The Impact of a Positive Therapeutic Alliance and Pain Education as Adjuncts to a Moderate Intensity Strengthening Program for an Adult with Multiple Sclerosis and Chronic Pain: A Case Report

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Introduction: Multiple Sclerosis (MS) is a chronic inflammatory disease that affects the Central Nervous System (CNS).[1] Relapsing Remitting Multiple Sclerosis (RRMS) is the most common type, and typically presents more often in women with an onset between 20-40. It can present as pain, fatigue, burry vision, decreased strength, and/or balance deficits which can have varying levels of impact on a patient's independence with function and community mobility.[1]

Case Description: The patient was a 44-year-old female with a 3-year history of chronic pain and RRMS presenting to physical therapy for right hip pain following a fall. Since her diagnosis of RRMS, she reported not being able to participate in IADLs and ADLs due to pain and fear of further progression of her RRMS. Since her diagnosis she did not ambulate in the community without a walker or family member present, she did not drive a car due to fear of fatigue levels, she was not participating in home care or cooking, and has primarily stayed in her apartment due to pain, fear of causing a flare-up, and fatigue. She has also had multiple ER visits and hospitalizations due to her pain levels.

Interventions: In addition to strengthening and cardiovascular endurance interventions (see Table 2), emphasis was placed on patient education. Education focused on pain education, that pain did not mean damage or an increase in MS symptoms, and encouraging the patient to perform strengthening and mobility tasks in therapy and translating that to the home.

Results: Overall, her pain decreased from 9/10 pain in her R hip, R knee, and R foot to 0/10 at the hip and knee and 1/10 in her R foot. Her Timed Up and Go decreased from 33 seconds to 6.9 seconds at discharge and she was no longer requiring an assistive device. Her Quad Index increased from 70 pounds to 85 pounds on her right side. She reported being able to mop her kitchen floors, walk to the grocery store without her walker, and drive a car for the first time in 3 years.

Table 1: Examination Findings

	Initial Evaluation	Visit 4	Visit 7	Discharge Evaluation
Ability to ambulate in community	Pt reports not being able to ambulate in the community without her children present.			Pt reports no longer using AD in order to ambulate in community.
Ability to participate in ADLs and IADLs	Pt has not mopped her floors, driven a car, or picked up a bag of groceries.	Pt was able to exercise over the weekend with her son	Pt limited during session due to feeling fatigued after receiving Covid shot.	Pt reported being able to drive, go grocery shopping, and mop her apartment since beginning therapy.
Frequency of ER visits	2-3x a month	1 since evaluation	0	0
Timed Up and Go	33 s			6.9 s
LEFS	30/80			68/80
Numeric Pain Rating	9/10			1/10
Slump	+ on R side, - on L side			- Bilaterally
FADIR	+ for R hip pain, - on L hip			- Pt reported less discomfort on R side
Windlass Test	- Bilaterally			
PROM RLE	WNL			
PROM LLE	WNL			
R Quad Index		70 lbs	85 lbs	
L Quad Index		75 lbs	83.5 lbs	

Discussion: Due to lack of success with her previous therapy episodes, it was important to establish a good rapport with the patient to build a good therapeutic alliance. Ultimately, her goal was to become independent with ADLs and IADLs. In ten visits, she returned to participating in activities she had not done in years.

Table 2: Interventions by Visit

Visit Number	Interventions	Cardiovascular Endurance
2	• Manual Therapy x 10 min • R acetabular inferior glide	• Patient could not perform due to high pain levels
3	• Standing calf raises 3x10 • 20 lb kettlebell deadlift from 12-inch box 3x8 • 8-inch bilateral box step up with contralateral hip flexion 3x8	• NuStep level 1 x 7 minutes
4	• Cable Deadlifts 25 lbs 3x10 • TRX squats • TRX 2-way lunge • Total gym bilateral leg press	• NuStep level 3.5 x 7 minutes
5	• Cable deadlifts 25 lbs 3x10 • Total gym B leg press level 14 • Total gym SL leg press level 14 3x10	• NuStep level 4 x 7 minutes
6	• Cable deadlifts 25 lbs x 25 • Total Gym level 22 DL press • KB swings 20 lbs x 5	• NuStep level 4 x 10 minutes
7	• TRX split squats SBA 2x12 B • SL balance at bar 3x45"	• Treadmill walking SBA 1% incline x 5 minutes
8	• Manual Therapy x 35 minutes • PA R talocrural glide grade II 3x3 • Supine fibular n. glides • Attempted R talocrural distracted, but pain upon palpation	• NuStep level 1.5 x 10 minutes
9	• TRX mini-lunges 2x10 • TRX squats • SL balance at bar 2x45"	• NuStep level 2.5 x 16 minutes
10	• Heel walking x5 laps • Lateral band walks around toes BTB • Monster walks fwd/bwd BTB x3 laps • DL Heel raise with tennis ball x45 • Total gym Dl hopping to fatigue lvl 17	

Conclusion: Multiple Sclerosis is a lifelong disease and can severely limit a person's ability to be independent in ADLs and IADLs. Prior to this encounter, the patient had significantly decreased her participation in activities due to pain and fear of the impact on her MS. Through education, a good therapeutic alliance, and moderate exercise she began to return to activities she had not done in years.

References: