Training on the Scale for Assessment of Positive Symptoms (SAPS) for the Assessment of Psychosis in Parkinson’s Disease Patients

Jina Swartz, MD, PhD¹; Cynthia McNamara, PhD²; Amanda Young, MS²; David Daniel, MD³

¹Bracket, Goring-on-Thames, UK; ²Bracket, Wayne, Pennsylvania, USA; ³Bracket, McLean, Virginia, USA
Training on the Scale for Assessment of Positive Symptoms (SAPS) for the Assessment of Psychosis in Parkinson’s Disease Patients

Jina Swartz, MD, PhD1; Cynthia McNamara, PhD2; Amanda Young, MS2; David Daniel, MD3

1Bracket, Goring-on-Thames, UK; 2Bracket, Wayne, Pennsylvania, USA; 3Bracket, McLean, Virginia, USA

BACKGROUND

Psychotic symptoms are a frequent occurrence in Parkinson’s disease (PD), occurring in up to fifty percent of patients [1]. Although no specific measurement tool has been developed explicitly for the assessment of psychosis in PD, several scales are currently in use. One such tool, the 34–item Scale for Assessment of Positive Symptoms (SAPS) aims to assess positive symptoms of psychosis and was devised primarily to focus on schizophrenia [2]. These positive symptoms include hallucinations, delusions, bizarre behaviour and positive formal thought disorder. The scale is designed to include single items as well as global ratings for each symptom cluster [3]. Although the scale was not developed as a tool for measuring change, it has been used to assess this construct in treatment trials for PD psychosis.

In international clinical trials, agreement among raters on the quantification of psychosis can be complicated by differences in language and cultural interpretation of symptoms, as well as variation in experience levels and professional settings training and certification methodologies. Lack of agreement among raters in measurement techniques is a potential source of non-specific variance that can diminish statistical power and increase the number of subjects required for a valid study. In addition, it is of benefit to assess how different training methodologies (i.e. in-person versus on-line training and certification) impact upon the ability of raters to successfully, reliably and consistently perform a scale.

We report a successful rater training experience using the Scale for Assessment of Positive Symptoms (SAPS) in an international psychosis in Parkinson’s disease (PD) trial involving raters from two different countries, using two different rater training and certification methodologies.

METHODS

STUDY: Raters (N = 38) from two countries namely India and Italy, participating in an international clinical trial to assess the efficacy of an investigational drug in treating PD psychosis, were trained in the use of the SAPS.

RATER TRAINING AND CERTIFICATION: Rater training involved scales training, standardisation and qualification of raters at participating sites. Training was conducted in two different ways using either a combination of on-line and face-to-face face-to-face face-to-face Investigator’s Meeting (IM) training and certification, or on-line training and certification only, as follows:

1. On-line training and certification: Raters were required to complete web-based training. Participating raters were trained to rate the SAPS by viewing an on-line didactic lecture, followed by the completion of several quizzes on the administration and scoring of the SAPS scale. Raters received immediate feedback regarding their performance, with an explanation of correct items provided. Raters were then required to view the SAPS qualification video and submit qualification scores via this web-based training site.

2. IM training and certification: Potential raters attending the IM had the opportunity to discuss any issues related to usage and administration of the scale. After this discussion, two videotaped patient assessments utilizing the SAPS were shown to the potential raters for scoring and discussion purposes (with feedback on proper scoring). Raters then submitted their rating scores for the SAPS qualification video depicting a PD patient with psychosis.

Raters in India (N = 32) had the opportunity to train and qualify either on-line (N = 9) or at the IM (N = 23), while all Italian raters (N = 6) qualified via the on-line didactic training. A total of thirty eight raters from India and Italy were trained to rate psychotic symptoms in PD patients using the SAPS.

STATISTICAL ANALYSIS: Kappa values for each rater were calculated following the recommendations of Cicchetti [4]. Weighted inter-rater kappa values were calculated for the full sample, the Indian and Italian cohorts respectively, as well as for raters trained in-person and on-line respectively. A comparison of these two training modalities was made to ascertain which generated a more robust outcome.

RESULTS

A total of thirty eight raters from India and Italy were trained to rate the SAPS in PD patients with psychosis. For the full sample (N = 38) the mean kappa value was 0.82, indicating a very good level of inter-rater reliability.

The thirty two Indian raters underwent either in-person or on-line training, with the kappa value for these raters being 0.83. The six Italian raters participating in the trial, who underwent only on-line training, generated a calculated kappa value of 0.75. This demonstrates good agreement among the raters in each country. No statistically significant difference was observed between the kappa values calculated for India and Italy, respectively.

Table 1: Kappa values by country: India versus Italy

<table>
<thead>
<tr>
<th></th>
<th>Average Weighted Inter-Rater Kappa Values</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>India Raters</td>
<td>0.83</td>
<td>0.049</td>
</tr>
<tr>
<td>Italy Raters</td>
<td>0.75</td>
<td>0.126</td>
</tr>
</tbody>
</table>

*Note: The Weighted Inter-Rater Kappa Values are weighted by all raters (both India and Italy).

The kappa value for Indian raters trained on-line (N = 9) was 0.90 compared to 0.70 for Italian raters (N = 6) trained on-line, again indicating no statistically significant difference and a reasonable level of consensus within the two country groups.

Table 3: Kappa values of India raters versus Italy raters trained on-line

<table>
<thead>
<tr>
<th></th>
<th>Average Weighted Inter-Rater Kappa Values</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>India Raters</td>
<td>0.90</td>
<td>0.024</td>
</tr>
<tr>
<td>Italy Raters</td>
<td>0.70</td>
<td>0.135</td>
</tr>
</tbody>
</table>

*Note: The Weighted Inter-Rater Kappa Values are weighted by India Raters and then for Italy Raters Separately.

CONCLUSION

In an international clinical trial context, despite differences in culture, language and professional settings among two geographically diverse groups of raters, it is feasible to obtain high levels of agreement in the measurement of psychotic symptoms in PD patients using the SAPS.

Good agreement among raters can be achieved using either face-to-face or on-line training. The more cost efficient modality of on-line training was therefore shown to be as effective as the face-to-face training performed at an Investigator’s Meeting.

It should be noted that the conclusions drawn from this study, while encouraging, are limited by the relatively small sample size.

REFERENCES


Table 2: Kappa values by Investigators’ Meeting (IM) versus on-line training (non-IM)

<table>
<thead>
<tr>
<th></th>
<th>Average Weighted Inter-Rater Kappa Values</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>IM Raters</td>
<td>0.82</td>
<td>0.055</td>
</tr>
<tr>
<td>Non-IM Raters</td>
<td>0.81</td>
<td>0.091</td>
</tr>
</tbody>
</table>

*Note: The Weighted Inter-Rater Kappa Values are weighted by all raters (both India and Italy).