

PURPOSE

The aim of this study is to examine the role that occupational therapy (OT) can play in effective headache treatment amongst a multidisciplinary team, and present the outcomes of a program development study for quality improvement.

BACKGROUND

Severe headache and migraine pain affect as much as 15% of Americans, according to the American Academy of Pain Medicine.¹ Primary care physicians, neurologists, physical therapists (PT), and psychologists are well-known members of a multidisciplinary pain program, but occupational therapy for headache management has not been well researched or widely utilized. While other healthcare providers on a multidisciplinary headache treatment team can offer pharmacological treatments, psychological intervention, and physical exercises focusing on strength and mobilization, OTs can offer a vital perspective on the impact of pain on daily functioning, as well as how daily habits and routines impact health outcomes.

At the USC Keck Medical Center a multidisciplinary team has been established to treat patients with head, neck, and facial pain disorders. This team regularly involves neurologists specialized in headache treatment, pain psychologists, physical therapists and occupational therapists, and sometimes also involves orofacial surgeons, dentists, neuropsychologists, and social work.

METHODS

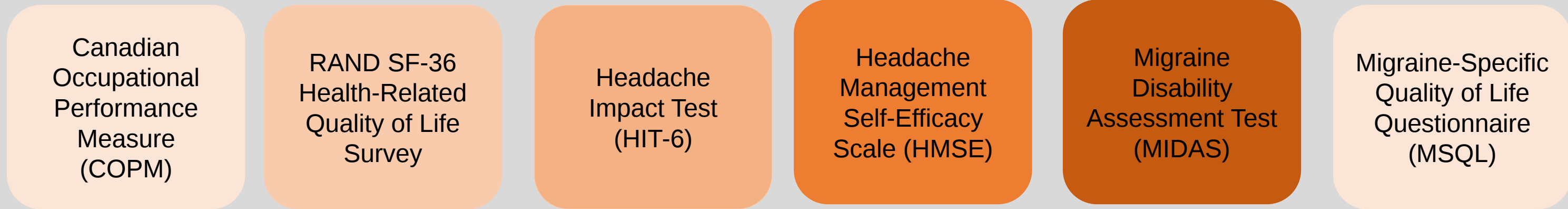
In order to understand the unique value and role of each discipline on a multidisciplinary headache team, a review of each disciplines scope of practice as well as interviews with clinical therapists specializing in headache treatment were conducted.

To assess the effectiveness of lifestyle-based occupational therapy for headache management, a retrospective program development was conducted. This study collected and assessed outcome data of patients who entered an outpatient occupational therapy lifestyle and behavioral modification program for chronic headaches as part of their usual plan of care. Occupational therapists used a Lifestyle Redesign® approach to improve self-management of headaches and migraines. This technique has been shown to help people maintain function in daily activities and improve quality of life through the development of health-promoting habits and routines.²

Patients were referred by community neurologists, primarily those from the multidisciplinary team at USC. Numerous patients were also receiving treatment from other professionals (physical therapy, pain psychology) during all or part of their OT care. Patients met with OTs regularly, usually once every 1-2 weeks for 45-60 minutes to implement lifestyle and behavior changes for improved headache management. Exact treatment frequency and topics addressed varied depending on the individual needs of the patient. There were no clinical interventions administered that were different from regular patient care.

For the purpose of this quality improvement study, patients who completed four or more sessions were considered “completers”. Patients completed outcome measures (listed in Figure 1) at admission and at discharge. Migraine questionnaires were only administered to patients with a diagnosis of Migraine. Each of these outcome measures demonstrates valid and reliable testing.³⁻⁸ This was a quality improvement study; no approval from IRB was required. Descriptive analyses were completed to identify if there were demographic differences between “completers” and “non-completers.” T-tests were used for each outcome measure (or each subscale, if applicable) to assess if a significant difference in scores from initial evaluation to discharge was present. Outcome measure results were based on T-Test (matched pairs) analyses, comparing initial evaluation and discharge scores for each of the outcome measures for all “completers.”

