INTRODUCTION

- Walking prognosis is difficult to determine for many patients with new traumatic spinal cord injuries (SCI).
- A clinical prediction rule (CPR) for probability of independent household walking 1 year after SCI was developed (van Middendorp, 2011) using the following predictors:
  - Age
  - L3 and S1 motor and sensory scores

OBJECTIVES

Apply CPR as a tool to help determine mobility prognosis (walking vs. wheeling).

- Is the CPR useful for:
  - Treatment planning
  - Goal setting
- Are there other predictive factors to consider—obesity or cognitive impairment?
- How does mobility at discharge relate to predicted status at 1-year?
- Parallel analysis with non-traumatic SCI/D

MATERIALS & METHODS

Data Collection
- Prospective data collection 2015-2017 UPMC Mercy SCI rehabilitation unit
- Inclusion criteria: ambulation prognosis difficult to determine (n=52)

Data Analysis
- Data split to traumatic SCI and non-traumatic SCI/D
- Chi-square for differences in CPR useful/shared
- Kruskal-Wallis for differences in FIM goals
- Mann-Whitney U for differences in goal achievement
- Spearman correlation to evaluate relationship between CPR and goal FIM, gait charges, days to gait initiation, walking at discharge, and length of stay

RESULTS

CPR and Goal Setting and Achievement
- CPR probability higher for individuals who did not meet their goals (p=0.014)
- Majority who missed their goal did so by only one FIM level
- CPR 98.99% fell into every FIM level of assistance from total assistance to modified independent.

CPR and Discharge Disposition
- No difference in CPR based on discharge FIM n-9<br> Required minA at discharge despite high CPR
- Walking was not a goal (n=5), AIS C (n=5), fall as MOI (n=6)
- Barriers to ambulation: severe spasticity (n=6), history of substance abuse (n=7), past medical history of anxiety and/or depression (n=5), and presence of both obesity and cognitive impairments (n=1)

CONCLUSIONS

Participants
- Ambulatory prognosis (those included in the study) was more often difficult to determine for traumatic SCI vs non-traumatic SCI/D
- Compared to previous studies more individuals with AIS C/D, fewer >65 years
- Utility and Clinician Level of Experience
  - Few individuals with CPR >50% included in the study
  - CPR may be a clinically useful tool for physical therapists in walking prognosis
  - <10 years of clinical experience.

Goal Setting and Achievement
- Individuals who did not meet their goals had higher CPR probabilities
- Potentially setting goals for unrealistically higher levels of independence
- Majority of individuals who did not meet their goal had supervision as the goal (may reflect a consideration of available caregiver support)

Discharge Disposition
- Ambulation goals (FIM level) were not related to CPR probability.
- Factors other than CPR probability were also considered in clinical decision-making regarding prognosis.
- Need for more research to continue to identify individual factors that affect ambulation outcomes.

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