Preliminary Results of a Digital Health Software on Clinical Outcomes, Patient Satisfaction, and Complications Following Total Knee and Hip Arthroplasty: An Analysis of the SeamlessMD Platform

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INTRODUCTION:
Patient-targeted digital health platforms have emerged as a novel and promising tool in healthcare services. This study, unique in its focus, aimed to analyze the preliminary results of the SeamlessMD platform on orthopedic patients undergoing total knee arthroplasty (TKA) and total hip arthroplasty (THA) between April 2023 and March 2024 at a single academic institution.
METHODS:
We retrospectively studied 385 patients who used the SeamlessMD platform (SMD), comparing the outcomes of 426 patients who did not use the app (non-SMD). All THA and TKA performed in the study period were included. We assessed average lengths of hospital stay (LOS), emergency department (ED) visits, readmission rates, complications, and patient satisfaction. There were 210 women in the SMD group and 199 women in the non-SMD group (P=0.11). The mean age of groups SMD and non-SMD were 66 and 71 years, respectively (P=0.21). The mean Body mass index of groups SMD and non-SMD were 33 and 32, respectively (P=0.31).
RESULTS:
The average LOS for SMD and non-SMD patients was 1.04 days and 2.2 days, respectively (P=0.10). The SMD group had 68 ED visits, compared to only 4 in the non-SMD group (P<0.05). Hence, the 30-day ED visit rates were 18% and 1%, respectively. No differences were recorded regarding readmissions. We identified 8 and 10 readmissions in SMD and non-SMD patients, respectively (P=0.15), which makes a 30-day readmission rate of 2% in both groups. The most common reason for readmission was surgical site infections in both groups. SeamlessMD achieved a 96% patient recommendation rate, highlighting 98% patient satisfaction. Additionally, 94% of patients reported increased confidence before surgery, and 90.0% felt more assured at home post-surgery, indicating the platform’s supportive role in education and health management throughout the surgical process.
DISCUSSION AND CONCLUSION:
The integration of SeamlessMD has shown a clear promise in orthopedic surgical care by improving clinical outcomes and fostering patient-centered care during the critical perioperative phase. The strategic use of this platform within the orthopedic department has underscored its potential to facilitate smoother transitions from hospital to home. The higher average LOS for Non-SMD patients may be due to the ability of SMD patients to be discharged earlier with the platform's monitoring capabilities. In contrast, the increased ED visits among SMD patients likely result from greater awareness and guidance, prompting them to seek timely medical attention for concerns. This study suggests that the broad application of digital health tools like SeamlessMD could significantly improve pre-and post-operative care protocols, yielding a more efficient healthcare system, superior patient outcomes, and enriched patient experiences.