or as explanation for the usefulness of the findings in the Discussion. The first paragraph of “Important infections and diabetes” belongs in the Background. Most of the text in the section “Important infections and diabetes” derives from referenced papers describing the relationship between diabetes and infections from parts of the world other than sub-Saharan Africa, so doesn’t represent part of the results of the search for relevant literature from the region specifically. The only relevant papers I can see are those references 62 and 77.

The section on infections and diabetes has been restricted as requested. The first paragraph has been moved to the background as requested. The information has been moved out of the results section and into the discussion. Under the infections and diabetes sub-section of the results section there is now just a short paragraph stating that very little information on this topic was found from the review, and summarising the studies on this topic in Sub-Saharan Africa that were identified in the review. Most of the information previously in the results is now in the discussion. Whilst it is true that most of the literature cited in this section is from outside the region we believe many of the observed biological associations between diabetes and key infections are generalisable to this region. Indeed the absence of data specific to this region highlights that this aspect of the impact of diabetes has been overlooked and therefore the findings from other regions emphasise the importance of considering this issue for Sub-Saharan Africa.

Background
6. It would be useful to refer to the latest editions from 2010 of the reports which are the referenced source of the statement about the region being home to the highest prevalence of HIV (refer to UNAIDS report 2010 rather than 2008), TB (refer to WHO Stop TB Report 2010 rather than Dye et al Lancet 2006) and malaria (refer to WHO report from 2010 rather than 2005).

The manuscript now cites the relevant up-to-date reports as requested.

7. The statement that diabetes and other NCDs have yet to become a political priority is referenced to a 2001 publication, so either the statement should say that they hadn’t become a priority by 2001 or a more up to date reference should be provided.

This section has been revised to emphasise that diabetes is beginning to get greater political attention – highlighted by the forthcoming UN high-level meeting on NCDs.

8. The comment that the review expands on other recent views refers to a number of publications including reference 9 from 2001, which doesn’t really count as recent.

Only the reviews published in the last 3-4 years (Motala 2008, Gill 2009 and Sobgnwi 2010 are now cited here.

9. It would be useful to refer to the UN special session on NCDs coming up in September 2011 which is a very important marker of global recognition of importance of NCDs.

See response to comment 7.

Methods

10. The authors should explain why they’ve chosen the time period specifically starting January 1999 as opposed to another start date.

The start date of January 1999 was chosen as the review was initially undertaken at the end of 2009 and it was decided to restrict the study to the last decade in order to obtain the most recent information on diabetes in the region. In preparing the manuscript for submission the review has been updated, initially to September 2010 (the time of submission) and now to the 31st March 2011, in order to ensure that the review includes the most recent publications.

11. Since there are very few population-based prevalence studies in the region the authors should consider expanding the end-point of the time period a little, e.g. to the end of 2010, which would enable the inclusion of the diabetes prevalence study from rural Uganda published in IJE on 5 October 2010 (Maher D, Waswa L, Baisley K, Karabarinde A, Unwin N, Grosskurth H. Distribution of hyperglycaemia and related cardiovascular disease risk factors in low-income countries: a cross-sectional population-based survey in rural Uganda. International Journal of Epidemiology 2010; 1-12 doi: 10.1093/ije/dyq156).
The review has been updated to 31st March 2011 to ensure that it provides the most up-to-date information for readers.

12. It is important to define the geographical basis of the review. Studies from small Indian Ocean islands such as Mauritius and the Seychelles where the majority population is not African are not really of direct relevance to the countries on the African continent. The WHO African region is probably not a suitable basis for defining the geographic scope because it includes some countries north of the Sahara as well as some Indian ocean islands. A pragmatic definition of sub-Saharan Africa is the region of the continent (i.e. African mainland) south of the Sahara.

The UN Statistics Division states that “The designation sub-Saharan Africa is commonly used to indicate all of Africa except northern Africa, with the Sudan included in sub-Saharan Africa” and both Mauritius and the Seychelles are categorised as East African states (see http://unstats.un.org/unsd/methods/m49/m49regin.htm ). Our definition also fits with that used by UNESCO, although we have included Sudan http://www.uis.unesco.org/profiles/EN/EDU/countries40350.html. It is also notable that many African regional organisations, such as SADC include the Indian island states of Mauritius and the Seychelles. We would like to keep these small island states in our analysis.

Discussion

13. The comparisons of results in different countries in the region are interesting and valuable. It would also be of great interest and value if the authors could indicate some of the key differences in the findings in sub-Saharan Africa and in other regions.

We agree that comparisons of the trends between world regions are interesting and valuable; however we feel that this is outside the scope of this review, which has focused on describing the epidemiology and public health implications of diabetes in Sub-Saharan Africa only.

