

## RESEARCH SUMMARY REPORT

### Longitudinal Associations Between Depression, Anxiety, and Pain-Related Disability in Chronic Pain Patients

#### Introduction

This study explores the connection between pain, pain/related disability, and depression/anxiety in chronic pain patients. Previous research shows a reciprocal relationship between the conditions and a high prevalence of depression/anxiety among chronic pain patients that directly and indirectly affect quality of life, treatment outcomes, and healthcare costs. Given the high comorbidity of pain and depression/anxiety, the study seeks to examine the unique role that depression/anxiety has in relationship with pain and pain-related disability to determine whether the shared variance of depression/anxiety has a long-term association with pain compared to the two constructs' unique features.

#### Methodology

The study included 428 chronic pain patients from two pain clinics. Participants were mostly women with an average age of 54.84 years, education of 12.52 years, and pain duration of 85.21 months. Based on a multi-wave, longitudinal study design, participants were recruited during appointment visits and via telephone and then given questionnaires at four time points about various pain, depression, and anxiety variables. Using a cross-lagged, structural equation modeling approach, researchers analyzed the data to explore the direction of the relationships between the variables.

#### Results

This study found that over half of the sample reported significant symptoms of both depression and anxiety. A latent depression/anxiety variable was found to predict pain and pain-related disability longitudinally, meaning that high levels of depression and anxiety were associated with worsened pain and pain-related disability. However, the reverse relationship was not observed, as pain and pain-related disability did not predict depression/anxiety. The study also suggests that addressing high levels of depression/anxiety may be necessary in managing and improving pain and pain-related disability in this population.

#### Discussion

Individuals with chronic pain, pain-related disability, and depression/anxiety typically experience a reduction in quality of life because pain hinders their ability to participate in daily activities and work. This study found depression/anxiety predicted pain in chronic pain patients while also worsening pain over time. Consequently, pain and depression/anxiety are known to cause significant disability and also cost the United States millions in direct and indirect costs.

This study highlights the need for more studies on the longitudinal relationship between pain and depression/anxiety in chronic pain populations to determine what factors exacerbate the relationship between the co-morbid condition. In addition, the complex link between mood, pain, and disability in chronic pain patients emphasizes the need for psychological coping skills and pharmacological interventions to address affective symptoms in this population.

#### Reference

Lerman, S. F., Rudich, Z., Brill, S., Shalev, H., & Shahar, G. (2015). Longitudinal associations between depression, anxiety, pain, and pain-related disability in chronic pain patients. *Psychosomatic Medicine*, 77(3), 333–341. <https://doi.org/10.1097/PSY.000000000000158>