Background and Purpose

- Osteoarthritis (OA) is a form of arthritis characterized by cartilage loss and bone remodeling, leading to difficulty with mobility.
- A Total Knee Arthroplasty (TKA) is a common surgical intervention for treating knee OA.
- Discharge home post-TKA depends on physical factors, such as independent ambulation, and psychological factors.
- Two psychological factors for poor outcomes following TKA are pain catastrophizing and kinesiophobia2.
- Pain catastrophizing decreases a patient’s tolerance to an exercise program3.
- Pre-operative pain catastrophizing is a predictor of poor outcomes following TKA4.
- Kinesiophobia has been correlated with increased pain and disability3.
- The purpose of this case report was to determine how psychological factors such as pain catastrophizing and kinesiophobia influence discharge following a TKA.

Case Description

Ten patients were diagnosed with degenerative joint disease of the knee (see Table 1). All patients underwent a TKA after failing conservative measures (injection, physical therapy, pain medication, and activity modification). The Unicompartmental Knee Replacement care pathway guided care for Physical Therapy (PT). Four patients were discharged on post-operative day zero (surgery day), six were discharged on post-operative day one (day after surgery).

Methods

- Self-report outcome measures that were utilized include The Pain Catastrophizing Scale (PCS) and The Tampa Scale of Kinesiophobia (TSK) were used to evaluate post-operative pain and fear of physical activity. The Numerical Rating Scale for Pain (NRS) was also utilized.
- Physical measurements included Range of Motion (ROM), Observational Gait Analysis (OGA), Level of Assistance (LoA) with functional mobility.
- A care pathway was used as a guideline for follow for acute care of TKAs and are designed to set specific functional goals for patients to return home safely.

Outcome

Patients discharged on post-operative day zero had less comorbidities (Table 2) and pre-operative and post-operative pain (Table 3), increased ambulation distance (Table 4) and decreased averaged PCS scores (Table 5). These patients had lower BMIs and average age (Table 1) compared to patients discharged on post-operative day one. Patients discharged on day zero had higher average TKS scores (Table 5).

Discussion

- Pain catastrophizing has been identified as a predictor of chronic pain following TKA5.
- Identifying patients who catastrophize using the PCS allows for targeted psychological therapy to optimize coping strategies and improve outcomes for TKA6.
- Care pathways, hospital guidelines for mutual decision-making, reduce pain medication usage and length of hospital stay, less pain medication utilization, lower PCS scores, all while maintaining a high level of patient safety and satisfaction following TKA7.
- Care pathways that implement weight bearing for post-op TKR patients demonstrate decreased length of stay with no negative impact on outcome8.
- Accelerated rehab protocols following TKA have positive health-related quality of life benefits at three-month follow up and significantly less financial burden on health insurance companies and patients9,10.

Conclusion

Each patient will have psychological factors that will impact their health care and influence their fears, behaviors, pain, and self-efficacy. Scheduling additional time to consider social support, medication, fears, and pain behaviors will allow the therapist to develop an individualized plan and improve outcomes following TKA. For future clinicians, it will be critical to develop care pathways that implement pre-operative, post-operative, and outpatient surveys to discuss pain catastrophizing and kinesiophobia to better understand how these factors influence care and outcomes. Future research on individuals undergoing total joint arthroplasty is needed to examine psychosocial factors and how they influence pain and self-efficacy behaviors. Additional research should be done to investigate the advantages and disadvantages of care pathways with the psychological health of TKA patients.

References