Alexa, Can I Talk to My Surgeon? Patient Attitudes Toward Artificial Intelligence Agents for Arthroplasty Care

Jonathan A Brutti, Klaudia Greer, Zachary A Grand, Charles M Lawrie

INTRODUCTION:
Generative artificial intelligence (AI) tools have the potential to enhance healthcare interactions by addressing patient needs efficiently. The purpose of this study was to investigate patient preferences regarding traditional communication methods compared to generative AI in the form of a digital medical assistant (DMA) for addressing postoperative concerns.
METHODS: This prospective cross-sectional study was performed at a single institution conducted between September 2024 – May 2025. 75 patients were administered a 13-item questionnaire in an orthopedic clinic to gauge attitudes toward AI incorporation in the form of a DMA, prior experience with generative AI, and preference for addressing post-operative concerns. Inclusion criteria consisted of patients who fully completed the survey and visited the orthopedic clinic for hip or knee arthroplasty consultation, as well as those in the post-operative follow-up period of care.
RESULTS: The final cohort was 46.7% males (n=35) and 53.3% females (n=40) with a mean age of 62.6 ± 10.7. 68 (90.6%) participants had either a college, master's, or doctorate degree. 39 (52%) participants had prior experience using generative AI. Most patients preferred interacting with an actual human versus an AI DMA for addressing postoperative concerns about wound care (86.6%, n= 65 vs 13.4%, n=10), infection (90.7%, n=68 vs 9.3%, n=7), pain and medication (84%, n=63 vs 16% n= 12), and activity guidelines (62.7% n=47 vs 37.3%, n=28). 68% (n=51) of patients either agreed or strongly agreed that reminders from a DMA would encourage more engagement in recovery, while 24% (n=18) strongly disagreed or disagreed and 8% (n=6) were neutral.
DISCUSSION AND CONCLUSION:
Despite high educational attainment and prior exposure to generative AI among participants, a strong preference for traditional human communication methods indicates continued patient hesitancy towards expanding AI integration into orthopedic postoperative care. However, an openness exists for recovery engagement reminders from a DMA.