

Annals of Untold Misery; Audit of General and Nursing Care of the Patients Admitted under Critical Care Unit in a Tertiary Care Hospital in Pakistan

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Abstract

Objective: To assess the compliance of medical staff with established protocols for the management of critically ill patients in the ICU, including the assessment of pain, pressure ulcer surveillance, bowel and bladder care, and implementation of feeding protocols, as well as to evaluate the documentation practices of the medical staff.

Study Design: Clinical audit.

Place and Duration of Study: Holy Family Hospital, Rawalpindi from March 15, 2024, to May 15, 2024.

Methodology: A prospective analysis was conducted by reviewing the medical records of 88 patients admitted to the Medical ICU, Holy Family Hospital, Rawalpindi, Pakistan between March 15, 2024, and May 15, 2024. The data collected was then recorded with the help of self-designed proformas. The frequencies of respective variables and practices were computed and compared with the recommended guidelines. The results were expressed in the form of a comparison with the recommended sets of clinical guidelines.

Results: In total, the medical records of 88 patients admitted to the ICU were subjected to investigation. The mean age (years) and duration of admission (days) were 60.4 ± 12.87 years (mean \pm standard deviation) and 4.8 ± 2.67 days, respectively. Pain assessment was done every 6-8 hours, and bed sore assessment and care and documentation were up to the mark as per the guidelines, however, disparities were seen in nutritional assessment and initiation (19.31% data missing), and bowel and bladder care of the patients (56.6 % data missing).

Conclusion: This audit identified areas where the care of patients admitted to the Medical ICU could be improved. The recommendations made in this report should be implemented to ensure that patients receive high-quality care that is consistent with established guidelines.

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1. Introduction

Intensive Care Units (ICUs) are crucial healthcare settings that provide specialized care for critically ill patients. Care of critically ill patients is a dedicated task that demands high human and financial resources. Aside from treating the primary disease, general care of such patients is equally important in ICU settings as this can contribute to increased morbidity and prolonged stay. The delivery of critical care services is a crucial component of any healthcare system, particularly in low-income and middle-income countries where resources are limited and must be utilized judiciously [1].

In Pakistan, the burden of critical illness is significant, with associated high mortality rates. The organization and quality of essential care services can profoundly impact patient outcomes, and it is important to examine the current state of care provided in tertiary care hospitals.

Salient components of general care of the patient include pain assessment and timely management, pressure ulcer surveillance, bowel and bladder care, and nutritional care along with proper documentation of the care provided. Recent studies have highlighted the importance of optimizing these aspects of general care in critical care settings to reduce complications and improve survival rates [2]. Additionally, the nursing care delivered to these patients will be evaluated, as nurses play a pivotal role in ensuring the overall quality of care. Understanding and addressing these factors through evidence-based guidelines is essential for improving patient outcomes and reducing the burden of critical illness.

Clinical audits are an effective tool to evaluate the quality of care provided in ICUs and identify areas for improvement. This clinical audit aims to assess the general and nursing care provided to patients admitted under the critical care unit in a tertiary care hospital in Pakistan. The authors aim to shed light on the gaps and deficiencies that may contribute to the untold misery experienced by patients in these units. By benchmarking the observed practices against established care guidelines, this audit endeavored to lay the groundwork for future improvement of critical care practices in Pakistan.

The findings of this study will contribute to a better understanding of the challenges faced in delivering high-quality critical care in resource-constrained settings and inform strategies to improve patient outcomes, thereby, hoping to initiate positive changes in the way care is delivered in critical care units in Pakistan and beyond.

2. Methodology

The ethical review board of Rawalpindi Medical University, Rawalpindi approved this clinical audit. A prospective analysis was conducted by reviewing the medical records of 88 patients admitted to the Medical ICU, Holy Family Hospital, Rawalpindi, Pakistan between March 15, 2024, and May 15, 2024. This clinician interest audit was conducted uni-disciplinarily by a team of experienced medical professionals specializing in critically ill patient care.

