Reviewer’s report

Title: Meta-analysis of the risk of cataract in type 2 diabetes

Version: 3 Date: 10 June 2014

Reviewer: Francesco Oddone

Reviewer’s report:

The authors performed a systematic review and meta-analysis aimed at investigating the association between type 2 diabetes (T2D) and the risk of cataract. The work suffers of major problems mainly methodological. Please find below a list of the major issues.

• Background, line 43: “Therefore, we performed this meta-analysis to assemble the published evidences”. A systematic review should not be aimed at assemble the published evidence but rather to answer to a clinical question such as in this case to evaluate the association between T2D and cataract.

• The explanation of study selection is poorly reported: authors state that 2 independent investigators retrieved eligible studies but do not explain how titles, abstracts and full texts have been managed. Moreover the databases explored (PubMed, Embase and SpringerLink) is incomplete.

• The description of the inclusion criteria for the studies is incomplete. The authors should state in details the type of studies considered, which patients’ population, which type of intervention or association is considered, which definition of diabetes, which definition of cataract, with which methodologies, which outcomes, existence of control group, etc. For example from the results it emerges that studies without the control group or with outcomes not fitting with the review have been eliminated but in the methods section none of these criteria have been specified.

• In the methods section it has been not specified that analysis would have been stratified for different types of cataract definition.

• The sistematicity of a review does not relate only on the literature search but it relate also to the method used in all the steps. Every single step should be clearly specified in the methods section such as for example the detailed criteria for the studies selection and this is because the results strongly depend upon the choices mad during the revision process.

• Using a random effect model allow to encompass the heterogeneity but not to eliminate or “take care of it” thus heterogeneity should be then explained with subgroups analysis and analysis of sensitivity which are fundamental when facing a large heterogeneity such as in the present work.

• The number of studies considered varies along the paper (5 then 3 and at the end 8)
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

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