Figure 1: Outcome measures used



WITH APPRECIATION

Thanks to the clinicians and staff at the USC Occupational Therapy Faculty Practice and USC Headache program. Special thanks to William Kim, Emily Reuter, and Denice Cox for preparing the data used in this presentation.

RESULTS

The goal for treatment amongst the multidisciplinary team is to decrease the frequency and intensity of headaches and improve the patient's self-management skills. The role of occupational therapy in headache treatment amongst a multidisciplinary team is demonstrated in Figure 2 below.

Figure 2: Multidisciplinary Headache Team Roles and Treatment Approaches

- Conduct primary assessment, diagnostic testing
 - Medication management
 - Order referral(s) to other team members; act as quarterback of the team
 - Provide alternative treatment approaches (i.e., Botox injections, magnesium infusion, trigger point injections, nerve block, SPG block)
- Assist patients to maintain, restore and improve movement in order to improve their ability to engage in daily activities.¹⁰
 - Assess physical function, including postural and musculoskeletal abnormalities
 - Prescribe exercise and manual manipulation to improve strength, endurance, and positioning



- Use understanding of occupational engagement to assist people to participate in activities of daily living that are meaningful and purposeful, using a whole-person (physical, cognitive, emotional) lens.⁹
- Assess functional capacity and engagement in activities of daily living and assess lifestyle factors impacting headache self-management:
 - Exercise, sleep, and eating routines
 - Stress and mood management
 - Ergonomics and body mechanics
 - Activity pacing and energy conservation
 - Community and work reintegration
 - Cognition
 - Sensory regulation
 - Med compliance
 - Weight loss
- Assess mental and emotional functioning and study human behaviors to promote psychological well-being and emotional resilience.¹¹
- Address thoughts, emotions and behaviors accompanying or causing pain
- Cognitive behavioral therapy, biofeedback training, relaxation therapy, mindfulness-based stress reduction

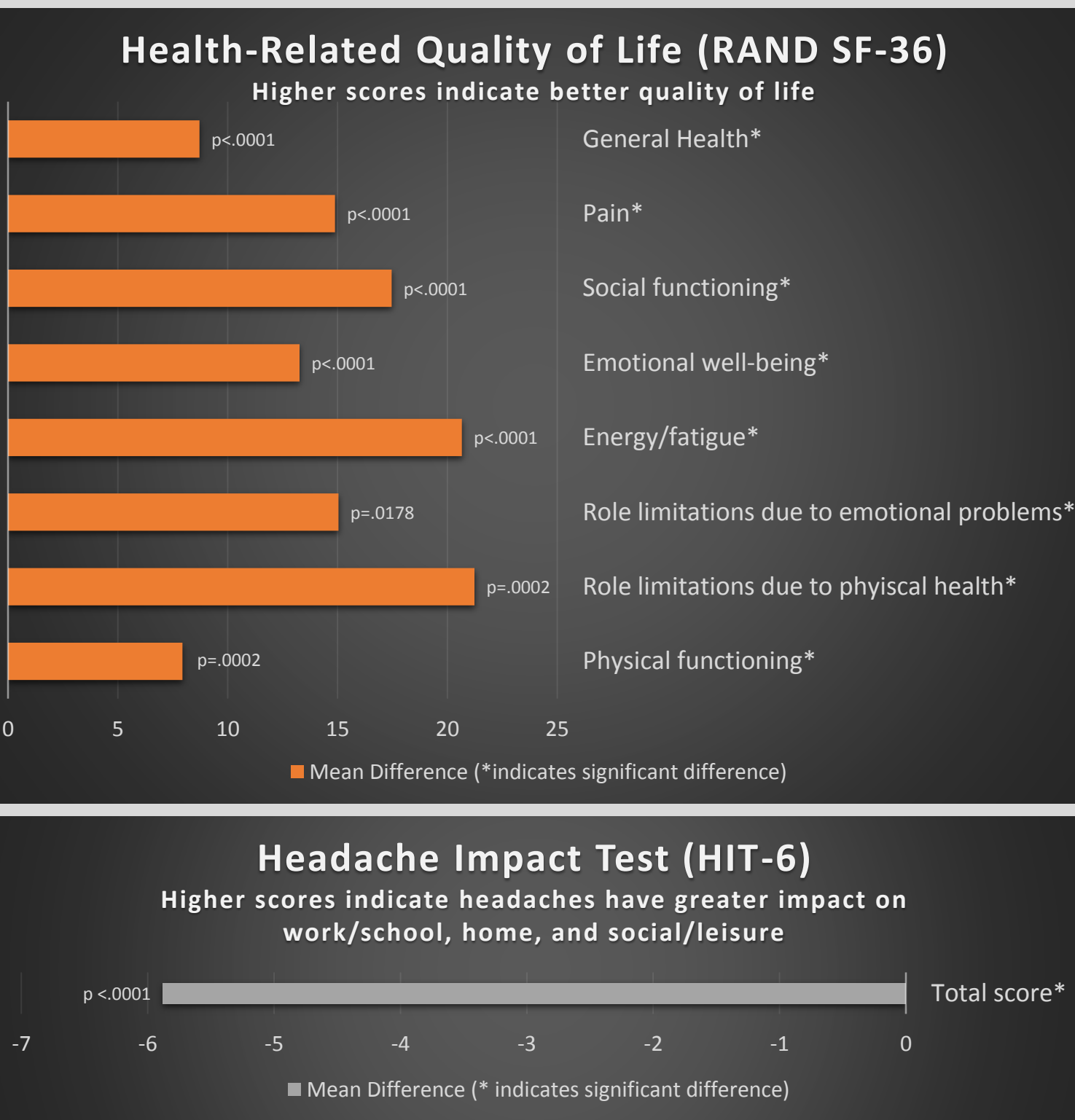
Outcomes of the program development study for quality improvement:

