Reviewer's report

Title: Child and adolescent psychiatric patients and later criminality. A prospective study

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Reviewer: Helinä Hakko

Reviewer's report:

General

Child and adolescents psychiatric patients and later criminality. A prospective study

The purpose of the study was to find out whether or not risk changed over the past 50 years for former CAP patients to be registered as criminals as adults. Two different data sources were used in the study. First, a regional sample of 1400 former CAP patients, whose treatment occurred between 1975 and 1990, was followed up to the year 2003 using national registers. Second, the results were compared to published results for CAP patients who were treated between 1953 and 1955 and followed over 20 years. Together these two "data" covered a follow-up period of about 50 years.

In general, the paper is interesting. However, the text and the presentation of results need major modifications. The text throughout the paper is disorganised and needs shortening. Some results are unnecessary. The comparison of findings between Stockholm and Jämtland cohort is difficult due to insufficient and spare information given in the text. The statistical reporting is inaccurate in some parts of the results. The detailed comments are below.

Title of the paper
- It is misleading, because the study is mainly a descriptive study addressing the characteristics of Jämtland cohort. The psychiatric diagnoses of the cohort memebers have not much investigated in the paper.

BACKGROUND
- In the fourth chapter in page 3: The authors write "Mental health staffs in the public schools were minimized. In many places, positions such as school psychiatrics, social workers, and school psychologists were eliminated and just a few school nurses remained". Is it true that in Sweden there actually have been a lot of mental health staff (particularly, psychiatrists) in public schools? Describe that issue more detailed.
- The authors have not introduced whether similar systems like CAP exists also in other countries than Sweden.

METHODS
- Methods -section is messy and it must be reorganized. For example, the chapters may be entitled as follows: CAP Units, Study sample, Information on crimes, Information from hospital records, Comparison groups, Statistical methods
- The diagnostic categories of psychiatric illnesses have not been explained, although authors have analysed schizophrenia, behavioural disorders, etc. in their paper. Describe appropriate diagnostic codes (ICD) in Methods –section.
- The reliability of data sources (NCCP, hospital records, etc.) must be mentioned in the text.
- The name of the statistical software used in statistical analyses must be mentioned.

RESULTS
- In general, the result section is very confused. It must be re-organised and condensed, some text may be placed to the method-section and some irrelevant results may be left out from the paper.

Registered criminality
- Report also the base number of study population (N=1400) and the percentages for male and females criminals: ... 367 (xx %) males and 163 (xx%) females ...
- How many persons had committed repeated offences? Report the number and percentage! - The results reporting the comparison of CAP patients with the general population are inaccurate. For example, what means "Male CAP patients were registered more often than average male (5.7/4.1, p<0.001)? 5.7 criminals/offences per 100 000 population?? If rate ratio was used as statistical test, give RR and its 95%CI
Violent offences
- The first three chapters may be placed to the method section under the subtitle 'Information on crimes'
- When analysing the differences between violent crimes vs. other crimes, please, report group percentages before p-value, e.g. .. sex (males: xx% vs. xx%, p = 0.001), split family (xx% vs. xx%, p=0.009) etc. Otherwise, it is not possible to evaluate the magnitude of differences between groups.

Drug-related offences
- The frequency of crime by narcotics is reported in the text (page 6) to be 130, while it is in Table 1 129
- As above, report group percentages (alcohol/drug crimes vs. other crimes) before p-values.

Female versus male criminality
- Report the group percentages/means (male vs. female) before p-values.
- These results are worth of placing in Table –format.

Reoffending
- Table 2: The categorization of the number of frequencies varies between types of crime and refers 'Activity level'. Is this categorization commonly used in earlier studies?
- In my opinion, Table 2 is unnecessary. The most important results can be reported in the text.

Juvenile criminality
- Table 3 is not very informative. The important results should be reported in the text.

Criminality and admission to general (adult) psychiatry
- Describe "GenP care" in the Methods –section
- What was the reference population? ... "those convicted of offences" vs. "??????"
- Report the group percentages/means before p-values.

Risk factors
- This is an interesting part of the results. However, either the risk ratios or the results of a logistic regression models should be presented.
- I suggest that the most informative table would be a combination of table 4 and table 5: Table 4 is more informative, because it includes information on frequency of crimes. However, the risk ratios should be replaced with Odds Ratios, 95%CIs of OR, and p-values. Please, give exact p-values, do not replace them with "***", ** etc.
- I think that in Table 5 there is error in ORs for sex and split family, because values are so different for those reported for RRs in Table 4.

A comparison with a 20-year prospective follow-up study in Stockholm
- Please, report exact p-values in Table 6.
- Report also in the footnote of Table 6, what statistical method has been used in comparison of the findings of these two cohorts.
- Describe also in the footnote of Table 6 the characteristics for "Stockholm cohort" and "Jämtland cohort" in detail, e.g. time periods for data collection. Why is the size of the study sample 608 in Jämtland cohort? Explain it also in the footnote!

Discussion
- The whole Discussion section must be re-organised and condensed. There is a lot of unnecessary information. It is not very scientific to leave questions in Discussion –section, e.g. fifth chapter in page 10 (This way of thinking …).
- First chapter of the discussion should include the main findings of the study followed by a theoretical discussion and comparison of their findings with those observed in earlier studies.
- The reader of the paper should know clearly, what are essential differences between Stockholm cohort and Jämtland cohort. In the present form of the paper it is not easy to find out these differences, and this makes reliable comparison of findings between Stockholm and Jämtland cohort difficult to make.
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: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.