The Evaluation of Negative Symptoms by Videoconferencing in a Clinical Trial

**BACKGROUND**

- Negative symptoms in schizophrenia are of increasing interest because they are not adequately treated by available medications.
- Assessment instruments include the Negative Symptom Assessment (NSA-16), (Alphas et al, 1989), the PANSS negative subscale, and the PANSS Marder negative symptoms factor. Assessment of patients with schizophrenia by videoconferencing has been shown to yield results equivalent to those obtained when the scale is administered face-to-face (Zarate et al, 1997; Yoshino et al, 2001; Sharp et al, 2011).
- Videoconferencing facilitates the use of independent remote raters.
- Advantages of independent remote raters may include blinding to protocol details and visit number, which may eliminate enrollment and expectation biases.
- A smaller cohort of raters can be continuously calibrated with trainers observing interviews live by 3-way videoconferencing.
- This poster addresses how well negative symptoms can be assessed by videoconferencing.

**METHODS**

- 225 subjects with schizophrenia in a randomized clinical trial.
- All subjects were interviewed by live two-way videoconferencing at screen, baseline, 11 more visits over 36 weeks, and at end point or 1 year (14 visits altogether).
- PANSS and NSA-16 were administered at all visits (n=1122). NSA immediately followed PANSS.
- 17 blinded independent central raters.
- Central raters were uniformly trained according to training and calibration plans which involved thorough didactic and applied training and ongoing monitoring to ensure standardization and to prevent drift.
- 65 NSA-16 and 68 PANSS interviews were observed and independently rated by a senior clinician as a quality control measure.

**RESULTS**

- Mean duration of PANSS = 36 min (SD = 15); mean duration NSA-16 = 16 min (SD = 7).
- All total and subscale scores were normally distributed at screening (all skewness < +/- .34; all kurtosis < +/- .91).

**Internal Consistency Reliability**

Cronbach's alpha is an indicator of scale reliability in that it examines the correlations among different items in a scale to see to what extent they measure the same construct. Cronbach's alpha ranges from 0-1.0, with .7-.8 indicating acceptable to good internal consistency.

- All scales showed acceptable to good internal consistency. Cronbach's alpha was higher for the NSA-16 than for the PANSS Negative or PANSS Marder subscales.

**Inter-rater Reliability**

One measure of the reliability of a scale is the degree to which different raters can assign similar scores to the same phenomena using the same scale. ICCs range from 0-1.0, with .9 or above being excellent.

- All scales showed excellent inter-rater reliability between raters and trainers.

**Convergent and Discriminant Validity – Subscale Correlations**

To be useful, a scale must have convergent validity (high correlation with other scales that measure the same construct) and divergent validity (relatively low correlations with other scales that measure different constructs).

- As expected, the NSA-16 correlates highest with the PANSS Marder and PANSS negative subscales, and is negatively correlated with the PANSS positive subscale.

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**DISCUSSION AND CONCLUSIONS**

The high total and item-level ICCs, good internal consistency of each of the scales, and the high inter-item correlations across scales, suggest that negative symptoms can be rated very reliably by videoconferencing using well-calibrated blinded independent raters. In addition, the high convergent and discriminant validity suggest that negative symptoms can be validly rated by videoconferencing using well-calibrated raters. This facilitates the use of blinded independent raters in clinical trials. The PANSS and NSA-16 in this study were not administered totally independently of one another, and this puts a limit on a comparison of the PANSS-Negative and Marder subscales and the NSA-16.

**REFERENCES**