Conclusions and recommendations


We have referred to the WHO Global Action Plan on NCDs.

15. The authors would considerably strengthen their recommendations by indicating who might have responsibility for undertaking a particular action – at the moment the list of recommendations is a bit vague because there’s no indication of who could or should do what.
We agree that these recommendations require integrated action by a range of stakeholders. We have now pointed out the stakeholders that will need to be involved and have tried to suggest who might be most suited to carry out the individual recommendations.

Abstract

16. The statement under Results that “HIV and its antiviral treatment increase the risk of obesity and insulin resistance” needs re-writing to clarify that it’s the antiretroviral treatment and not HIV that can cause metabolic problems including obesity and insulin resistance.

Several studies reviewed for this paper report that whilst much more substantial metabolic changes have been associated with HIV+ patients on ART, metabolic changes such as increased lipodystrophy which results in increased insulin resistance, have been observed in HIV+ patients not accessing treatment (see: Mallon, P.W., D.A. Cooper, and A. Carr, HIV-associated lipodystrophy. HIV Med, 2001. 2(3): p. 166-73. Grinspoon, S.K., Metabolic syndrome and cardiovascular disease in patients with human immunodeficiency virus. Am J Med, 2005. 118 Suppl 2: p. 23S-28S, Young F, C.J., Johnstone LK, Unwin NC., A review of co-morbidity between infectious and chronic disease in Sub Saharan Africa: TB and Diabetes Mellitus, HIV and Metabolic Syndrome. Globalization and Health, 2009. 5(9)). Given this evidence, we would like to keep this sentence as it was originally written.

17. The statement under Conclusions that “Associations between diabetes and important communicable diseases…need to be acknowledged” is weak and needs replacing with a stronger recommendation for action by health providers to address the interaction between communicable and non-communicable diseases (see Maher D, Smeeth L, Sekajugo J. Health transition in Africa: practical policy proposals for primary care. Policy and practice. Bulletin of the World Health Organization 2010; 88: 943-948).

This sentence has been rewritten.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

18. The authors refer to “case fatality” where it may be better to refer to survival or mortality (depending on which way round you want to view it) after a specified time period. Case fatality often refers to the overall proportion of people with a condition who will die from it, rather than the proportion likely to die in a given time period.

References to ‘case fatality’ have been changed to refer to mortality among patient with diabetes or mortality proportions.

Discretionary Revisions
Discussion

19. The authors may want to consider the overall context of the statement in the 3rd paragraph under “outcomes of diabetes”, that “An increased prevalence of diabetes in the region may fuel a surge in tuberculosis”. Increased obesity is the main factor amenable to behavioural change that is driving increases in diabetes prevalence around the world. Since undernutrition is a risk factor for tuberculosis, increased obesity with a shift in the population distribution of overweight may have population-level impacts in opposite directions: decreased tuberculosis (though less malnutrition) and increasing diabetes with increased tuberculosis.

As this section has now been restructured, this point has no longer been made.

Editorial Requests:

20. Further consideration of your manuscript is conditional on improvement of the English used. Please ensure particular attention is paid to the abstract. You should have a native English speaking colleague help you with this, if possible, or use a commercial copyediting service. Examples are those provided by the Manuscript Presentation Service (www.biomedes.co.uk), International Science Editing (http://www.internationalscienceediting.com/) and English Manager Science Editing (http://www.sciencemanager.com/). BioMed Central has no first-hand experience of these companies and can take no responsibility for the quality of their service.

The English has been checked by a native English speaker and changes to improve readability have been made. The first author, Victoria Hall, is British.

21. Please can you ensure that your Abstract contains the aims of the study in the Background section?

A sentence describing the aim of the study has been added to the background section of the abstract.

22. Please acknowledge anyone who contributed towards the study by making substantial contributions to conception, design, acquisition of data, or analysis and interpretation of data, or who was involved in drafting the manuscript or revising it critically for important intellectual content, but who does not meet the criteria for authorship. Please also include their source(s) of funding. Please also acknowledge anyone who contributed materials essential for the study.

All the authors contributing to this review have been acknowledged and their respective contributions have been listed under the “Author’s contributions” section in the manuscript.

23. Authors should obtain permission to acknowledge from all those mentioned in the Acknowledgements. Please list the source(s) of funding for the study, for each author, and for the manuscript preparation in the acknowledgements section. Authors must describe the role of the funding body, if any, in study design; in the collection, analysis, and interpretation of data; in the writing of the
The sources of financial support for the study and any competing interests are listed in the “Competing interests” section in the manuscript.

24. Please can you indicate in the title of your manuscript that this is a systematic review?

The revised title of the article “Diabetes in Sub-Saharan Africa 1999-2011: Epidemiology and Public Health Implications. A systematic review” clearly states that this is a systematic review.