

Title: Depression Affects Recovery Following Distal Radius Fracture: A Latent Class Analysis

Background: Most people recover within six months following distal radius fractures (DRFs) but some experience pain and disability for one year or longer. Therefore, it is important to understand the factors that can help predict recovery. According to the biopsychosocial model of pain, psychological aspects of a condition can play important roles in explaining recovery.

Objectives: To identify the recovery trajectories of patients with DRFs and to determine the degree to which depression affects these trajectories.

Methods: Recovery was assessed in 318 patients using the Patient-Rated Wrist Evaluation scale at baseline, three, six, and 12 months. Demographic information was collected in addition to the Self-Administered Comorbidity Questionnaire, from which data regarding the single item pertaining to depression were extracted. Latent class analysis was used to identify the recovery trajectories. Comparisons of proportion between the emergent classes were then conducted using chi-square and Kruskal-Wallis tests.

Results: The latent class analysis revealed three trajectories: rapid-recovery, slow-recovery, and non-recovery as the best fit to the data. The proportion of people that had depression was significantly greater in the non-recovery class (24%) compared to the rapid-recovery (8%) and slow-recovery classes (16%) ($p < 0.05$). Although not significant, the non-recovery class was associated with a cluster of negative factors (e.g., higher number of smokers) and the rapid-recovery class was exemplified with a cluster of positive factors (e.g., higher proportion of college educated people).

Discussion: Patients who appear to be in the non-recovery class may require additional assessments, closer monitoring, supervised therapy, or other interventions to improve outcomes.