Reviewer's report

**Title:** Predictors of Premature Mortality in Swedish Drug Abusers: A Prospective Longitudinal Study 1970 - 2006

**Version:** 3  **Date:** 23 November 2010

**Reviewer:** Thomy Tonia

**Reviewer's report:**

- **Major Compulsory Revisions**

1. The authors provide no reasoning behind their choice of the categories of mental disorders used in their model. The categories used are rather broad and -in my opinion- it is not safe to group together so different diagnoses under such big umbrellas. The authors need to justify how this categorization serves their purposes and maybe focus more on the other predictors.

2. The discussion is quite speculative at times and fails to convince. I would like to see more references in support of some of the authors’ assumptions.

3. It is not very clear to me how exactly the assessors used the autopsy and police reports and the hospital records. Were there any "preset" rules about how a drug-related death was to be identified, which documents had priority over the others etc? The somewhat "subjective" nature of your assessment of drug related deaths need to be addressed in the limitation (even if the inter-rater reliability was good).

4. There is no explicit reference in the abstract regarding the comparison with the case-finding study, even if this was one of the main aims of the study!

- **Minor Essential Revisions**

1. You mention in page 5 that the national case-finding study estimated the number of abusers having a daily intake of illegal drugs. Were the participants in the cohort study abusing only illegal drugs too? This could affect the results.

2. On page 7 you mention that a drug-related death is directly associated with illicit drug use. You also state that suicides were considered non-drug related deaths, if no drug or alcohol was involved in the death. Does this apply to both illicit and prescription drugs? Please specify. Same goes for page 14: were all suicides due to intoxication considered drug-related or only the ones involving illicit drugs?

3. There is some discrepancy regarding the reasons for exclusion of the 20 patients between pages 5 and 8, i.e. in page 8 there is no mention about patients refusing to take part in the study and in page 5 there is no mention of an incorrect identification number.

4. On page 5, the date of the data from the case finding study is reported as
1978, whereas on page 9 as 1980. Is that a mistake or was it really so?

5. Page 14: “it is possible that the more passive lifestyle…often violent deaths”. The use of word “passive” is a bit strange here. Are heroin users considered to have an active lifestyle in comparison? Also, you mention “drug related, often violent deaths”. Could you provide an example of what kind of violent death would be considered drug related? Would it include, for instance, being murdered during drug dealing even if no illegal drug was found in the system?

6. Maybe I just don’t read it right, but I am not sure I understand your reasoning on page 15: if the cohort and the case finding study had similar age, how can you justify your statement that “the rate of injection use might….and inhaled substances rather than injected them”?

7. The acknowledgements should be moved at the end of the manuscript.

• Discretionary Revisions

1. I think that fact that the informed consent was just verbal should be more clearly stated (as it stands now you say that patients were asked if they agreed to participate; asking could be either verbal or written).

2. Maybe the authors could consider some minor revisions of their English and their writing.

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

Quality of written English: Acceptable

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

Declaration of competing interests:

I declare that I have no competing interests.