

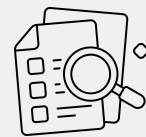


Optimizing PICC Patency: Advanced Nursing Strategies for Effective Catheter Occlusion Reversal



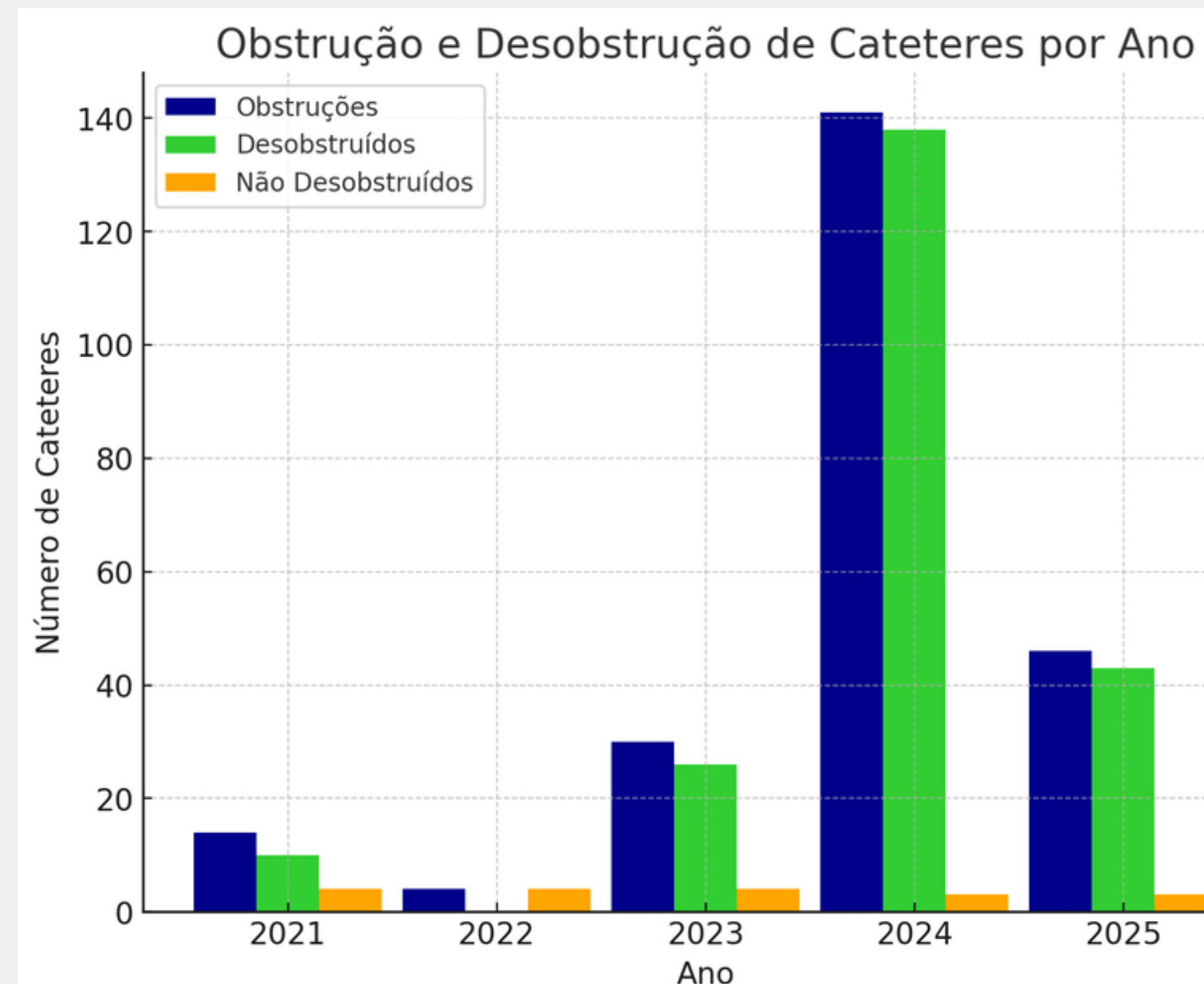
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Introduction: Occlusion of peripherally inserted central catheters (PICC) represents a significant barrier to the delivery of intravenous therapy and can result in premature catheter removal, therapy delays, increased patient morbidity, the need for additional vascular access procedures, and elevated healthcare costs. Underreporting of these events complicates the implementation of targeted preventive and corrective strategies. Advanced nursing interventions have the potential to enhance catheter longevity, reduce complications, and improve patient safety outcomes.

Methods: This descriptive study analyzed institutional records of PICC occlusion interventions performed by a specialized vascular access nursing team between January 2024 and February 2025. Requests for assistance were submitted through the hospital's internal communication system (Hangout). The nursing team employed evidence-based reversal techniques, including manual flush combined with syringe aspiration and turbulent saline flushing, adhering to standardized protocols. Comparative analysis with historical data from 2021–2023 was performed to assess improvements in reporting and intervention outcomes. Additionally, the study details the development of a quality-assessment indicator to monitor PICC obstruction management and support clinical decision-making.



Results: In 2024, a total of 141 PICC occlusions were addressed, achieving a 97.9% success rate (138 successful reversals), with only 2.1% (3 cases) requiring catheter removal. Between 2021 and 2023, only 48 events were documented, suggesting significant underreporting in previous years. Notably, in the first two months of 2025, 46 cases were reported, representing a 34% increase compared to the average monthly rate in 2024. Implementation of standardized nursing interventions contributed to reduced need for new catheter insertions, minimized associated healthcare costs, and enhanced recognition of advanced nursing practice. The introduction of a performance indicator provided institutional feedback for quality improvement and reinforced evidence-based management of catheter occlusions.

Conclusions: The structured and specialized approach of the vascular access nursing team proved highly effective in reversing PICC occlusions, promoting patient safety, and optimizing hospital resources. The establishment of a dedicated performance indicator further strengthens evidence-based practice and quality management in infusion therapy services. This experience underscores the pivotal role of advanced nursing expertise in maintaining PICC patency, supporting clinical efficiency, and improving patient-centered care outcomes.