The Effectiveness of Desensitization Therapy for Individuals with Complex Regional Pain Syndrome: A Systematic Review

Lauryn M. Helmers
University of Puget Sound

Kira L. Donnelly
University of Puget Sound

Olivia M. Verberne
University of Puget Sound

Roger J. Allen
University of Puget Sound

Follow this and additional works at: http://soundideas.pugetsound.edu/ptsymposium
Part of the Physical Therapy Commons

Recommended Citation

This Poster is brought to you for free and open access by the Physical Therapy, School of at Sound Ideas. It has been accepted for inclusion in Physical Therapy Research Symposium by an authorized administrator of Sound Ideas. For more information, please contact soundideas@pugetsound.edu.
INTRODUCTION

Complex Regional Pain Syndrome (CRPS) is a severe chronic pain disorder that can develop spontaneously after injury or surgery. Patients with CRPS display a heightened nervous system response to injury, usually to a limb, resulting in pain and an autonomic nervous system response that is disproportionate in degree to the inciting trauma. Hallmarks of CRPS are hypersensitivity to pain, a prolonged and exaggerated pain response, and allodynia (a painful response to non-noxious stimuli). A diagnosis of CRPS is usually accompanied by severe functional and psychological deficits, including an aversion or hatred toward the affected limb, fear of movement, diminished quality of life, profound disability, and an increased risk of depression and suicide.3

Though there is no cure for CRPS, current best practice guidelines recommend the early utilization of desensitization therapy, a treatment that emphasizes the graded introduction of non-noxious stimuli. This technique aims to systematically review the current literature supporting the utilization of desensitization therapy to manage CRPS.

METHODS

**PEs**: PubMed, CINHAL, and MEDLINE were searched between March and August of 2014 with the following search terms: complex regional pain syndrome, CRPS, allodynia, desensitization, neuropathic pain, physical therapy, tactile desensitization, pressure desensitization, hydrotherapy, physiotherapy, capsacin and somatosensory. Articles were excluded if the mode of desensitization was not identified.

RESULTS

Initial search yielded 42 articles with 10 published fitting the inclusion/exclusion criteria. After evaluating the articles, the STOQ and SOLS scales were organized by desensitization type. Varieties included: chemical, tactile, thermal and pressure desensitization. Studies combined represented 68 patients total, ranging in age from 8-57 years.

Thermal, pressure, and chemical desensitization were each represented by one article. The studies conducting thermal and pressure desensitization by Allen et al. in 2001 and 2004 respectively, were isolated interventions while the chemical desensitization study by Ribber et al. in 2001 had an added component of stress loading mobilization. All 5 studies demonstrated effectiveness of the specific somatosensory modality utilized for desensitization treatment.

CONCLUSIONS

Overall, studies lacked a standard desensitization protocol. However, common themes for the implementation of desensitization therapy included the importance of selecting the proper somatosensory modality and using a graded desensitization protocol in order to reduce allodynia. Although the research available is limited, the consistency of positive results supports the utilization of desensitization in the treatment of people with CRPS.

**REFERENCES**


ACKNOWLEDGMENTS

The authors would like to thank Roger Allen, PT, PhD, for advising this project.