Reviewer's report


Version: 3 Date: 18 April 2011

Reviewer: Dermot Maher

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Major compulsory revisions

1. Grouping of countries as belonging to sub-Saharan Africa

There are different ways of grouping countries as belonging to sub-Saharan Africa, so whichever grouping is used needs to be justified and the results of the review using this grouping explained. A pragmatic definition of sub-Saharan Africa as the region of the continent (i.e. African mainland) south of the Sahara takes into consideration ethnic, geographic, and cultural grounds for comparing the epidemiology and public health implications of diabetes in African countries. While certain international political bodies such as UN agencies include the small island states as part of the geopolitical entity “sub-Saharan Africa”, the political considerations resulting in UN groupings may not provide a satisfactory basis for purposes other than geopolitics, such as public health. For example, in the WHO regional groupings of countries, Pakistan belongs to the Eastern Mediterranean Region and India to the South East Asia Region, and Israel to the European region and the Palestinian Territories to the Eastern Mediterranean Region - these groupings represent political considerations rather than any geographic logic. The issue is really whether the UN grouping of countries to include the small Indian Ocean island states as part of the geopolitical entity of “sub-Saharan Africa” serves a useful purpose regarding this systematic review of diabetes in sub-Saharan Africa and the epidemiological and public health implications. Including the reviews of diabetes in small Indian Ocean island states (Seychelles and Mauritius) inflates the number of countries in “sub-Saharan Africa” in which diabetes surveys have been conducted, giving a misleading tally of the number of countries for which survey information is possible, a misleading impression of the extent of the body of survey data available, and possibly a misleading impression that the survey results may somehow be representative of the African inhabitants of sub-Saharan Africa. In Wikipedia the ethnic origin of the inhabitants of the Seychelles is described as “racially mixed (70%), French, African, Indo-Seychellois (2,000), Chinese, and Arab” out of the total population of 81,000, and among the 1.3 million inhabitants of Mauritius only 27% are described as “creole”. Since the majority of inhabitants cannot really be described as “African”, and the islands do not share strong geographic or cultural links with the region of the African continent (i.e. mainland) south of the Sahara, there seems to be little justification on ethnic, geographic, or cultural grounds to include these countries in the review and to compare the epidemiology and
public health implications of the findings of reviews of diabetes in these states and in countries on the African continent south of the Sahara.

2. Association between HIV and metabolic problems including obesity and insulin resistance

The statement that “Metabolic changes such as increased lipodystrophy which results in increased insulin resistance, have been observed in HIV-positive patients not accessing treatment” needs to be put into the context that these are the minority cases and by far and away the most common metabolic problem among people with untreated HIV infection, and an almost invariable consequence of chronic untreated HIV infection, is weight loss and wasting. This was acknowledged in the early days of recognition of the problems of HIV infection, when “slim disease” was a common term for AIDS. Thus the necessary qualification to the statement under Results that “HIV and its antiviral treatment increase the risk of obesity and insulin resistance” is to say that it’s much more often (or generally) the antiretroviral treatment and not HIV that can cause metabolic problems including obesity and insulin resistance. The references quoted by the corresponding author are supportive of this qualification. For example, the review by Young et al (Young F, Critchley JA, 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, and the impact of globalization. Globalization and Health 2009, 5:9 doi:10.1186/1744-8603-5-9) indicates that “HIV Lipodystrophy (HIV-LD) is seen in long term survivors of HIV infection, most of whom are receiving ART”, that “although abnormal lipid profiles are reported in HIV-positive individuals before the onset of ART, hypertriglyceridaemia becomes both more prevalent and severe during treatment, and that “HIV-positive people are at increased risk of IR due to the pro-inflammatory process of HIV, the direct effects of ARTs and also, indirect effects as consequences of ART (for example body fat distribution changes) ”.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests