Author's response to reviews

Title: Medication Persistence Rates and Factors Associated with Persistence in Patients Following Stroke: A Cohort Study

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Author's response to reviews:

June 6, 2008
Melissa Norton, MD
Editor-in-Chief
BMC Neurology
Re: Manuscript resubmission and response to reviewer

Dear Dr. Norton:

Thank you for the latest comments from the reviewer. Please accept the resubmission of the manuscript “Medication Persistence Rates and Factors Associated with Persistence in Patients Following Stroke” to BMC Neurology with the reviewer comments addressed.

1. Research Question: The reviewer had no comment in this regard.

2. Methods:
   • suggestion to add references for all scales (OHS, OCSP, FSSS etc)
Response: References have been added for all scales used in the study, the first time they appear, in the first paragraph under Methods.

   • categorization of variables needs to be added at each specific variable instead of having a section of categorization. We also need to specify at what time the data were collected.
Response: How the variables have been categorized is now described when each variable is introduced. The time the data were collected has also been clarified by grouping them together after each time point (eg. hospitalization, six months, and 12 months). This information is provided in the first two paragraphs in Methods. The section entitled “Variable categorization” has been deleted.
• The section method is still confusing regarding data information on drug exposure.

Response: “Variables” subsection has been renamed “Additional Variables” and the time of collection for reported drug use has been clarified in the second sentence. To clarify the outcome measure, the paragraph now states: “The outcome measure was medication persistence for each of the drug categories: antihypertensive, antithrombotic, antilipidemic, and antihyperglycemic. Patients were classified as persistent or nonpersistent at six months by comparing the discharge medication list with the six month medication list. Patients were classified as persistent or nonpersistent at 12 months by comparing the discharge medication list with the 12 month medication list, if it was available.”

• There are details in the discussion that need to be transferred to the method section.

Response: The information on how the study coordinator attempted to get accurate medication use data has been moved from the Discussion to the Methods, under data collected at six months. As well, information on the Acute Stroke Unit at the QEII has been moved to Methods.

• Why running logistic regressions when the sample size of none persistent is so low for certain variables. Is this relevant and discriminative analysis? You should discuss this limit.

Response: It was a surprising finding that nonpersistence was so low, based on the usual reports from the literature that nonadherence can be as high as 50%. It was also gratifying to the stroke team that the majority of the patient cohort continued to take their medications one year after stroke. We have added your suggestion to the Discussion, in the limitation section, that “the number of patients who were nonpersistent in each drug category was small and variable, which resulted in wide confidence intervals and a less precise estimate of effect in the multivariable analysis.” We believe the results are still meaningful, and we are building on this study by next examining whether medication persistence had a significant effect on stroke outcome. In addition, the tables provide the reader with absolute numbers and rates of nonpersistence across the levels of predictors.

3. Data analysis: I am wondering about evaluating the determinants of persistence, giving that the number of non persistent is small. Again, this lead to very wide confidence intervals. Are they relevant estimates of prediction?

Response: We believe we have discussed this issue above under Methods, running a logistic regression with a small sample size.

4. Reporting and data deposition: The reviewer had no comment in this regard.

5. Discussion and conclusions: Shorten the discussion

Response: The discussion has been shortened by removing information about the study coordinator obtaining medication use data and removing details about
the Acute Stroke Unit. We have added a relevant reference that supports the improved outcomes for patients admitted to organized stroke unit care.

6. Limitations: Review the limit regarding the self report as valid measurement for drug exposure.

Response: The literature was reviewed again in terms of using self-report for medication persistence. We accept the limitations of using self-report, although we believe in its usefulness as an estimate of exposure in our study. We have added two recent references, which support our statement that there still does not exist a gold standard for drug use measurement, that there are direct and indirect methods of measurement, and that self-report is commonly used in clinical settings, such as our study.

As an overall comment, we believe our study has many advantages which will give it readership appeal. The cohort consisted of all consecutive patients enrolled in a study at an organized stroke unit in Canada, where healthcare is publicly funded and hospital treatments are free of charge to the patient. The data collection was extensive, which provides demographics and stroke care details not usually available outside randomized controlled trials. As well, our study adds to the medication persistence literature, which is sparse in stroke but very important, considering the elderly population affected by stroke.

We again thank the reviewer for the thoughtful comments, and believe our manuscript has been strengthened with these changes.

Thank you for your consideration of this resubmission.

Sincerely,

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