

Peer-led wheelchair training is feasible for older adults and improves how the wheelchair is used in the community .



Krista L Best^{1,2}, William C Miller^{3,4}, Janice J Eng^{3,4}, Francois Routhier^{1,2}
 CIRRIS¹; Université Laval²; University of British Columbia³; Rehabilitation Research Program⁴



THE UNIVERSITY OF BRITISH COLUMBIA



Background

- >50% of older (65+) manual wheelchair (MWC) users require mobility assistance¹
- MWC use self-efficacy and MWC skills influence how the MWC is used^{2,3}
- ~ 55% of inpatients receive some MWC training during rehabilitation⁴
- ~ 8% of clinicians provide training in intermediate/advanced MWC skills
 - barriers include limited time, knowledge, and resources⁵
- Peers are a powerful yet overlooked source of health service provision⁶
- Peer trainers can:
 - improve MWC use self-efficacy and MWC skills in adults⁷
 - cultivate a unique learning experience through relatedness⁶
 - provide a credible source of information⁸
 - respond appropriately to unrealized potential⁶
 - elicit social benefits⁸

Objective

Evaluate the feasibility of **Wheelchair training Self-efficacy enhanced for Use (WheelSeeU)**, a peer-led, goal-oriented MWC training program for older adults in the community.

Method

Design. Two-site (Quebec City, Vancouver), randomized controlled trial.

Sample. Community-living older adults (50+) who had MWC mobility goals.

Intervention. 6 x 1.5 h of **WheelSeeU**, an individualized, goal-oriented MWC training program facilitated by a peer (and support) trainer to a pair of MWC users in a research centre and the community.

Control. 6 x 1.5 h of informational resources for MWC use (iWheel), a didactic program delivered by a professional to a pair of MWC users in a research centre.

Outcomes. Feasibility indicators = **Process, Resources, Management, Treatment**. Treatment indicators [baseline to post-intervention (T2)] = MWC skills [Wheelchair Skills Test - Questionnaire]; MWC use self-efficacy [Wheelchair Use Confidence Scale]; and satisfaction with participation [Wheelchair Outcome Measure]

Analysis. Feasibility indicators were treated as binary (ie. successful, unsuccessful). Mixed-model ANOVA was used to evaluate treatment effects.

Results

- N= 40; WheelSeeU (n=18), iWheel (n=22)
- 65 ± 8 y of age; 40% female, 53 % married; 28% amputee/20% spinal cord injury; 7 ± 11y of previous MWC experience.

References

[1] Shields. Health Reports 2004;15(3) [2] Sakakibara et al. Phys Ther 2014;94(5) [3] Sakakibara et al. Phys Ther 2014;94(11) [4] Kirby et al. Top Geriatr Rehabil 2015;31(1) [5] Best et al. Disabil Rehabil AT 2015;10(5). [6] Divanoglou et al. Spinal Cord 2017;55 [7] Best et al. APMR 2015; 97(1) [8] Standal et al. Adapt Phys Act Quart 2008;25.

Table 1. Description of feasibility indicators, parameters for success and results.

(Y = successful; N = unsuccessful [ie. need for change to protocol before proceeding])

Feasibility indicator	Success parameter	Results (Y/N)	
Process			
Recruitment rate	2 subjects/month/site	1 subject/m/site	N
Consent rate	> 20% acceptance	49% acceptance	Y
Retention rate	≥ 80% of subjects complete T1 & T2	T2 = 95%; T3 = 88%	Y
Perceived benefit	> 85%	100%	Y
Resources			
Participant adherence			
WheelSeeU group	> 85%	95%	Y
Control group	> 85%	90%	Y
Trainer adherence			
Peer-trainer	Attend 6 x 5 sessions	98%	Y
Support-trainer	Attend 6 x 5 sessions	98%	Y
Data collection burden	> 85% of subjects ≤ 1.5 - 2 h	118 -141 min	N
Translations	English to French	0 issues	Y
Management			
Processing time	Mean time is < 10 days	74 (80 days)	N
Combining data	No issues	0 issues	Y
Protocol administration	Minimal modifications	Minimal change	Y
Intervention fidelity	>90% Trainer Rating Form	90%	Y
Treatment			
Safety	No adverse events	0 events	Y
Treatment effect (baseline to T2)			
MWC skills capacity	Cohen's d = 0.5, p = 0.42	no effect	N
MWC skills performance	Cohen's d = 0.8, p = 0.03	large effect	Y
MWC use self-efficacy	Cohen's d = 0.1, p = 0.81	no effect	N
Satisfaction with participation	Cohen's d = 0.1, p = 0.71	no effect	N

Discussion & Conclusion

- A peer-led, goal-oriented approach to MWC training is a feasible intervention strategy to improve how MWCs are used by older adults.
- Lower than expected **recruitment rate** and **processing time** may reflect the the need for 'just-in-time' training.
- Further evaluation is needed to explore: 'better' patient-reported outcomes; influence of *iWheel*; impact on clinician burden and cost.



Acknowledgements

