

Impact of Language-Concordant Preoperative Education on Readmissions After Joint Arthroplasty

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INTRODUCTION:

Language barriers in surgical care are linked to reduced patient satisfaction, care quality, and safety. Preoperative education improves patient understanding and enhances postoperative outcomes, but its role in addressing disparities among non-English-speaking patients remains unclear. In January 2023, our institution implemented a Spanish-speaking nurse coordinator to provide language-concordant preoperative education to Spanish-speaking patients undergoing orthopedic procedures. This study evaluated whether this intervention impacted readmission rates compared to English-speaking patients.

METHODS:

This retrospective, single-center cohort study analyzed total knee arthroplasties (TKAs) performed between January 2022 and January 2024. Demographic data and 30- and 90-day emergency department (ED) and inpatient readmissions were obtained from the electronic medical record. Patients were categorized by self-reported primary language (Spanish vs. English). A difference-in-differences (DiD) analysis was conducted to assess changes in readmission rates among Spanish-speaking patients before and after the coordinator's implementation, compared to English-speaking patients. Multivariable logistic regression adjusted for age, sex, BMI, ASA class, and primary surgeon.

RESULTS:

Of 1,381 included patients, 221 (16.0%) were Spanish speaking. Before the intervention, Spanish-speaking patients had significantly higher odds of 30-day readmission than English-speaking patients (OR = 12.54, 95% CI [2.31, 68.17], $p = 0.0058$). After implementation of the Spanish-speaking coordinator, 30-day readmissions significantly decreased among Spanish-speaking patients (OR = 0.34, 95% CI [0.13, 0.91], $p = 0.017$). No significant change was observed in 30-day readmissions among English-speaking patients in the same period. No significant effects were seen in 30–90-day readmissions.

DISCUSSION AND CONCLUSION:

A language-concordant nurse coordinator was associated with reduced 30-day readmissions among Spanish-speaking patients undergoing TKA, narrowing a pre-existing disparity. These findings suggest that language-concordant preoperative education may improve short-term postoperative outcomes in underserved populations. Future research should explore the impact of similar interventions across diverse language groups and assess long-term outcomes such as functional recovery, patient satisfaction, and complication rates.