

Proactive Interdisciplinary Rehabilitation for People with Parkinson's Disease:

An Occupational Therapy Program Evaluation

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Introduction

- Purpose:** To describe delivery patterns, patient characteristics, and baseline performance of people with Parkinson's disease (PD) referred to proactive rehabilitation at the Shirley Ryan AbilityLab.
- Background:** Best practice recommendations recommend team-based interdisciplinary rehabilitation for people with PD with occupational therapy (OT), speech therapy (ST), and physical therapy (PT).^{1,2,3}
- In early PD, **proactive rehabilitation includes:**
 - Baseline evaluations
 - Exercise prescription and self-management advice
 - Addressing early impairments

Methods

Retrospective Electronic Health Record Review

- Manually extracted data in Research Electronic Data Capture (REDCap) data management software.
- Develop a data extraction tool in collaboration with practicing clinicians (OT, ST, and PT).
- Key data areas include:
 - Patient characteristics of early PD population
 - Baseline performance during evaluation visits
 - Delivery patterns of OT

Occupational Therapy Components

- Patient Report**
 - Subjective statements, reason for referral, chief complaint
- Evaluation and Assessment**
 - Activities of daily living (ADL), prior function levels, upper extremity (UE) coordination, UE function, impairments and limitations, clinical summary
- Education**
 - Topics covered, individuals taught, barriers to learning, teaching method, teaching evaluation
- Delivery and Plan**
 - Recommendations, OT frequency, anticipated treatments

Analysis

- Reported with descriptive statistics

Results

Key Findings:

OT was the least common area of proactive rehabilitation in the Early Referral PD Program. While the majority of individuals evaluated were relatively early in their disease, they presented with impairments in dexterity and hand strength.

Clinical Combinations

- 72 patients overall (Figure 1)
- 22 patients seen by OT
 - All were seen in combination with at least one other discipline.

