

Evaluation of a Clinical Protocol for the Management of Knee Osteoarthritis in Primary Care

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Purpose

- Implement an evidence-based clinical pathway in order to assist primary care providers in delivering consistent care for the treatment of clients presenting with osteoarthritis of the knee.
- Improve the care and satisfaction of patients being seen in the primary care setting for knee osteoarthritis.



Background

- Knee pain and osteoarthritis (OA) symptoms affect approximately 25% of adults and the prevalence of knee pain has increased 65% over the last 20 years.
- Knee pain is the 10th most common reason for outpatient visits, resulting in an estimated 4 million office visits in primary care per year.
- OA is currently ranked 11th in terms of diagnostic labeling as cause for disability and with an increasing aging population and obesity epidemic, there is a prediction that this will rise over the next thirty years.
- There are inconsistencies in the treatment of knee osteoarthritis in the primary care setting compared to the current evidence-based recommendations and mismanagement of these patients has been identified as an ongoing issue.

Methods


- Using the John Hopkins Nursing evidence-based practice model and the plan, do, study and act framework, a quality improvement project was implemented in a multi-specialty clinic, primary and orthopedic office setting over a three-month period.
- Instruments: A validated patient response questionnaire (KOOS Knee Survey) and clinician assessment test of function (Knee Society Score) was administered to 50 consenting adult patients with knee pain related to osteoarthritis in two tiers, 25 prior to protocol and 25 after initiation of protocol.
- The results in both sets of data were evaluated to measure improvement in patient reported outcomes, satisfaction and patient function related to knee osteoarthritis.



Flyer

A flyer outlining protocol recommendations was designed and distributed to the primary care providers for reinforcement following the two educational inservices provided to primary care providers on management of knee osteoarthritis.

Manage an Arthritic Knee in 3!



1. Behavior modification

- Low-impact strength exercises (strong)
- Weight management (moderate)

2. Medication

- Oral NSAIDS (strong)
- Topical NSAIDS (strong)
- Tramadol (strong)
- Intra-articular steroid injection (inconclusive)

