Reviewer’s report

Title: A comprehensive meta-analysis of co-morbidities related to obesity and overweight

Version: 2 Date: 16 September 2008

Reviewer: E Atlantis

Reviewer’s report:

This report describes findings of a systematic review and meta-analysis of prospective cohort studies investigating the risk of an extensive range of non-fatal disease outcomes associated with baseline exposure to general and central overweight and obesity, by sex and length of study. This report is a comprehensive and substantial contribution to the topic of obesity-related morbidity. I present several issues to be addressed and suggestions for improvement.

Title: I suggest a title that’s better reflects the report’s content; eg “systematic review and meta-analysis..” risk of non-fatal diseases incidence”... etc.

Abstract:

The abstract (and the main text in general) is somewhat bland and not well-written. I suggest the authors’ look at recent systematic reviews for suggestions on how to improve their writing. I suggest using “incidence“ in the abstract and throughout.

The conclusion should not be used to highlight study strengths. It should summarise findings, and include implications, ie make policy recommendation.

Introduction:

First sentence requires refs of some good quality prospective cohort studies, or previous reviews of cohort studies.

Cite most recent systematic reviews on the topic, highlight shortcomings to then justify the present review. One justification is that if additional studies have been published since the most recent review, etc.

Methods:

Use exposure variables for subheadings for obesity

Use Disease outcomes subheading for diseases

The selection of co-morbidities requires further justification than “reviewed by an eating disorder and obesity expert”. Perhaps selecting the top 10 diseases that accounts for say 90% of total global disease burden would be better justification.
(see WHO reports).

Why weren’t search terms for central obesity selected?

“not mortality rate” is not clear.

“Data extracted included.....” should say “for study characteristics”.

Report the work conducted by authors’ names, search, inclusion/exclusion, data extraction etc.

It isn’t appropriate to pool central obesity (WC) effect measures with general obesity (BMI) effect measures, because they are different independent variables (regionally vs generally specific).

Why test for significant heterogeneity, and then use random effect modelling regardless of Q statistic?

Please conduct sensitivity analyses to determine systematic differences in summary effects between studies by age, ethnicity and country of study (most from US) subgroups. This will provide a more population-specific understanding of RR of disease incidence associated with obesity. And tests the robustness of your findings!

Results:

Stick to consistent decimal places.

Figures:

The figures need more information. Titles for % weighting, n’s, effects etc.

I have no idea what the values represent that appears to be for summary effects.

I hope these comments are helpful.

1. Is the question posed by the authors well defined? yes
2. Are the methods appropriate and well described? not quite
3. Are the data sound? yes
4. Does the manuscript adhere to the relevant standards for reporting and data deposition? not quite
5. Are the discussion and conclusions well balanced and adequately supported by the data? no
6. Are limitations of the work clearly stated? no
7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? unsure
8. Do the title and abstract accurately convey what has been found? no
9. Is the writing acceptable? no
Level of interest: An article of importance in its field

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

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

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NONE