The team reviewed the records and evaluated the care provided to patients based on established standards of care. The data was collected through a combination of methods to ensure a comprehensive assessment of care practices: direct patient observation, clinical surveys, reviewing patient charts and daily patient progress notes at regular intervals throughout the day, and

interviewing nursing staff, relevant healthcare professionals, and family members. The information provided in the interview was then cross-checked with the patient records and direct observations were also made at regular intervals throughout the day. The data collected was then recorded with the help of self-designed proformas, that included criteria based on evidence-based guidelines and protocols.

All mechanically ventilated patients admitted to the critical care facility for more than 24 hours were included in the audit. The patients with intact consciousness levels, who were mobile, who were off the mechanical ventilator within 24 hours, who were only treated with non-invasive ventilation, or who were transferred out or expired within the first 24 hours after the ICU admission were excluded from the study.

After the data was recorded, it was analyzed via SPSS version 25. The frequencies of respective variables and practices were computed and compared with the recommended guidelines. The results were expressed in the form of a comparison with the recommended sets of clinical guidelines. Based on the data analysis, the audit team developed a set of recommendations for improvement in each area assessed. The recommendations were specific, measurable, achievable, relevant, and time-bound (SMART).

An action plan was formulated outlining the steps required to address each recommendation. The audit findings, recommendations, and action plan were presented to the critical care unit's management team, including nursing leadership, physicians, and other relevant stakeholders on 26th August 2024. The presentation highlighted the strengths of the unit's practices as well as the areas identified for improvement. The audit team then discussed the action plan and the plan for re-audit to ensure continuity of quality enhancement.

3. Results

3.1 Pain assessment and management

The audit focused on pain management and assessment practices within the critical care unit. Overall, the unit demonstrated a commendable approach to addressing patient pain. The Critical Care Pain Observation Tool (CPOT) score was used to assess the pain of the patients. It was observed that a pain assessment was done every 7.43 hours (mean), and the pain score was documented on the daily nursing assessment sheet.

Out of the 88 patients, 68.18% (n=60) showed CPOT scores above 3 on 3 or more occasions. For these patients, a treatment modality in the form of pharmacologic therapy was initiated. Non-opioid analgesics were commonly employed (used in 68.33% of patients, n=41), with appropriate use of opioid analgesics as well, where indicated, and the requirement of thoracic epidural analgesics in 5.6 % of cases (n=5).

Non-pharmacological interventions, such as positioning, relaxation techniques, and distraction methods, were not commonly integrated into care plans. Re-assessment for pain and treatment efficacy was done after a mean of 1.6 hours of medication administration.

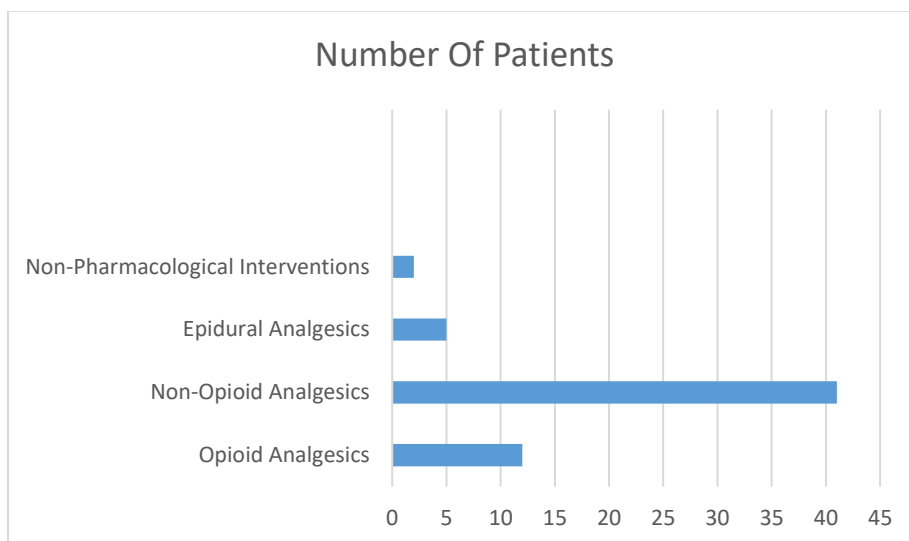


FIG. 1. Interventions Used for Combating Pain.

