Clinical Utility and Therapists’ Perceptions of Shared Control for Powered Mobility Assessment and Training

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Assessing and Training for Powered Mobility is Challenging

- Assessment and training are risky
- Cognitive impairment may challenge learning
- Limited technology and tools available
Shared control is...

- Secondary wheelchair control
  - Similar to attendant control, with more options
  - Simultaneous override
  - No mode change required
- Remote (wireless) joystick
Objective

• Therapists’ perception of
  • Shared control tele-operation device
• Clinical utility of shared control for
  • PWC Assessment
  • PWC Training
Methods

• Semi-structured interviews
• 15 clinicians
  • 14 OT
  • 3 male
  • 2-20+ years experience
• Idea generation and feedback on prototype
• Feedback on shared control utility and interface design
Results

• Positive response for concept of shared control
• Refinements to interface design for clinical use
• 5 Themes
1: Focus on skills, less on emotion

“…if you can help it to be more successful… it will at least bring their anxiety down, and that helps with learning because if you’re anxious and you’re not having success, it’s also difficult to learn…”

~OT, Community
2: Opportunities not otherwise afforded

“It may give me an opportunity to do some training with the person that I might just choose [currently] to stop at that point…”

~OT, Community
3: Backing up my assessment

“It might be useful to see how many times I have to assume control. Then that could be useful especially in justifying to facilities that this person ...can learn, can use their power wheelchair.”

~OT, Community and Residential
4: Focus on the client, not on the device

“I think I want it to be as intuitive as possible. I don’t want to be totally concentrating on this thing, because I want to concentrate on what’s going on with the client.”

~OT, Inpatient SCI
5: You can’t learn to play from a player piano

“I think for a learning experience the person in the chair needs to realize that there’s been a correction, and why there’s been that correction... if the chair is taking over that, are they going to be aware?”

~OT, Long Term Care
Discussion

• Themes align well with Smart’s multidimensional model of clinical utility (8)
  • Focus on appropriateness, practicability, and acceptability
  • No specific theme focused on accessibility
• Potential for positive psychological impact on learning
  • Reduction in anxiety
  • Improvement in confidence
Conclusions

• Shared control is a promising development for clinical use
• Potential to use across diagnostic and functional groups
• Potential to be further explored through empirical research
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References


