Reviewer's report

Title: Validity of Simpson-Angus Scale (SAS) in a naturalistic schizophrenia population

Version: Date: 28 December 2004

Reviewer: Michael P Caligiuri

Reviewer's report:

General
Authors performed a study of the validity of the Simpson-Angus scale for assessing EPS to determine whether the conventional cut-points discriminate subjects with from without DSM-IV defined EPS and to determine the scale’s relationship between quantitative actigraphy. The relevance of this study to the field is dependent upon continued use of the original SAS and the continued prevalence of acute or chronic NIP among patients with psychosis despite the widespread use of atypical antipsychotics. Unfortunately, I do not anticipate realizing either of these two conditions. First, the original SAS omitted motor signs that are important to managing pharmacotherapy (such as bradykinesia); many of the original items were unreliable (e.g. glabellar tap) or no longer relevant to patients treated with atypical antipsychotics (e.g. salivation); thus, the scale has undergone several modifications to increase it’s clinical utility. Regarding prevalence of EPS, the number of patients with EPS of sufficient severity to a clinical concern has decreased dramatically with the use of atypical antipsychotics. NIP will continue to be a concern among the elderly and among those who cannot or will not switch medications. The authors are encouraged to address the studies limitations and potential clinical usefulness.

Not surprisingly, the authors found that the previous cut-point of 0.3 was too low and lacked sensitivity. They argue that a revised cut-point of 0.65 may better. What the authors fail to point out was that the scale was designed not to discriminate subjects based on DSM-IV criteria but rather to serve as a tool for medication management.

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

This is an important study; however, I have a number of questions and concerns.
1. Among the concerns, the authors omitted several important and relevant papers that contain data addressing the validity of the SAS. For example, Sweet et al (1993) examined the reliability of the SAS and Caligiuri et al (1999) reported 95% confidence limits for a slightly modified version of this scale when administered to normal older subjects (which was incidentally 0.31) and cut-off scores for spontaneous EPS in the elderly. Thus, there is literature concerned with overlapping issues that was omitted from this manuscript.
2. The second concern I have is the lack of discussion about the role of aging on the scale’s reliability and validity. Subjects of this study ranged in age from 18-65. We know that there is spontaneous EPS in the elderly, and the SAS could be sensitive to this. Even though the design of this study did not allow ascertainment of the scale’s validity among untreated schizophrenia subjects matched for age, the authors should address the ageing issue as most of the individuals with EPS will be older.
3. Third, a sample size of 22 subjects with EPS is somewhat small to study instrument validity. In it’s present form the results of this study are not very applicable outside the authors setting. To improve generalizability of these results the authors will need to examine effects of age and whether the SAS has difference levels of sensitivity/specificity for acute EPS versus chronic persistent EPS. Each of these issues will require a larger sample size.
Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. Was the actometric device, wireless? If not, could the tethering of the sensor to the computer have limited mobility in any way?

2. It would be useful to see a Table of the mean scores for each item from the SAS for both subject groups. This could reveal important information about the lack of correlations between SAS and actigraphy. Besides, the lack of convergence between SAS and actometry is not surprising considering that the original SAS did not have bradykinesia or akathisia items. Thus, SAS is primarily a measure of rigidity; whereas actometry is primarily a measure of bradykinesia or akathisia. This difference needs to be discussed.

3. In looking at the data in Table 1, it appears that a cut-off of 0.75 has better specificity without much loss in sensitivity and may be superior. The authors should address why they think 0.65 is better than 0.75 as a cut-off.

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 limited interest

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests