Reviewer’s report

Title: Identifying risk of self-injury through longitudinal monitoring of psychological distress in an inpatient psychiatric population

Version: 2 Date: 17 February 2015

Reviewer: Gloria Fischer

Reviewer’s report:

Thank you very much for giving me the opportunity to read and comment on this manuscript. The manuscript aims to explore the ability of longitudinal measurements of psychological distress to predict self-injurious behaviour in a psychiatric inpatient population. Between January 2011 and March 2013, n=2538 inpatients completed measures assessing psychological distress over seven consecutive days during their admission. Self-injurious behaviour was recorded by hospital staff.

The study used a logistic regression with self-injurious behaviour as dependent variable and psychological distress on day one as independent variable. In the next step a latent growth curve analysis was used to distinct subgroups who share patterns of early change in their psychological distress over seven days and to see if different groups are associated with different levels of self-injurious behaviour. They found four groups with the Non-Responders being females with personality disorders and a high level of psychological distress that did not change over seven days and a high levels of self-injurious behaviour. The main practical advice was to closely monitor these patients during treatment.

The size of the sample is clearly a strength of the current study. Unfortunately, the manuscript has several weaknesses.

The following issues may help improve the current limitations of the manuscript:

1) I suggest professional language editing. For example the word “admission” is used for different meanings. It would be helpful if you could replace the word in some sections to clarify its meaning.

2) Introduction: More information about the background of the main idea of the study is needed. Why didn’t the authors use the more common term of deliberate self-harm, which includes non-suicidal and suicidal self-injury, instead of the term self-injurious behaviour? In addition, a clear definition of self-injury should be given. Was it only self-cutting or other forms of self-injury?

Due to the fact that the sample is very heterogeneously a paragraph about the age difference in suicidal and non-suicidal behaviour could be very helpful to interpret the results.

A background why the time frame of seven days was chosen is missing. Please give more background information why the first day of suicidal ideation was chosen to be the inclusion criterion.
A paragraph at the end of the introduction section including only the aims and hypotheses could be helpful as well.

3) Methods and Results: Unfortunately these two sections are a little mixed up and therefore it is not clear what the exact study procedure was. Please structure the information which is giving in the manuscript by the appropriate reading to make it easier for the reader to understand the procedure. For example in line 200-205, results about missing data are presented in the methods section (please include which data are missing). In line 206, information is given which was already mentioned in line 178-180. Line 332 and following should be mentioned in the statistics and not in the results.

The outcome measure section and the statistic section could be shorter. In the statistics, a lot of general information about the latent growth curve analysis is given; instead, I would suggest to mention which parameter were used and which variables were taken into the authors LGCA model to make the authors statistical approach more traceable. It’s not clear why the combination of indices was used in the study. Please mention the exact question of your study in the beginning of the statistic section to clarify your statistical approach.

It’s not clear why the socio-economic information paragraph is included in the participants sections and never mentioned again in the manuscript.

In what kind of psychiatric hospital was the recruitment done and were all inpatient units included? Please provide more information about the setting.

Was a parental consent in the patients younger than 18 needed?

Was the study executed by the authors or is it an analysis of an existing data base?

4) Discussion: Please mention in the study limitations that recording self-injury only by hospital staff is not a very valid way of recording self-injury and it may be the reason why the prevalence of self-injury is very small in this study. Please discuss the wide age range of the study population. Self-injury in elderly is very different from self-injury in adolescents. Please highlight more the new findings of your study.

5) More general: In the whole manuscript very often information which is used to understand the study is giving at a later point. Please give the manuscript more of a structure to make it easier to read.

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.

Declaration of competing interests:
I declare that I have no competing interests.