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abstract

Optimizing Implementation of Comfort Measures in Pediatric Oncology: A Quality Improvement Initiative in Indus Hospital and Health Network Karachi, Pakistan

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Optimizing Implementation of Comfort Measures in Pediatric Oncology: A Quality Improvement Initiative in Indus Hospital and Health Network Karachi, Pakistan

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Introduction: Pediatric oncology patients often experience pain during needle-based procedures, impacting their well-being and treatment. The Indus Hospital & Health Network (IHHN), Karachi, Pakistan, sees over 1,200 new pediatric cancer cases annually. Global Comfort Promise Package, a quality improvement project by St. Jude in collaboration with the Institute for Health Improvement offers a framework to reduce pain during procedures. To reduce the proportion of children with cancer, experiencing pain during needle-based procedures in Pediatric Hematology & Oncology, IHHN, from 82% to 40% between July 2023 and December 2024 through evidence-based comfort measures and quality improvement strategies.

Methodology: “Global Comfort Promise” was implemented in the daycare phlebotomy counter. Using convenience sampling, 116 children were enrolled in the pre-implementation phase to assess baseline pain levels, and 448 were enrolled in the implementation phase. Four strategies were applied: topical anesthetics, comfort positioning, age-appropriate distraction, and praise/reward for

children 24 months or older. Data was collected using SAT and SELF forms and were analyzed with run charts.

Results: A total of 448 needle-based procedures were documented. Patients aged 0-16 years (mean: 7.6), male-to-female ratio, 1.4:1. Acute lymphoblastic leukemia (57.5%) was the most common diagnosis, and the most frequent procedure was intravenous-cannula (IV) Placement (63.6%). Comfort measures (CMs) like distraction, praise, and positioning, combined with topical anesthetics like ethyl chloride and Epinum, reduced pain scores by 62.26% (from 82.2%).

Monthly averages declined from 4.68 in December 2023 to 2.16 in October 2024, when Ethyl Chloride was used for IVs and blood drawing. In May 2024, Epinum was introduced for unsedated intrathecal procedures, contributing to further reduction. By November 2024, combining ethyl chloride with three CM strategies further reduced pain scores, with the monthly average dropping to 1.89, demonstrating the effectiveness of combining strategies in managing pediatric procedural pain.

Conclusion: Integrating CMs with topical anesthetics, especially ethyl chloride, significantly reduced pain, underscoring its effectiveness in enhancing experiences.