



Abstract: 5433

Safety/QA/QI Projects

Mayo Clinic Orthopedic and Anesthesiology Surgical Improvement Strategies (OASIS): Implementation of an Outcomes-Based Survey

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Introduction

By 2050, it is estimated that 1.6 billion Americans will be over the age of 65 year.¹ In a growing, aging population, the healthcare system will see an influx of orthopedic procedures including total knee (TKA), total hip (THA), total shoulder (TSA) arthroplasties. Therefore, it is imperative to continue to evaluate and maximize the “value” (cost/outcomes) of patient care throughout the perioperative period.² Our institution initiated the Orthopedic Surgery and Anesthesiology Surgical Improvement Strategies (OASIS) project to improve quality and efficiency across the hospital arc of care of primary and revision hip and knee procedures through the creation of a perioperative surgical home. ^{2,3} Our previous phases I and II, demonstrated a decrease in mean hospital length of stay from 2.7 to 2.0 days, a decreased readmission rate from 3.0% to 1.6%, and an increased surgical volume to over 22%. ^{3,4} Phase III sought to increase same-day discharge to >20% of total volume for TKA, THA, and TSA without negatively impacting 30-day readmissions.⁵ In order to understand the outpatient recovery period and assess patient outcomes, a Qualtrics survey was emailed to patients POD1 that included standard postoperative pain and opioid consumption questions along with the Quality of Recovery 15 survey (QoR-15).

Materials and Methods

IRB was applied for and waived due to quality improvement. A multidisciplinary team was organized to evaluate the postoperative outpatient pathway. On the morning of POD1, a Qualtrics survey was sent to patients who underwent outpatient total joint arthroplasty and were willing to receive a survey about their postoperative recovery from December 2021 to June 2022. The Qualtrics survey consisted of QoR-15 evaluation along with questions that included numeric pain rating scores, opiate consumption (tramadol, oxycodone, and hydromorphone), and patient satisfaction (Figure 1). The aim of this study was to examine the implementation of the survey into practice, evaluate patient outcomes in the outpatient setting via the QoR-15, understand opioid consumption overnight, and establish a feed-back mechanism regarding patient experience and comment to inform hospital practices and patient preferences. Descriptive statistics were compiled and analyzed via R-Studio software.

Results/Case Report

A total of 643 surveys were sent to patients on the morning of POD1. The response rate for this survey was, 35% (225 patients). Of the 225 responders, 210 patients recorded pain scores, 207 recorded pain medications, and a total of 201 completed the survey in its entirety. The median survey completion time was 7 minutes. The mean NRS pain to the morning of POD1 was 3.78 +/- 2.13. A total of 47.3% (n=95), patients reported mild pain scores ranging from 0-3, 39.8 % (n=80) responders had moderate pain scores ranging from 4-6, and a total of 12.9% (n=26) responders had severe pain scores between 7-10. Of the 80.6% of patients who consumed opiate medications the average number of pain medications (hydromorphone/oxycodone/tramadol) in the postoperative period (discharge-8am) was 2.5 pills. The overall mean QoR-15 score (mean, SD) was 86.3 +/- 15.6. The averages of each category within the survey were also aggregated. Notably, the highest scoring category (most favorable responses included), "ability to breathe easily" (9.54 +/- 1.40) (QoR-15, #1), and the "ability to communicate easily with family and friends" (9.67 +/- 1.11) (QoR-15, #6). The lowest scoring categories in the survey included "able to return to work or other usual activities" (3.02 +/- 3.0) (QoR-15, #8), and "have a had good sleep" (6.23 +/-2.50) (QoR-15, #4). Finally, questions regarding overall satisfaction with the institution (1 = very poor; 5 = very good, figure 3) including "how well did the staff worked together to care for you," (Patient Experience, #1) the "quality of information given to you (instructions etc.)," (Patient Experience, #2) and "likelihood of recommending this institution to others," (Patient Experience, #3) were 4.92 +/- 0.37, 4.81 +/- 0.57, 4.92 +/- 0.37 respectively.

Discussion

The OASIS phase III Qualtrics survey included the QoR-15 assessment which had a 91.4% completion rate when started, showing the accessibility of the tool. The QoR-15 survey is implemented to demonstrate avenues of improvement in the postoperative period by discovering gaps in the care delivered. Within QoR-15 survey, the lowest scored questions included: "able to return to work or other usual activities" (QoR-15, #8), and "have a had good sleep" (QoR-15, #4). This data provides valuable information which may guide discussions with families on outpatient expectations and further improvement in outpatient care pathways. The mean NSR pain scores were acceptable at 3.78 +/-2.13, however improvements in pain control must be continued to be investigated as 52.8% of patients reported a NRS pain score in the moderate/severe range of 4-10. Targeted interventions for patients will hopefully minimize readmissions and improve overall satisfaction. This survey also demonstrated practices in our care that were beneficial to patients, including consistently high scores for the "ability to communicate" (QoR-15, #6), "ability to enjoy food" (QoR-15, #2), and "support from doctors and nurses" (QoR-15, #7). In addition, scores regarding patient care from staff were consistently high. Furthermore, by allowing a free text option for patients to provide feedback to the surgical experience, it was discovered that although providers were calling all patients on POD1, family members were intercepting the phone call and not relaying provider follow-up. The patient then filled out the survey and provided the need for improved provider follow-up. Taken together, this study demonstrated the ease and the feasibility of implementing a short Qualtrics survey highlighted by the QoR-15 assessment and provided insight into ways to improve the delivery of care. Further directions can include a more comprehensive patient-based analysis to determine how co-morbidities and other social factors impact the QoR-15 score. Also, given that this survey has demonstrated benefits in orthopedic surgery, it will be important to expand its utility across departments and institutions. Patient experience is a critically important component of modern surgical care, and our understanding of post-hospital discharge patient functionality and comfort must continue to evolve.

References

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Disclosures

No

Tables / Images

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