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Review

Standardizing Pain Assessment Documentation in Non-Verbal ICU Patients: A Quality Improvement Study

Ms. Angel G Joseph*[1], Mr. Mubarak Hanyan Almasan[2], Ms. Hind Ali-Suwasis[3], Ms. Mriamma Thomas[4], Dr. Abdul Waheed[5]

[1.] *RN, RM, MSN, CPHQ, Director of Nursing Quality &Improvement, Wadi Al-Dawaser General Hospital, KSA*
[2.] *RN, MSN, Director of Nursing, Wadi Al-Dawaser General Hospital, KSA*
[3.] *RN, MSN, Deputy Nursing Director, & HOD –Education, Wadi Al-Dawaser General Hospital, KSA*
[4.] *RN, BSN,Head Nurse, Wadi Al-Dawaser General Hospital, KSA*
[5.] *MBBS, MRCS, CQAP, CHQP Total Quality Management and Patient Safety Director*

*Author for Correspondence: Angel G Joseph
Email: angu318@gmail.com

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Abstract

Background: Pain is recognized as the fifth vital sign and must be assessed routinely, including in non-verbal ICU patients unable to self-report due to intubation, sedation, or neurological conditions. Baseline audits at WDGH revealed inconsistent documentation practices, lack of standard assessment tools, and delayed reassessment following analgesia administration. Such gaps place patients at risk of unrecognized and unmanaged pain, jeopardizing both safety and care quality.

Objectives: To standardize the use of validated behavioral pain assessment tools (CPOT/BPS) and achieve ≥95% compliance in pain documentation among non-verbal ICU patients within three months.

Methods: A quasi-experimental pre–post intervention study was conducted in the ICU from July–September 2025. Interventions included staff training, introduction of standardized checklists, bedside visual aids, revision of hourly rounding forms, and continuous audits with feedback. Data were collected using structured audit tools, and compliance trends were analyzed descriptively.

Results: Pain documentation compliance improved significantly from **70% (June baseline)** to **98% (September post-implementation)**. Nurse competency scores increased from **60% to 100%**, and timely reassessment after analgesia improved from **65% to 96%**. All indicators exceeded project targets.

Conclusion: Standardizing behavioral pain assessments through CPOT/BPS, combined with staff training and ongoing monitoring, resulted in substantial and sustained improvement in documentation compliance. Integration of structured checklists and visual aids supported workflow efficiency and enhanced patient comfort outcomes.

Keywords: non-verbal pain assessment, CPOT, BPS, ICU, nursing documentation, quality improvement, behavioral pain scale.

INTRODUCTION

Pain assessment in non-verbal ICU patients is clinically complex and frequently underperformed. Many ICU patients are unable to self-report pain due to sedation, intubation, or cognitive impairment. In June 2025, documentation audits at WDGH showed inconsistent use of validated tools and variable reassessment practices. These deficiencies resulted in delayed detection of pain, inadequate analgesic management, and deviation from JCIA/CBAHI standards.

Evidence-based tools such as the **Critical Care Pain Observation Tool (CPOT)** and the **Behavioral Pain Scale (BPS)** are recommended for non-verbal patients, yet their use had not been standardized. The need for a uniform documentation approach, staff education, and structured monitoring prompted the initiation of this quality improvement project.

AIM AND OBJECTIVES

Aim:

To standardize the documentation of pain assessment in non-verbal ICU patients using validated tools.

Objectives:

1. Achieve ≥95% documentation compliance using CPOT/BPS by September 2025.
2. Improve nurse knowledge and competency scores to ≥90%.
3. Integrate CPOT/BPS into hourly rounding documentation.
4. Ensure ≥90% timely reassessment of pain after analgesia.
5. Establish monthly audits and feedback loops for sustained improvement.

METHODOLOGY

Study Design:

Quasi-experimental, pre–post intervention quality improvement study conducted over three months.

Study Setting:

Intensive Care Unit (ICU), WDGH.

Study Participants:

All ICU nurses responsible for pain assessment and documentation in non-verbal patients.

Sample Size:

Audits were conducted on all available non-verbal patient charts monthly (June–September 2025). Baseline sample = 13 charts.

