Reviewer's report

Title: Dental Conditions in 523 Inpatients with Schizophrenia: A Large-Scale Multi-Site Survey

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Reviewer: Alexander Ponizovsky

Reviewer's report:

The authors report on dental conditions and their associations with sociodemographic and clinical variables in a large group of psychiatric inpatients in Japan. They found that poor dental conditions in these patients were associated with older age, smoking, tremor, and poor oral hygiene. Undoubtedly, from the public health perspective the topic is important and the findings are sound. However, there are multiple methodological flaws and concerns, which decrease the value of the study.

1. Introduction. Many important studies in the field are not addressed. Maybe due to this lack the authors incorrectly state that "Most previous surveys... did not report on the outcome of actual dental check-up.", and that "the sample sizes were as small as <300." The authors should examine the relevant literature more thoroughly (e.g., Ramon et al, 2003; Persson et al, 2009, 2010; Ponizovsky et al, 2009; Chu et al, 2010, 2011; Gurbuz et al, 2010; Zusman et al, 2010; Arnaiz et al, 2011, Janardhanan et al, 2011; Adeniyi et al, 2011). This list may be easily extended.

2. Method. Methods are insufficiently described. For example, the Study population section consists only of a list of mental health centers (MHCs) where the survey was carried out. Although the data were collected across 10 MHCs, the study does not sound as an epidemiological survey (e.g., no representative sample).

3. Statistical analyses are insufficiently described and specified; the relevance of a statistical test for the given comparison is not shown. For example, the authors should report that ANOVA was used to determine significance of differences in DMFT index mean scores across subgroups and categories. The authors seemingly are not aware that given their large sample, multiple regression analysis is a more rigorous method to examine associations between DMFT status and independent variables.

4. Results. In general, although positive, the findings do not add new facts to the existing corpus of knowledge in the field. Though some clinical information was available (CGI_SCH scores that indicate symptom severity and treatment response in patients with mental disorders, and CIRS-G scores that reflect common medical problems of the elderly), these data were not used in analyses. Data reporting and deposition do not meet the relevant standards. For example, Table 2 should present significance test results in additional column, not in the footnotes. Figure 1 compares DMFT scores between mentally ill patients and
healthy population by age groups. However these comparisons are incorrect because of incomparable sample sizes of the groups.

5. Discussion. The results are discussed rather in a naïve manner: the authors seem to be continuously surprised at the well-documented facts that persons with mental disorders have poorer dental health that healthy people and that it is associated with common risk factors, such as aging, smoking, and poor oral hygiene.

6. The conclusions of the study are grounded on the findings, but are banal. No innovative approach to treat or prevent dental problems of people with mental disorders is suggested.

7. Finally, the technical writing is poor: many sections of the paper are difficult to follow. Edition of the manuscript and correction of multiple grammatical, syntax, and stylistic errors is required.

Thus, despite the importance of the study topic and the rich dataset, the analyses and presentation of the findings, as well as their technical writing, preclude acceptance of the paper in its current form.

**Level of interest:** An article of importance in its field

**Quality of written English:** Not suitable for publication unless extensively edited

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

**Declaration of competing interests:**

I declare that I have no competing interests