The Impact of Patient Activation on Disability and Patient Experience Following Upper Extremity Fractures

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Purpose: To assess the relationship between patient activation (ie, the propensity to engage with one’s health and health-care system) within a month of shoulder, elbow, or wrist fracture, and disability and patient experience at 6 to 9 months.

Methods: 744 adults sustaining upper extremity fractures attending fracture clinics between January 1, 2016 and August 31, 2016 completed outcome measures on a web-based program including measures of patient activation (Patient Activation Measure [PAM-13], Effective Consumer Scale [ECS-17]) within a month of injury and disability (Quick Disabilities of the Arm, Shoulder and Hand [QuickDASH], Patient-Reported Outcomes Measurement Information System Upper Extremity Physical Function Computer Adaptive Test [PROMIS UE PF CAT]) at 6 to 9 months, as well as patient experience (Numerical Rating Scale [NRS] for satisfaction with clinical care [NRS-C] and NRS satisfaction with health services [NRS-S]) at 6 to 9 months, accounting for demographic, clinical, and psychosocial factors. Statistical analysis included bivariate analysis, collinearity assessment, factor analysis, and multivariable regression.

Results: In bivariate analysis, PAM-13 and ECS-17 had moderate-high correlations with PROMIS UE PF (PAM-13: r = 0.55; ECS-17: r = 0.60) and QuickDASH (PAM-13: r = -0.65; ECS-17: r = -0.67). PAM-13 and ECS-17 also demonstrated moderate correlations with NRS-C (PAM-13: r = 0.53; ECS-17: r = 0.57) and NRS-S (PAM-13: r = 0.55; ECS-17: r = 0.58); P <0.001 for all displayed correlations. Factor sets included (1) psychosocial factors and patient engagement, (2) sociodemographics and patient engagement, (3) pathophysiology, and (4) social support. Factor set 1 accounted for most of the variation in disability (PROMIS UE PF, semi-partial $R^2 = 0.45$; QuickDASH, semi-partial $R^2 = 0.63$) and most of the variation in experience (NRS-C, semi-partial $R^2 = 0.56$; NRS-S, semi-partial $R^2 = 0.64$).

Conclusion: Individuals that are more engaged with their health and health-care systems earlier on achieve better future health-related and experiential outcomes following upper extremity fractures. However, one should also account for psychosocial factors, such as self-efficacy (ie, the confidence and ability to cope despite a painful injury), which may supersede activation in predicting outcomes. Incorporating these findings into a patient-centered approach to managing these patients and making treatment decisions may improve their longer-term outcomes and experiences.