Lifestyle Redesign® Occupational Therapy for Complex Regional Pain Syndrome: A Clinical Case Study

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PURPOSE

The aim of this poster is to present a case study of a patient receiving lifestyle-based occupational therapy (OT) services in conjunction with traditional OT, for the treatment of upper extremity Chronic Regional Pain Syndrome, in order to demonstrate the effectiveness of lifestyle OT for patients with this diagnosis.

BACKGROUND

Complex Regional Pain Syndrome (CRPS) is a neuropathic condition that can cause extreme pain, have a significant impact on function, and has the potential to spread to other sites of the body and become chronic. CRPS Type I occurs when there is no confirmed nerve damage, and Type II is diagnosed when there is a confirmed nerve injury. Typical CRPS pain presents as burning, aching, and deep; other symptoms include allodynia, spasms, edema, skin color/temperature changes, and sweating.[1] As CRPS is a dysfunction of the peripheral and central nervous systems, emotional stress can often increase symptoms and pain.[2]

Occupational therapy (OT) helps individuals increase participation and function through the use of everyday activities, [3] and traditional OT has been shown to improve function and pain.[4] Lifestyle Redesign® is a behavioral OT technique that aims to modify a person's daily habits and routines in order to manage chronic conditions, and has been shown to improve quality of life and slow disease progression.[5]

Differences between traditional and lifestyle-based OT can be found in Figure 1. Traditional and lifestyle-based OT can be combined to create an optimal and individualized plan of care for the patient.

Figure 2: OT Approaches

Occupational Therapy Treatment Approaches Used	
Traditional OT	**Lifestyle OT**
• Inclusion of painful limbs into activities • Compensatory techniques (e.g., adaptive equipment, use of other limb) • Desensitization • Mirror therapy • Strengthening • Endurance building	• Stress Mgmt. & Self-Regulation Training • Time Mgmt. • Eating Routines • Sleep Hygiene • Exercise Routines • Activity Pacing & Fatigue Mgmt. • Socializing • Cognitive behavioral therapy

METHODS

As this was a clinical case study, the treatment administered followed a typical clinical plan of care based on the patient's evaluation, and did not contain any treatment modifications for research purposes.

Visits were between 45-60 minutes each, and frequency depended on the results of the evaluation and the patient's availability. Outcomes included the RAND SF-36 Health Survey,[6] Canadian Occupational Performance Measure,[7] Brief Pain Inventory,[8] and Pain Self-Efficacy Questionnaire.[9] For clinical implications of these measures, refer to Figure 2.

RESULTS

The patient was a 53 year-old male high school teacher with CRPS Type I in bilateral hands, seen for evaluation and 19 treatment sessions. The original injury was 5 years prior, caused by repetitive motions at work. Symptoms were described as aching with some proximal shooting pain, exacerbated by fine motor movements and stress, and alleviated by deep pressure. He used neuralgia medications (Gabapentin, Ketamine, and Mirtazapine), and was receiving physical therapy, and occupational therapy as part of a multidisciplinary team. OT visits started at a frequency of once every two weeks, then gradually decreased in frequency as the patient became more independent with his pain self-management.

The patient's primary functional complaint was pain flares that interfered with productivity, most frequently caused by stress combined with repetitive or sustained fine motor use (handling papers, hand-writing, and typing), especially when performing work-related tasks. The patient noted he was able to perform fine motor tasks when on vacation, often without causing a pain flare. Driving also exacerbated his symptoms, and the patient was later able to identify driving as a stressful activity.

Topics addressed with this patient included: compensatory techniques for handling papers and driving, stress and anxiety management, exercise routines that incorporated deep pressure (weight-lifting), and cognitive behavioral therapy to reduce negative self-talk.

Figure 2: Clinical Outcomes Pre- and Post-OT Treatment

Outcome Measure	Measure Sub-Scale (if applicable)	Eval Score	D/C Score	Δ	Clinical Implications
RAND SF-36 Health Survey	Physical function	55	70	15	Higher scores indicate improved health in the specified category. Each item is recalculated on a scale of 0-100; 0 indicates poor quality of life, 100 indicates high quality of life.
	Role limitations due to physical health	0	25	25	
	Role limitations due to emotional health	0	100	100	
	Energy and fatigue	50	50	0	
	Emotional well-being	52	76	24	
	Social function	75	75	0	
	Pain	45	77.5	32.5	
	General health	45	60	15	
	Change in health in the past year	75	75	0	
Canadian Occupational Performance Measure	Performance	4.5	6.5	2.0	Higher scores indicate increase perceived performance ability and satisfaction in patient-identified areas of occupational difficulty. Each item is on a scale of 1-10; a 2-point change is considered clinically significant.
	Satisfaction	2.5	6.17	3.67	
Brief Pain Inventory	Pain at its worst	5	2	-3	Lower scores indicate lower levels of pain severity, and less interference of pain upon daily activities. Each item is on a scale of 0-10.
	Pain at its least	1	1	0	
	Pain on Average	4	2	-2	
	Pain currently	4	2	-2	
	Pain interference average	3.43	1.22	-2.21	
Pain Self-Efficacy Questionnaire	Total Score	30	47	17	Higher scores indicate improved confidence in feeling control over pain. Each item is on a scale of 0-6, score ranges from 0-60.

DISCUSSION

This case study illustrates how Lifestyle Redesign® OT when added to traditional rehabilitative OT can significantly improve a patient's quality of life and pain self-management skills, in order to improve function and decrease pain. The clear connection between lifestyle and CRPS can be seen in this patient, who would experience pain flares mostly at work (stress + fine motor use). As such, both physical rehab and lifestyle OT techniques were needed to effectively treat this patient's CRPS.

More rigorous research about the efficacy of lifestyle-based OT in treating CRPS is needed. This case study shows lifestyle-oriented treatment can be successfully integrated into regular OT care plans.

WITH APPRECIATION

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