322 patients were included in this study. 157 patients met the inclusion criteria of completing four or more occupational therapy sessions (“completers”), and 165 did not meet this criteria (“non-completers”). Descriptive data for both groups is summarized in Figure 3, showing the two groups did not differ greatly. The average number of sessions attended was 4.95, however the “completers” attended nearly 7 more sessions on average than the “non-completers.” Figures 4 through 9 summarize the average change in scores from initial evaluation to discharge and the significance of the change for the “completers” group, based on available collected data. The only outcome that did not show a significant difference from pre- to post-treatment was the “reduced productivity at work” question of the MIDAS.

Figure 3: Demographics

	Completers		Non-completers	
	N		N	
Total #	157		165	
Mean Age	37		40	
Female	119	76%	125	76%
Male	36	23%	40	24%
Average # sessions	8.4		1.7	
Median # sessions	7		1	
Married	54	36%	70	46%
Single	87	58%	71	47%
Divorced	6	4%	6	4%
Widowed	3	2%	5	3%
White	73	66%	67	66%
Asian	11	10%	5	5%
Black	3	3%	6	6%
Hispanic	14	13%	14	13%
Mixed	4	3%	6	6%
Other	6	5%	4	4%
Diagnoses				
• Headache	27	17%	22	14%
• Migraine	95	61%	112	69%
• Occip. neuralgia	13	8%	9	5%
• Other	20	13%	19	12%

Figures 4-9: Outcome Measure Results



DISCUSSION

For those patients who completed four or more sessions of OT for headache management, increases in self-management skills, physical abilities, emotional functioning, and overall quality of life were found, all while having decreases in average pain levels and functional impact on activities in daily life. One of the limitations of this study was not accounting for whether patients were receiving treatment from other disciplines on the multidisciplinary team at the same time as occupational therapy treatment. This can be improved by creating a standardized form of documentation to indicate other types of treatments in order to statistically account for this variable. Future studies may include assessing the effectiveness of the multidisciplinary team as a whole, by collecting and analyzing outcome data for patients who are being treated by each discipline, simultaneously. Despite limitations, the results indicate OT can significantly provide effective treatment for patients with headache and therefore, should consistently be part of the regular plan of care for patients with headaches, and should be staple members of multidisciplinary headache care teams.

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