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Efficacy of Short-term LSVT BIG Protocol in Patient with Atypical Parkinsonism

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Background

- Atypical parkinsonism, distinct from Parkinson's disease, include rare neurodegenerative disorder like Progressive Supranuclear Palsy (PSP).
- PSP is characterized by vertical supranuclear gaze palsy, cognitive decline, postural instability, and axial rigidity.
- This study aims to evaluate the short-term effects of a modified Lee Silverman Voice Treatment (LSVT) BIG protocol on an atypical parkinsonism patient, contributing to limited research in this field.

Case presentation

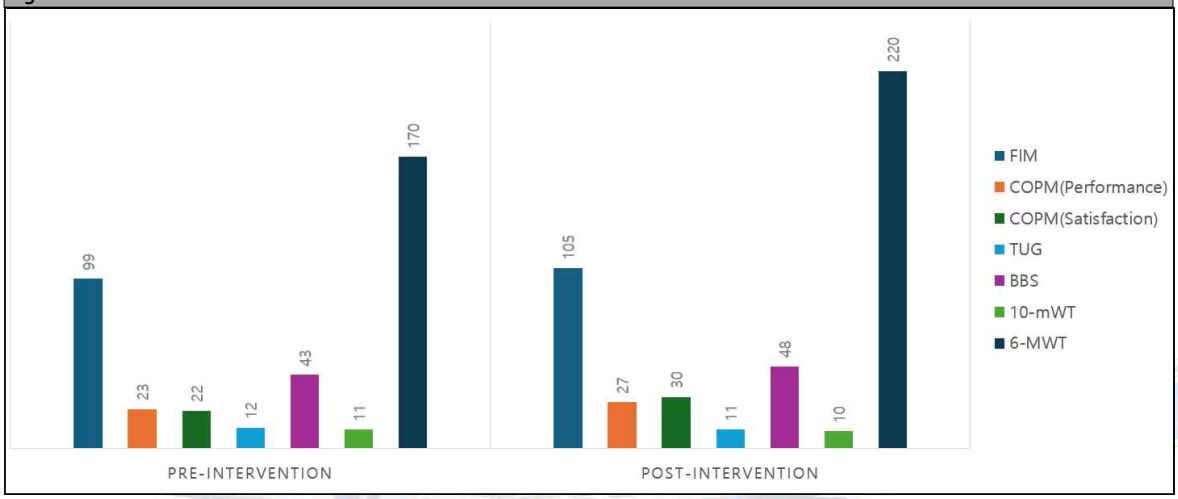
- **Patient**
  - ✓ 62-year-old male diagnosed with PSP, presenting with gait instability, falls, and mobility problems.
- **Intervention**
  - ✓ Four-week modified LSVT BIG protocol with 16 home-based sessions focused on posture, strength, balance, and functional ability.
  - ✓ Schedule: 1-hour sessions, four times a week.
  - ✓ Components: Maximal Daily Exercises, BIG walking, Functional tasks (Figure 1), Hierarchy tasks (Table 1).
- **Outcomes: Improvement across all objective measures (Figure 2).**
  - ✓ Functional Independence Measure (FIM): Increased from 99 to 105.
  - ✓ Canadian Occupational Performance Measure (COPM) : Performance scores from 23 to 27; Satisfaction scores from 22 to 30.
  - ✓ Timed Up and Go (TUG): Improved from 12 to 11 seconds.
  - ✓ Berg Balance Scale (BBS): Increased from 43 to 48.
  - ✓ 10-meter Walk Test (10-mWT): Improved from 11 to 10 seconds.
  - ✓ 6-Minute Walk Test (6-MWT): Distance increased from 170 to 220 meters.

Table 1. Interventions during therapy sessions.

Maximal Daily Exercises (30minute)	BIG walking (5minute)	Functional task	Hierarchy task
Floor to Ceiling – 8 repeat	All directions to forwards, backwards, sideways	Side to stand	Dressing (sweater top)
Side to Side – 8 each side Forward step – 8 each side	Carrying ball	Extending the arms in multiple directions Pull pants up and down	(Alternative) Dressing and undressing Step up each week to add full repetitions and obstacles
Backward step – 8 each side		Walking in big motions	
Forward Rock and Reach – 10 each side (working up to 20)		Put arm in sleeve	
Sideways Rock and Reach – 10 each side (working up to 20)		Buttoning	
		Pull zipper up and down	

Figure 1. The patient is performing arm extensions in multiple directions, carrying out the movement 5 times forward and 5 times to each side as functional tasks.

Figure 2. Pre- and Post-intervention evaluation results.



Conclusion

- The critical need for evidence-based research in guiding the treatment of atypical parkinsonism emphasizes enhancing quality of life, mobility, and safety, while reducing fall risks.
- Further research to uncover effective strategies and interventions for atypical parkinsonism's unique challenges is essential, aiming to significantly improve patient outcomes.