3. Protection

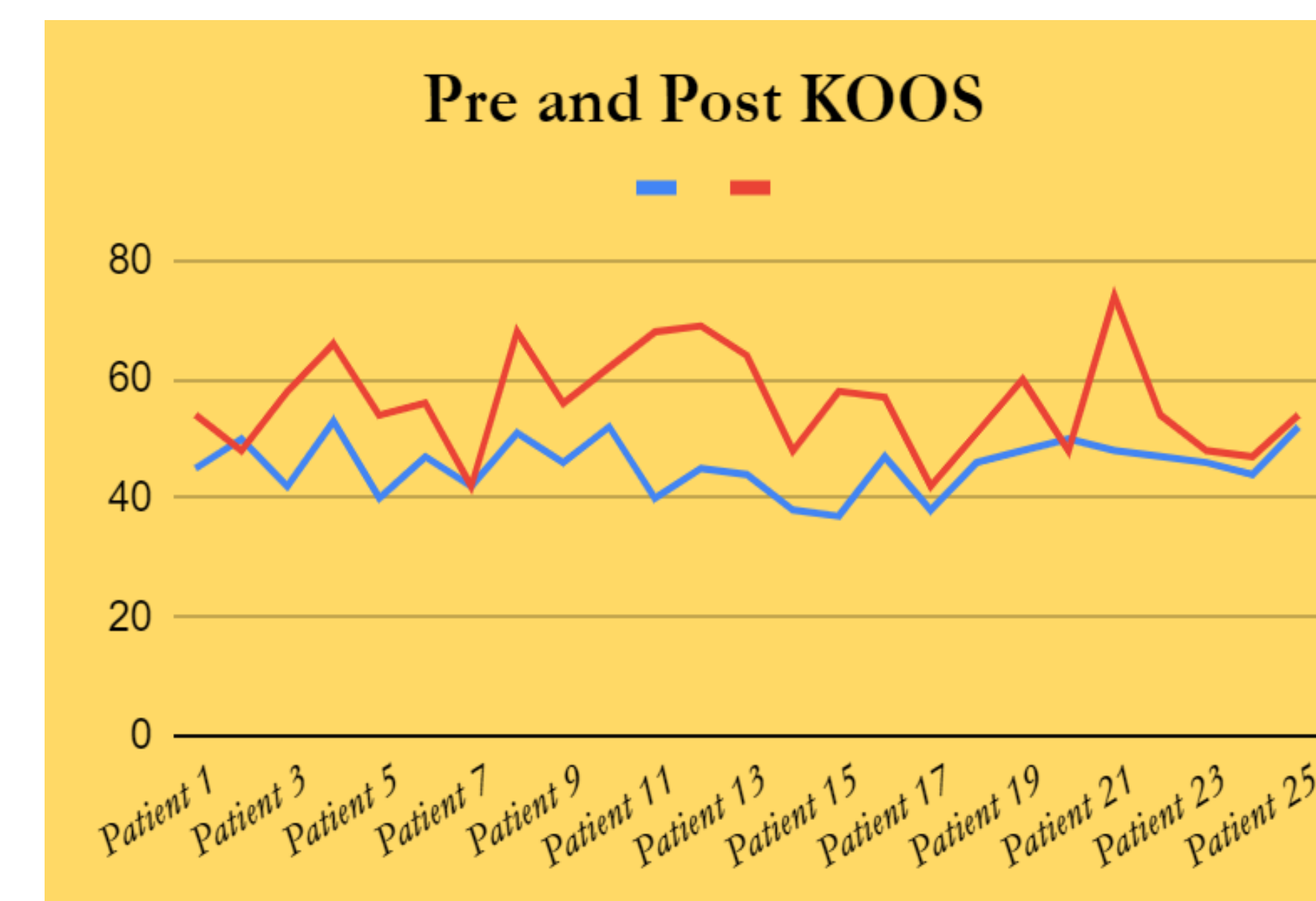
- Hinged or unloader brace (inconclusive)
- Cane (inconclusive)

Results

50 patients completed Knee Injury and Osteoarthritis Outcome Score (KOOS) surveys, 25 prior to and 25 after initiation of the knee OA treatment protocol, to assess the patients' opinion regarding their knee OA symptoms and associated issues.

A two-tailed t-test was conducted to determine the significance of the scores before and after the initiation of the protocol; p value = 0.000025920601.

