Reviewer's report

Title: Reduction in young male suicide rates in Scotland: an epidemiological study

Version: 1 Date: 9 March 2007

Reviewer: Gernot Sonneck

Reviewer's report:

General
This article reports on data on suicides in Scotland in the time period from 1980-2004.

As the data do not show a consistent pattern, statistical analyses have to be applied to be able to get results and to draw conclusions. The aim formulated in the conclusion section (define important target groups of the next intervention cycle) would be of great importance, and we encourage the authors to resubmit their study after having fulfilled these requirements.

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

General summary

[1] Title:
(1- major compulsory revision)
The title tells us that an epidemiological study was made. Usually, an epidemiological study is defined as a study, which attempts to link epidemiological data to one or several possible causes. As there is no sufficient methodological approach, this is not a fully completed epidemiological study.

Abstract:

Background:
[2] (1- major compulsory revision)
The study mentions a government action on mental-ill health which has been implemented in the late 1990's as background of the study. An improvement or evaluation of these interventions could be a very interesting and important aim of a study on the basis of the reported data, but the article does neither state any aims of the study nor any results. Data on suicides are presented in the results section:
Data are defined as facts, while results are statements that interpret data. In this case it is probably impossible to make any statements on the data by applying visualisations only, because the visualizations do not show a clear pattern which is visible to anyone who has a look at it. Whenever data visualisations do not show a clear result - either against or in line with a hypothesis - statistical methods have to be applied to test hypotheses (for example: correlation equations, tests of significance, etc.). The underlying hypotheses have to be made very clear to the readership and expectations on the results should be added. To do so, the authors should also clearly describe target groups and content of each intervention in the suicide preventive program, in the same way they did in other studies.

[3] Methods:
(1 – major compulsory revision)
The methods section describes that the data was calculated by age group, gender, method and deprivation quintile. No sufficient methodology is applied which allows to do the step from the data to results. There are many possibilities for doing so (time series regressions, linear and other regression techniques, etc etc). The choice depends on the research question and on the data.

Results:
The difference between data and results has to be considered.

[4] Conclusions:
(1 – major compulsory revision)
The conclusion section aims at interpreting results. In the work, it is first mentioned that “it is not clear if the decrease in younger male deaths is a result of national work”. This is certainly true at this time point, but probably this question would become clearer if the advices already given were considered. A first step
would be to calculate if the changes in suicide rates after the implementation of the prevention program were significant, which means to calculate which of the changes were probably not due to chance. Without this information, we cannot go further. Finally, it is concluded that the next three-year cycle of the program – should focus on males between 30-44. If you look at Fig. 2., you see that this interpretation derives from max. two points in time: 2002 and 2004. In 2003, the rates were below the level of 1999. The work would profit a lot from a statistical test of hypotheses, after having clearly formulated them.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
[1] (2- minor essential revisions)
Beside these fundamental problems, there is a mistake in the abstract:
Line 1: “Rates increased rapidly in the 80’s and 90’s…The largest increases were in men.”
Fig. one shows us, that rates in men increased, but rates in women decreased. It would be important to know if these changes are significant. The meaning of “rapid increase” should be defined; or, better, a quantification could be given.

What next?: Reject because scientifically unsound

Level of interest: An article of insufficient interest to warrant publication in a scientific/medical journal

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.