ABSTRACT

Background: Little research has examined how psychosocial factors change over time and influence rehabilitation outcomes following meniscectomy. This information can inform the need to assess and address psychosocial factors in meniscectomy rehabilitation.

Hypothesis/Purpose: The purpose of this study was to examine changes in fear-avoidance and self-efficacy psychosocial factors from pre-surgery to one year after meniscectomy and their associations with rehabilitation outcomes. The hypothesis was that psychosocial factors would improve following meniscectomy, and less improvement in psychosocial factors would be associated with less improvement in rehabilitation outcomes.

Study design: Prospective cohort.

Methods: Twenty-five patients with partial meniscectomy participated. Testing time points were pre-surgery, after post-surgical rehabilitation, and one-year post-surgery. Fear avoidance (pain catastrophizing and kinesiophobia) and self-efficacy (knee-related activity) psychosocial factors were assessed with the Pain Catastrophizing Scale (PCS), the Tampa Scale for Kinesiophobia (TSK-11), and Knee Activity Self-efficacy (KASE) questionnaires, respectively. Rehabilitation outcomes were quadriceps strength, evaluated with isokinetic testing at 60°/sec; knee pain, measured with the Numeric Pain Rating Scale (NPRS); and self-reported knee function, measured with the International Knee Documentation Committee Subjective Knee Form (IKDC-SKF).

Results: PCS scores improved from pre-surgery to after post-surgical rehabilitation, while TSK-11 and KASE scores improved from pre-surgery to after post-surgical rehabilitation and from after post-surgical rehabilitation to 1-year post-surgery. Pre-surgery PCS and KASE scores were associated with 1-year post-surgery NPRS score (r = 0.50) and quadriceps peak torque (r = 0.48), respectively. From pre-surgery to 1-year post-surgery, change in TSK-11 score was associated with change in NPRS score (r = 0.65), and change in KASE score was associated with change in IKDC-SKF score (r = 0.44). From pre-surgery to after post-surgical rehabilitation, changes in TSK-11 and KASE scores were associated with changes in NPRS (TSK-11, r = 0.47; KASE, r = 0.50) and IKDC-SKF scores (TSK-11, r = 0.39; KASE, r = 0.71). From after post-surgical rehabilitation to 1-year post-surgery, changes in KASE score was associated with changes in IKDC-SKF score (r = 0.59).

Conclusions: Assessment of pain catastrophizing and knee activity self-efficacy pre-surgery might help to identify patients at risk for sustained knee pain and quadriceps muscle weakness. Decreasing kinesiophobia and increasing knee activity self-efficacy were associated with improved knee pain and function.

Level of Evidence: 2b

Keywords: knee function, knee pain, meniscectomy, psychosocial factors, quadriceps strength.