Reviewer’s report

Title: Cardiovascular Risk Factor Burden in Africa and the Middle East Across Country Income Categories: A post hoc analysis of the Cross-Sectional Africa Middle East Cardiovascular Epidemiological (ACE) study

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Reviewer: G. Debacker

Reviewer’s report:

In this manuscript the prevalence rates of CVD risk factors are compared between different countries from Africa and the Middle East and these prevalence rates are analysed on the basis of the national incomes of the countries.

The study populations are adult stable outpatients from 94 clinics in 14 countries.

The crucial question regarding this manuscript relates to the external validity of the study; How well do these patients represent ALL adult stable outpatients of these countries? Are the barriers to consult in these clinics different between the countries? Could it be that in the LI and LMI countries only affluent patients are seen in these clinics while in the HI countries that social barrier is less existent?

What were the participation rates in the different countries? The large samples by themselves do not reduce potential selection biases.

The CVD risk factors are well defined and an attempt was made to standardize the measurements; how well was this put into practice by the clinicians? How well were the labs standardized for measuring lipids and FPG?

Is the GNI per capita based on the number of ‘official citizens’, excluding expats and foreign workers who may represent the majority of the populations in some of the countries? Are these expats and foreign workers excluded from the study populations?

Regarding the prevalences of dyslipidemias the use of lipid lowering drugs (LLD) was very different between the four categories of GNI. This could have influenced the prevalences of certain lipid fractions. Assuming that the majority of these LLD are statins one could expect lower LDL-C values in the HI countries on the basis of the high use of LLD(32%). This could result in much higher LDL-C levels in patients not on LLD in HI countries compared to the LDL-C levels in patients not on LLD in LI or LMI countries.

Level of interest
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Quality of written English
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