Figure 1: Discipline Patterns

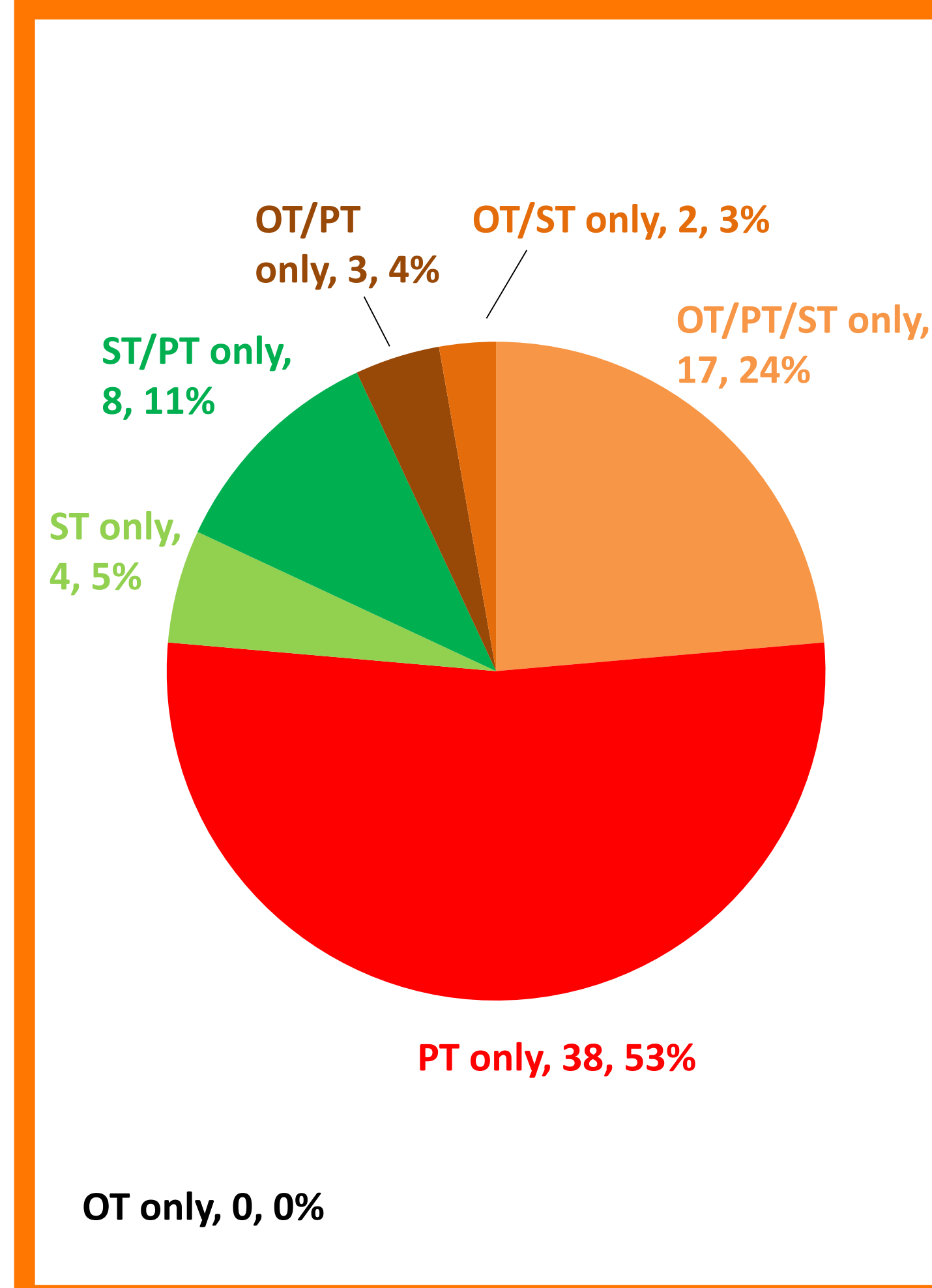


Table 1: Patient Characteristics of Proactive Occupational Therapy

Demographics

Gender (% Male)	73%
Average age (years)	68 ± 11
Insurance	
Medicare	14
Blue Cross Blue Shield	6
Other	2

PD Characteristics

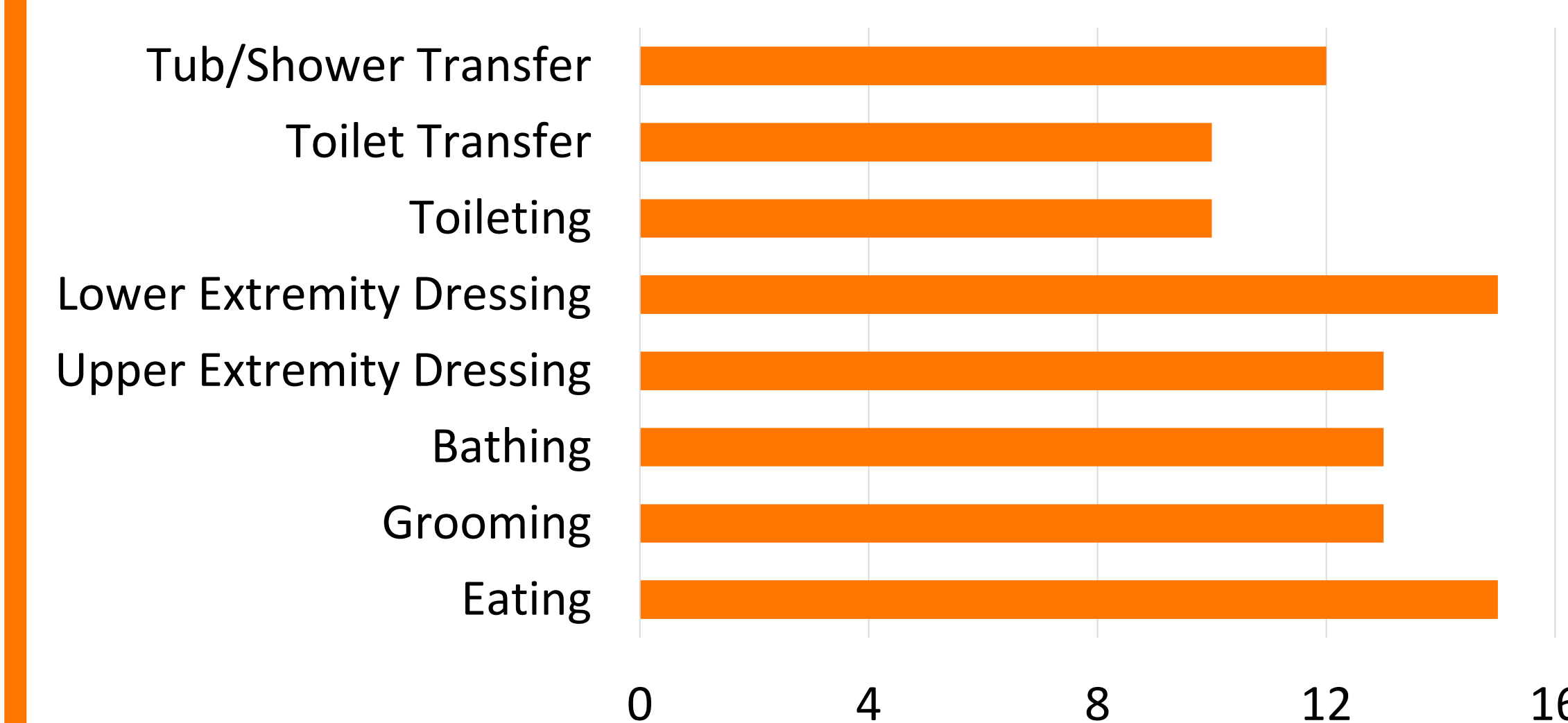
Time Since PD Medical Diagnosis	
1-12 months	9 (41%)
1-3 years	6 (28%)
4+ years	4 (18%)
Not Documented	3 (13%)
HY Stage	
1	4 (18%)
2	13 (59%)
3	1 (5%)
Missing	4 (18%)

