Author's response to reviews

Title: Economic burden of diabetes mellitus in the WHO African Region

Authors:

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Author's response to reviews: see over
Response To Reviewers Reports

TITLE: Economic burden of diabetes mellitus in the WHO African region

Authors general response: We do greatly appreciate the constructive suggestions from the three peer reviewers. We tried as much as possible to incorporate their various suggestions, which we feel has greatly improved the quality of our manuscript. Where we could not provide an adequate response, we have included that under the limitations of the study to be addressed in future studies.

Reviewer 1: Ambady Ramachandran

Reviewer: A short description of the health care system in Africa is required.

Response: Under Methods, we have introduced a subsection on page 3 entitled “Overview of health systems in the WHO African Region”. It provides a short description of health systems.

Reviewer: Does the Government bear the cost of the treatment? If so, what percentage? What is the direct cost to the patient?

Response: The cost of treatment of diabetes is not borne fully by the government. Although we do not have information on the proportion borne by the government, one can infer from the health expenditure information contained in paragraph 5 of the “Overview of the health system in the WHO African Region” that government in general bears a large percentage of total health expenditures in the Region. Of course as shown in that paragraph that varies from country to country. The cost borne by the patient and family is clearly indicated in the revised tables.

Reviewer: What percentage of the patients are type 1 diabetes? Among the type 2 diabetes, what is the percentage requiring insulin.

Response: Answers to those questions is contained in the new Appendix.

Reviewer: Are the hospitalizations made due to acute complications or for treatment of long-term complications?

Response: Due to lack of information in the Region on complications, we did not have an answer to that question. Its included among the limitations of the study.

Reviewer: The findings shown in “discussion” have to be in the “results” section.

Response: That has been done in the revised version.

Reviewer: Generally, the indirect cost higher than the direct costs.
Response: That has been discussed in the Discussion section.

**Reviewer 2: Peter EH Schwarz**

Major compulsory revisions:

Reviewer: The price of insulin was overestimated tenfold in this study. The authors must be asked to recalculate their data.

Response: The prices of insulin reported in WHO/AFRO [12] were transformed in international dollars using purchasing power parity for the source countries and then averages were obtained for the three groups of countries. That data was used to re-estimate the cost of insulin.

Reviewer: …the abbreviation should be defined at first use, after it, should only abbreviations be used not full names. Response: This has been done.

Minor suggestions:

- All the minor suggestions have been addressed in the revised manuscripts.

**Reviewer 3: Ken Redekop**

Major compulsory revisions:

**Reviewer:** There should be more use of tables to describe the values used in the calculations as well as the data sources for these values. **Response:** An appendix Table has been included providing all the data used in the estimations and the sources.

**Reviewer:** The authors used 14600 IU of insulin per year in their calculations… However, Bercelo et al appear to have used 10000 IU per year. **Response:** In the course of revision, we have used 10000 IU per person per year as in Bercelo et al.

**Reviewer:** One difference is the fact that Bercelo et al stratified countries in Latin America and the Carribbean according to per capita GNP and then proceeded to obtain costs for different costs components for one or two countries in each group. **Response:** Following reviewer’s suggestion, we have categorized countries in the African Region into three group using the Gross National Income per capita (in international dollars – PPP) and proceeded to estimate the costs by each group.

**Reviewer:** Also, this study seems to have ignored the costs of complications entirely (unlike, for example, Barcelo et al, 2003). **Response:** It was not possible to do this due to lack of data. Thus, we have include this concern among the limitations of the study.