Reviewer's report

Title: Number of substances used related to increased risk for unnatural death. A Combined Medico-Legal and Case-Record Study.

Version: 1 Date: 27 March 2009

Reviewer: Graham Jones

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This is an interesting paper describing the association between suicide and a history of substance abuse and/or the presence of drugs.

However, this reviewer has a number of observations/comments Addressing these should be considered "compulsory".

1. This work deals with deaths that occurred between 1993 and 1997. By any definition, this data might be regarded as “stale” and therefore of limited usefulness given that about 11-12 years has passed since the last death was included. That fact alone might suggest that this manuscript should be rejected. The authors should explain why this work is so dated and not performed on more recent data.

2. In the Introduction, the authors refer to the manners of death used in Sweden. They also go on to describe some concepts used in “suicidology”. Later in the Introduction, they then use the term “undetermined suicide”, and continue to use the term throughout the manuscript. However, the term is not properly defined until the top of page 8. That definition should appear much earlier in the manuscript - preferably the first time the term is used.

3. On page 7, under “forensic examination”, is the statement “The causes of death are presented in Fig. 2”. However, figure 2 does not list causes of death. Should this be Table 1 or 2?

4. Throughout the text and in Tables 1 & 2, there seems to be some confusion with use of the terms “cause” and “manner” of death. These two terms mean something very specific and different in death investigation. The “cause” of death is a specific medical cause (e.g. overdose, hanging, blunt force trauma etc). The “manner” of death is chose from a specific list of categories (some of which are mentioned in the first paragraph of the Introduction). For example, in Table 1, although the first column is headed “Cause of death”, the first three categories listed (natural death, undetermined suicide and suicide) are really “manners” of death. If the authors wish to retain the basic structure of the table, perhaps they could use the term “type of death” or something similar.

5. Figures 2, 3 & 4 are difficult to understand. The Y-axis is given in percent. This would appear to represent the percent of total cases in each category that contained from 1 to 6 drugs. However, if summed, the percentages add up to well over 100%. A better explanation for each figure should be provided in the
6. The Silverman reference #2 is duplicated in reference #46.

**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'