Dexterity and Strength

	Average (Standard Deviation)	with Normative Value for 68 y/o Male
Nine-hole Peg Test Left (sec.)	33.0 (17.2)	22.3 (3.7)
Nine-hole Peg Test Right (sec.)	34.0 (14.0)	21.2 (3.3)
Grip Left (lbs.)	62.0 (18.8)	76.8 (19.8)
Grip Right (lbs.)	62.8(23.8)	91.1 (20.6)
Key Pinch Left (lbs.)	17.0 (3.7)	22.0
Key Pinch Right (lbs.)	17.8 (3.7)	23.4
Palmar Pinch Left (lbs.)	15.0 (3.3)	21.2
Palmar Pinch Right (lbs.)	14.5 (3.5)	21.4

Basic and Instrumental Activities of Daily Living

Figure 2: Number of Patients Reporting Increased Time for Listed Basic ADLs



- 91% reported increased time for at least one BADL (Fig. 2).
- IADL Problem Areas
 - Writing difficulty in 45% of individuals
 - Keyboarding difficulty in 32% of individuals

Education and Occupational Therapy Delivery Patterns

- Most Prevalent Education Topics Covered by OT:**
 - Role and Purpose of OT: 22 patients (100%)
 - Home Exercise Program: 17 patients (77.3%)
 - Adaptations and Modifications: 16 patients (72.7%)
 - Review of Goals: 10 patients (45.5%)
 - Equipment and Device Use: 8 patients (36.4%)
- Barriers to Education**
 - Language (n=1)
 - Cognition (n=2)
- Delivery Patterns:**
 - One 90 minute session only: 18 patients (81%)
 - Completed 1 additional visit: 3 patients (14%)
 - Completed 5 additional visits: 1 patient (5%)

Discussion

- OT was the least common area of proactive rehabilitation in the Early Referral PD Program.
- Individuals with relatively early PD presented with impairments in dexterity and hand strength.
- Limitations**
 - Variable clinical documentation patterns make it difficult to systematically extract data
 - Single site data has limited generalizability
- Possible Future Directions:**
 - Explore patient and clinician barriers to OT in early PD.
 - Explore relationships between hand strength, dexterity, activity limitations, and participation restrictions, and treatments.

References

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