Is AMPS a responsive tool for assessing change in ADL-abilities in patients undergoing rehabilitation?

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Acknowledgements

Background

- Within occupational therapy, activity is both a goal and a means to promote health and participation in everyday life.
- Tests of body function are generally a weak predictor for the patient’s ability to perform everyday activities.
- AMPS is a valid, reliable and suitable tool for assessing observed ADL ability.

Aim

- To assess the construct validity and responsiveness of the AMPS in a population of patients undergoing rehabilitation following hand related disorders or injuries.

Material and methods

- 50 patients included in the period October 2017 → ?
- At baseline and follow up patients were assessed with
  - AMPS (Tool for assessing observed ADL ability)
  - COPM (Tool for assessing self-perceived ADL-ability)
  - Dynamometer (Hand grip strength)
  - Goniometer (Joint range of motion)
- Responsiveness to change was evaluated using an anchor-based method, comparing change scores on AMPS motor and AMPS process, COPM, dynamometer and goniometer with the scores on the Global Rating Scale.
- Convergent and discriminative validity of the AMPS was assessed across the different instruments used.

Results

- Until now, a total of 35 of 50 patients have been included.
- The mean age was 61 years, and 86% were women.
- 71% were diagnosed with a hand related fracture.

Convergent and discriminant validity

- The correlation between AMPS-motor and the respective outcome measures are presented in Table 1.
- Overall, low or poor correlations between the different outcome measures were found, with the higher correlations seen between AMPS-motor and hand grip strength or joint ROM, thereby contradicting the hypothesized associations between the different outcome measures.

Responsiveness

- Significant improvements from baseline to 8-week follow-up were achieved on all outcome measures, except AMPS-process, as presented in Table 2.
- Moderate and significant correlations were seen for AMPS-motor (r = 0.51, P = 0.029) and COPM-performance (r = 0.69, P = 0.001), while a weak and insignificant correlation was seen for joint ROM (r = 0.25, P = 0.582) and hand grip strength (r = 0.13, P = 0.324).
- As hypothesized, the correlation between the Global Rating Scale and the mean change scores for AMPS-motor and COPM were higher than for hand grip strength and joint ROM.

Conclusion

- In accordance with initially proposed hypothesis, this study found that the AMPS test was more responsive to change than the more commonly used rehabilitation measures, hand grip strength and joint range of motion.
- Seeing that rehabilitation following hand related disorders or injuries is often evaluated using only instruments assessing bodily function, we suggest the inclusion of more ADL-based or ADL-focused instruments for assessing effects of rehabilitation interventions.
- This is in accordance with the ICF rehabilitation framework, recommending that outcome measures should focus more on activity and participation.
- The study shows that the AMPS test can be considered a valid tool for assessing change in ADL ability in patients undergoing hand rehabilitation.

<table>
<thead>
<tr>
<th>Mean (sd)</th>
<th>Baseline</th>
<th>Follow up</th>
<th>Average improvement</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMP-motor</td>
<td>1.66 (0.44)</td>
<td>2.21 (0.49)</td>
<td>0.49 (0.75)</td>
<td>0.013</td>
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<tr>
<td>AMP-proces</td>
<td>1.64 (0.30)</td>
<td>1.58 (0.37)</td>
<td>0.22 (0.48)</td>
<td>0.67</td>
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<tr>
<td>COPM performance</td>
<td>3.22 (1.55)</td>
<td>7.34 (2.23)</td>
<td>4.20 (2.58)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Dynamometer</td>
<td>9.77 (6.58)</td>
<td>15.62 (7.61)</td>
<td>6.50 (4.93)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Goniometer</td>
<td>24.64 (12.76)</td>
<td>12.35 (11.61)</td>
<td>13.82 (8.76)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Tabel 1 (* P< 0.05)