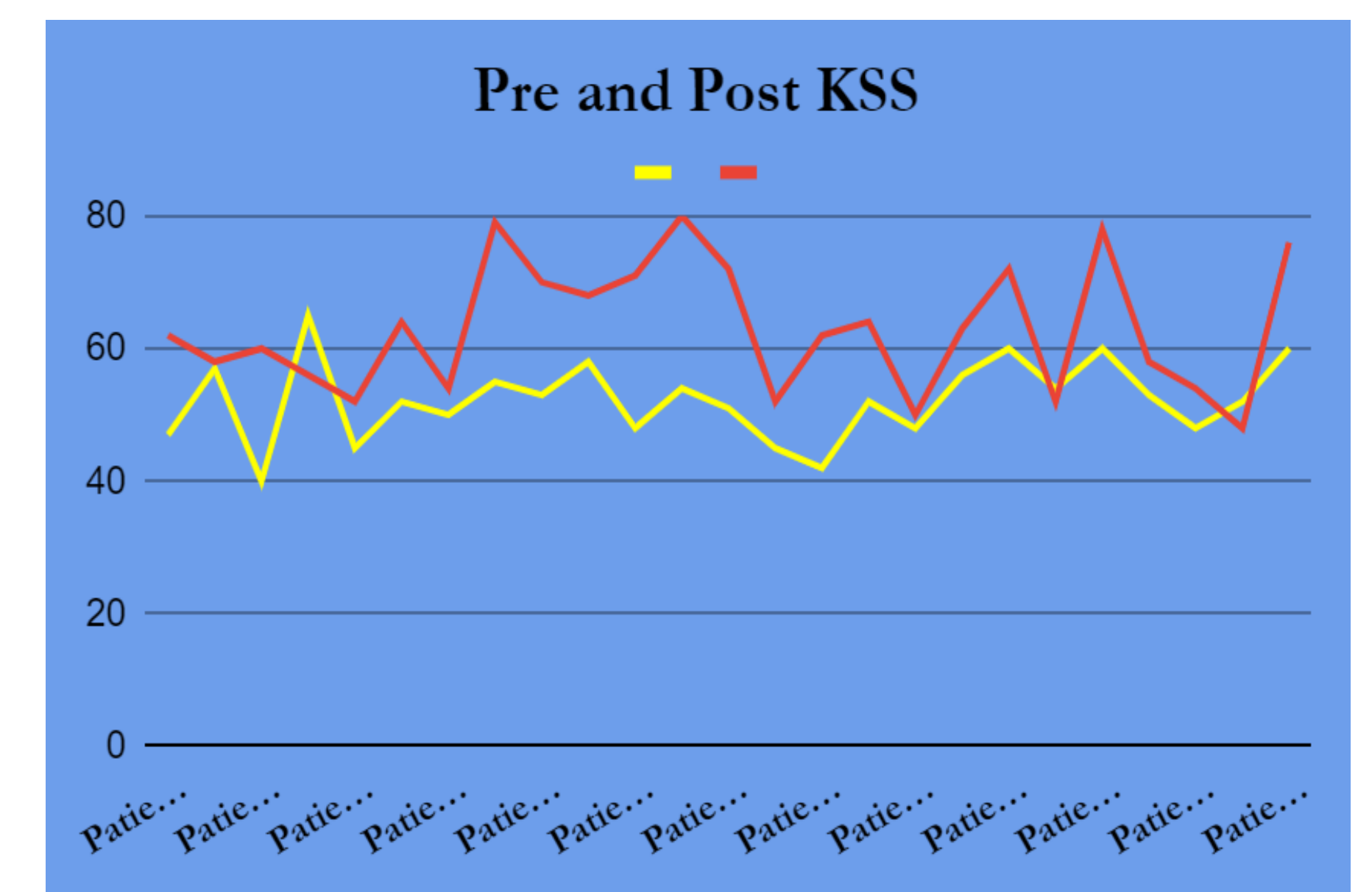
The mean of the KOOS scores (56.24) after the initiation of the protocol was significantly higher, (10.72), than the mean of the scores (45.52) prior to initiation of the protocol.



Providers filled out the Knee Society Score assessment (KSS) on 50 patients to rate functional capabilities regarding their knee arthritis, 25 patients were assessed prior to and 25 after the initiation of the protocol.

A two-tailed t-test was conducted to determine the significance of the scores before and after the initiation of the protocol; p value = 0.000003084307.

The mean of the KSS scores (63) after the initiation of the protocol was significantly higher (10.8) than the mean of the scores (52.2) prior to initiation of the protocol.



Discussion

- Results demonstrate that overall patient satisfaction improved through the implementation of a quality improvement program utilizing an evidenced based clinical pathway for the management of knee osteoarthritis in primary care practices at a multi-specialty clinic.
- Improved patient quality of life and satisfaction were evidenced by a clinically significant increase in the KOOS and KSS scores of patients evaluated after clinical pathway initiation compared to the control group measured prior to intervention.
- Further data collection and analysis is recommended to assess the clinical significance and long-term effectiveness of implementation of this clinical pathway for improving outcomes of patients with knee OA.
- Future recommendations would include a post-test to assess primary care provider comprehension of information presented in the inservice and willingness to implement the clinical pathway.

Limitations

- Patient population was restricted to patients in one multi-specialty clinic
- Variation of patient sex, age and stage of OA may have influenced results
- Low number of participants, n = 50
- Limited time frame of study, < 3 months
- Lack of primary care provider participation within the clinic

References

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