Intervention Process:

The intervention process began with a baseline gap analysis, where the June 2025 audit identified only 70% compliance, inconsistent use of pain assessment tools, and frequent omissions in reassessment. To address these gaps, CPOT and BPS were adopted as the standardized behavioral pain assessment tools across the unit. Staff training was conducted through formal teaching sessions and bedside coaching, followed by a post-training competency quiz with a target score of ≥80%. Workflow integration was strengthened by revising the hourly rounding form to include a mandatory field for pain assessment. To support accurate scoring, laminated CPOT/BPS visual aids were placed at every ICU bedside. Continuous improvement was ensured through weekly audits, monthly performance dashboards, and direct coaching provided to staff based on audit findings.

Timeline:

Month	Activity
July 2025	Baseline audit, training launch
August 2025	Checklist implementation, mid-term audit
September 2025	Post implementation audit
October 2025	Project closure & sustainability

Post-Intervention Assessment:

Indicators measured:

- Documentation Compliance
- Nurse Knowledge
- Timely Pain Reassessment

Data Collection Tools:

- CPOT/BPS audit checklist
- Rounding forms
- Competency evaluation quiz
- Monthly KPI dashboard

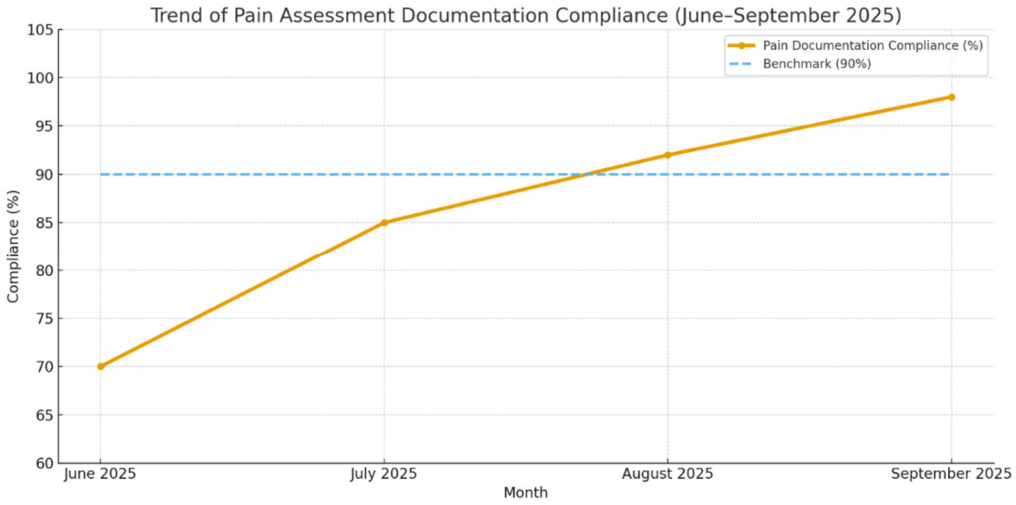
Data Analysis:

Descriptive statistics with pre–post percentage comparisons and trend visualization.

RESULTS

Table 1. Pre–Post Comparison of Key Indicators

Indicator	Baseline (June 2025)	Target	Post (Sept 2025)
Pain Documentation Compliance	70%	≥95%	**98%**
Nurse Knowledge (CPOT/BPS)	60%	≥90%	**100%**
Timely Pain Reassessment	65%	≥90%	**96%**



DISCUSSION

This project demonstrated that standardizing pain assessment in non-verbal ICU patients significantly improves documentation accuracy, timely reassessment, and overall care quality. Literature supports the superiority of structured behavioral tools (CPOT/BPS) in the critical care setting, reducing subjectivity and enhancing pain recognition.

The greatest contributors to improvement were:

1. **Staff Education & Competency Validation:** Training sessions with practical demonstration resulted in nurses gaining confidence and accuracy in tool use.
2. **Workflow Integration:** Embedding CPOT/BPS into hourly rounding ensured routine assessment despite high workload.
3. **Visual Tools:** Bedside laminated charts provided quick reference, reducing scoring errors.
4. **Continuous Feedback:** Regular audits reinforced accountability, a key factor in sustaining change.

The post-intervention compliance of **98%** positions the ICU as a benchmark unit for non-verbal pain assessment. This model can be replicated across PICU, CCU, ER, and other critical care areas.

CONCLUSION

The project successfully standardized pain assessment documentation in non-verbal ICU patients, achieving and exceeding all targets. Behavioral pain assessment tools (CPOT/BPS), when combined with structured documentation, staff education, and continuous monitoring, significantly improve nursing practice and patient outcomes. Ongoing audits, EMR integration, and institutional policy adoption will ensure long-term sustainability.

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