Reviewer's report

Title: Patient risk profiles and practice variation in serious nonadherence to antidepressants, antihypertensives and oral antidiabetics

Version: 1 Date: 23 January 2007

Reviewer: Kristina Johnell

Reviewer's report:

General

This is a very well-written paper with many interesting variables that deals with important issues for adherence. The text is insightful and the written English of high quality. Also, to use multilevel analysis for the nested structure of the data is exemplary.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

The multilevel analysis could be used more sophisticatedly. For example, the 2nd level variances or intraclass correlations could be reported in order to give the reader an indication of how large the differences are between the practices, after adjusting for 1st level variables. For references, see for example Johnell K, Rastam L, Lithman T, Sundquist J, Merlo J. Low adherence with antihypertensives in actual practice: the association with social participation--a multilevel analysis. BMC Public Health 2005;5(1):17 and Johnell K, Lindström M, Sundquist J, Eriksson C, Merlo J. Individual characteristics, area social participation, and primary non-concordance with medication: a multilevel analysis. BMC Public Health 2006;6(1):52.

I believe the paper could benefit from a discussion about primary nonadherence, which has been studied in the paper, and secondary nonadherence. The low nonadherence rates found may be due to the issue of primary nonadherence.

The models could be explained more explicitly in the Statistical analysis section. Now it is difficult to understand which variables that have been adjusted for.

The patients could have changed drugs during the study period, e.g., from TCA to SSRI. Something about this possible information bias could be discussed under the Limitations section.

Further, the related self-reported health and somatic morbidity variables seem to have the opposite relationship with adherence to antidepressants and antihypertensives, which could merit a sentence or two.

In the Discussion, it would be interesting to read the authors ideas about why adherence is lower for certain types of drugs, e.g., diuretics. Also, the finding that TCAs are often subject to early dropouts, but not to low refill adherence, could be interpreted.

The appendix is not referred to in the text.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

In the Abstract, the time period and place of the study could be added to the Methods section.

In Methods, I wonder how many general practices are there in the Netherlands and when was the questionnaire about demographics answered? In addition, please write out which the "prescription characteristics" are and how low the drop-out rates for oral diabetics were. Also, the description of the refill adherence measure could be clearer. "Indoctors" should read "indicators".
Under Limitations, the measure of self-reported adherence could be mentioned.

Discretionary Revisions (which the author can choose to ignore)

**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

**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