Reviewer's report

Title: Neuroleptic-induced movement disorders in a naturalistic schizophrenia population: diagnostic value of actometric movement patterns

Version: 1 Date: 31 October 2007

Reviewer: Gary Remington

Reviewer's report:

General
The maunscript deals with the objective quantification of neuroleptic-related movement disorders, using actometry in this case as the measure.

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

1. The authors have isolated one body part (left ankle) to evaluate various neuroleptic-related movement disorders (NIMDs). It would be useful and important for them to comment more on this vis a vis their findings. For example, their most robust findings seem to relate to the evaluation of akathisia and pseudoakathisia (PsA). However, while these NIMDs routinely involves lower limb movements, other NIMDs may be confined to upper extremities e.g., tardive dyskinesia (TD). The authors allude to this point in the Discussion when they note that the frequencies of neuroleptic-induced parkinsonism (NIP) were much lower than reported by previous studies (which used upper limb measurements). What are the implications regarding the use/value of actometry in MIMDs beyond akathisia and PsA?

2. Part of the theoretical value of this line of investigation would be to establish aspects of measurement that distinguish one form of movement from others (e.g., aspects related to rhythmicity, frequency, etc.). However, concomitant treatment for NIMDs would seem to represent a potential confound in evaluating these questions e.g., beta blockers for those with akathisia; antiparkinsonian agents for NIP. Has this possibility been addressed? Do we know how many patients were co-prescribed such treatments? Similarly, other medications such as lithium can affect measures such as tremor. Were these potential confounds considered and at least evaluated?

3. The authors raise a very important point in the Discussion related to the identification of subclinical MDs. They note actometry "could not detect the sub-clinical movement disorders." As it presently stands, clinical evaluations are used as the means of distinguishing those with and without NIMDs, and this forms the basis for teasing apart the differences in actometry recordings between the different NIMDs. Thus, while the results may be theoretically interesting, in the end we have a quantitative measure that is no better than a good clinical
evaluation (indeed, on some of the measures such as TD it may be worse). Objective measures can be either valuable theoretically, for example in clarifying issues related to pathophysiology, or clinically by improving upon what clinicians can do without such tools. In what ways is actometry and these results going to move the field forward?

4. In the last line of paragraph 4 (Discussion), the authors make reference to "PsA (mostly TD) subjects". Is this to say that the tool is not able to distinguish PsA from TD? Clinicians struggle to differentiate PsA and TD (which may include a tardive from of akathisia). It has important prognostic and treatment implications, so it is essential to know whether actometry can distinguish TD from PsA.

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

Discretionary Revisions (which the author can choose to ignore)

At a personal level, I would have preferred that the Introduction confine itself to the work involving actometry and perhaps give a more detailed overview of that body of work to date.

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

Level of interest: An article whose findings are important to those with closely related research interests

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.