Reviewer's report

Title: Clinical characteristics related to antipsychotic combination treatment in patients with schizophrenia: Data from a Norwegian catchment area

Version: 1 Date: 1 October 2010

Reviewer: Sebastian Meyer

Reviewer's report:

This article addresses antipsychotic combination treatment among patients with schizophrenia in a catchment area-based sample from Oslo (Norway) consisting of 311 patients (mainly outpatients). The observed antipsychotic medications were described and the association of antipsychotic combination treatment with the number of previous hospital admissions and the GAF score was investigated. The topic is of relevance since – as the authors state – there is a lack of evidence-based treatment guidelines for non-responders to antipsychotic monotherapy.

However, some improvements are necessary before the paper will be suitable for publication.

Minor issues not for publication:

1. Results: Missing reference to Table 4
2. Results: _The probability of_ "a prescription of two or more antipsychotics increased [...]"
3. Table 3: correlation typing error "-197"

Discretionary Revisions

4. Results: when remarking a significant correlation, the direction of association should also be mentioned.

Minor Essential Revisions

5. The article repeatedly states that antipsychotic combination treatment "deviates from current treatment guidelines". Does this also hold for treatment-refractory patients?

Methods:

6. Assessment: ICC estimation for GAF-F necessitates multiple ratings per patient. The details are not apparent from the assessment description. Please complete or provide an appropriate reference where the details on the type of raters can be found. Also, if there are multiple ratings per patient, which measure has been used in the current analyses?
Results:
7. Following the text, Table 2 shows the _primary_ medication (Olanzapine 38.3%, etc). However, the numbers in the table do not sum up to 311, so the numbers in the table correspond to the overall medication (a patient can have multiple antipsychotics).

8. Table 2: 9 patients not using antipsychotics should equal 2.9%.

9. Table 2: Why do the last three lines not sum up to 311 patients?

10. It is unclear to which absolute number the 6.4% for Olanzapine and the 4.2% refer. Is it out of 58 or 95 or 311? Among the 95 patients with combination treatment, what are the primary antipsychotics (numbers FGA and SGA)? Or: how many of the 95 patients have FGA+FGA, SGA+SGA, FGA+SGA, and SGA+FGA, respectively.

11. In the logistic regression model, the number of previous hospitalisations is dichotomized into 0/1 and 2+ without reasoning. Categorization seems plausible but the reader is left wondering about the choice of the cutpoint.

12. What about the proportion of combination treatment among patients with one previous admission?

13. What is the informative value of the odds ratios with respect to 2-5 or 2-40 previous admissions in the last paragraph?

Discussion:
14. "enabled us to detect important associations for subgroups of patients": Which subgroups with respect to the GAF are meant here?

Major Compulsory Revisions
15. Statistical Analysis:
- There is no information on the model selection strategy (backward/forward stepwise, Wald/LQ tests or information criterion).
- The selected regression model is missing some measurement of goodness-of-fit, e.g. the AUC or Nagelkerke’s $R^2$.
- The correlation analyses using Spearman’s correlation coefficient with dichotomous variables are not appropriate or at least nonstandard. Group comparisons concerning gender and combination therapy using Wilcoxon- or t-tests – also providing groupwise means (sd) or medians (IQR) – would be much more adequate; especially as the combination therapy indicator is the main variable in the analyses.

16. Results: The "nominal increase" of antipsychotic combinations from two to five previous admissions should be documented by numbers.

Level of interest: An article of limited interest

Quality of written English: Acceptable
Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.