Reviewer's report

Title: Association between mortality from suicide in England and antidepressant prescribing: an ecological study

Version: 1 Date: 1 October 2004

Reviewer: corrado barbui

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General

This study presents an ecological analysis to assess the association between prescription rates for antidepressants and suicide or fatal antidepressant-related poisoning in England.

The typescript is well written and comprehensible, and the topic covered is of major public health relevance.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

I believe that ecological analyses describing trends in suicide mortality and trends in antidepressant drug prescribing are useful public health tools to assess the "real world" impact of specific policies (the introduction of SSRIs) on hard outcome indicators (suicide mortality). However, these studies cannot establish causal associations between variables. In the present study the authors state that "increased prescribing of antidepressants was associated with reduced suicide mortality rates". To me it is not possible to draw such a conclusion from ecological analyses, and the term "associated" should not be used. In addition, it is not correct, in my opinion, to carry out statistical analyses to show whether these two trends were correlated. It's a misleading way of presenting data, since suicide mortality can be influenced by a number of factors, and in the time interval during which suicide mortality decreased many other factors could have played a role. In other words, the increasing prescribing of antidepressants might (or might not) be related with suicide mortality, and this study cannot address this issue. Consider that (1) a relevant proportion of antidepressants is not prescribed to depressed patients at risk of suicide; (2) suicide mortality in most countries was already declining before the dramatic increase in drug use; (3) only a minority of individuals committing suicide were taking antidepressants.

Having said that, I suggest: (1) to avoid statistical analyses suggesting correlations that cannot be established with the present study design; (2) to avoid the term associated and associations in the text; (3) to discuss this study limitation, and the reason why no statistical analyses were performed, critically and frankly reviewing the limitations of ecological analyses.

A second point is the use of "prescriptions per 100 population". Authors should consider to calculate the number of DDD/1000/day. The DDD is a theoretical unit of measurement defined as the assumed average maintenance daily dose for a drug, used for its main indication in adults. The DDD/1,000/day indicates how many people per 1,000 of the population have in theory received a standard dose (i.e. the DDD) of a particular medication or category of medication daily. Expression of drug use in terms of DDDs/1,000/day allows comparisons to be made independent of differences in price, preparation and quantity per prescription. It's a standard way of presenting data on drug use (see www.whocc.no/atcddd).
Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes

**Declaration of competing interests:**

none