Introduction

Patient safety and quality improvement are fundamental components of healthcare that are gaining increased focus within medical education, especially in surgical specialties like otolaryngology. With rising concerns over preventable medical errors and the demand for high-quality, patient-centered care, it is essential for otolaryngology training programs to prioritize these areas. Education in patient safety not only aims to minimize adverse events but also empowers trainees with the knowledge and skills to implement effective quality improvement practices throughout their careers [1]. This systematic review explores the diverse educational strategies currently employed to enhance patient safety and quality in otolaryngology training. Simulation-based learning, real-time error reporting, and structured quality improvement projects are among the approaches analyzed for their impact on clinical competency and patient outcomes. The review further examines challenges faced in embedding these practices within curricula and the importance of creating a culture that encourages safety and continuous improvement. By identifying effective strategies and existing gaps, this study aims to inform future efforts to advance quality and safety education in otolaryngology, contributing to the development of a safer healthcare environment for patients and providers alike [2].

Methods

This systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to ensure comprehensive and unbiased coverage of available literature. The review aimed to identify and synthesize educational interventions in

projects demonstrated better understanding of process improvement principles and a greater propensity for collaborative problem-solving in clinical settings. Error Reporting Systems: Incorporating error reporting into training promoted a culture of openness and accountability. Studies highlighted increased awareness of potential errors and proactive behaviors in recognizing and mitigating risks. However, barriers to error reporting, such as fear of punitive action, were also noted [6].

O c C Ca C c CC c : Across studies, interventions correlated with measurable improvements in competencies related to patient safety, such as procedural knowledge, error identi cation, and adherence to safety protocols. Programs that integrated simulation and QI training showed the most sustained improvements.

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is review underscores the e ectiveness of simulation-based training, QI project involvement, and error reporting in strengthening patient safety and quality improvement competencies among otolaryngology trainees. Simulation o ers hands-on experience that is crucial for mastering technical procedures safely, while QI projects provide trainees with the analytical tools necessary to address systemic issues in patient care [7]. Error reporting systems, although bene cial, require an organizational culture that encourages open discussion of mistakes without fear of retribution. Despite these advances, challenges remain. Many training programs lack a standardized curriculum for patient safety and QI education, o en relying on ad-hoc or optional initiatives. e review also highlights the need for greater institutional support to address barriers like time constraints, limited resources, and inconsistent assessment methods. Developing a competency-based curriculum with structured feedback, supported by leadership, could enhance the impact of these training initiatives [8].

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Educational strategies such as simulation, quality improvement projects, and error reporting are e ective in promoting patient safety and quality improvement in otolaryngology training. ese approaches foster a safer, more accountable, and proactive clinical environment.

However, to fully realize their potential, otolaryngology programs must work towards integrating these strategies into a standardized curriculum that prioritizes competency-based education and continuous assessment. A culture that supports open communication, mentorship, and leadership in quality and safety is essential to preparing future otolaryngologists for the complexities of modern healthcare. Continued research should focus on evaluating the long-term impact of these interventions on patient outcomes and identifying ways to overcome implementation challenges.

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None

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