3.2 Pressure ulcer assessment and management

The audit examined the management of pressure ulcers in the critical care unit. Overall, there was a proactive approach to preventing and managing pressure ulcers. All the patients admitted to critical care underwent a thorough assessment of skin and tissues within 2 hours after admission (mean 2.65 hours) and thereafter periodically depending on the requirement, ranging from 2 to 9 times per patient.

Any new skin breakage, segregation of community-acquired or hospital-acquired bed sores, and development of new infections in bed sores were well documented in the charts. Out of the 88 patients studied, 15 patients (17.04%) already had bed sores at the time of presentation to the ICU (Stage 1 in 09 patients, Stage 2 in 01 patients, Stage 3 in 03 patients, and Stage 4 in 2 patients).

A plan of care was initiated for each patient. Pressure redistribution devices, including specialized mattresses and cushions, were used for 88.63% of the patients (n=78). Additionally, the implementation of turning and repositioning protocols was consistent. Strict compliance was observed, with every 2-4 hourly (mean 3.7 hours) posture care and bed sore dressing. A high-protein diet plan was also initiated for 5 patients (75%) with recurrent bed sores; however, no consistency was observed in this regard.

At the time of discharge from the ICU, 05 new-onset hospital-acquired bed sores were identified (6.84%), out of which 4 were of Stage 1 and one case belonged to Stage 3. Out of the 15 community-acquired bed sores, no deterioration of the wound status was observed in any case, and 4 patients (26.6%) showed significant improvement in their bed sores with clinical downstaging.

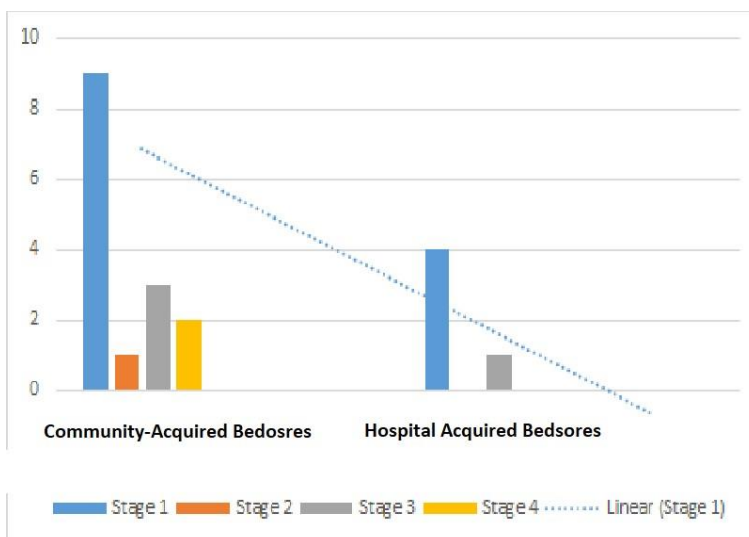


FIG. 2. Visual Representation of Community and Hospital-Acquired Bedsores.

3.3 Bowel and bladder care

Bowel and bladder care routines were individualized based on patient needs. All of the patients had a urinary catheter placed at the time of admission to the ICU except the 24 patients who were already on routine hemodialysis (n=64, 72.72%). Out of these patients, 93.75 % (n=60) had a Foley catheter in place while the rest of the 6.25 % (n=04) had supra-pubic catheterization done. Patients with urinary catheters had appropriate documentation of catheter insertion and maintenance, however, the indication for use was missing in most of the cases (only documented in 43.7% of cases).

Bowel management included daily assessment of bowel function and the implementation of appropriate interventions to prevent constipation or bowel-related complications. Documentation of bowel movements, interventions, and patient responses was generally comprehensive.

3.4 Patient nutrition

Nutritional assessments were conducted upon admission and at 24-36 hours (mean 29.89 hours) thereafter; however inconsistently, taking into account allergies, and medical conditions. Allergies were missing from the data of 19.31% of patients (n=17). Enteral and parenteral nutrition were administered per physician orders.

Feeding tube insertion, care, and feeding were well-documented, however, the audit found that there was a delay in the initiation of enteral feeding in some cases, mean time of feed initiation was 96.8 minutes after admission to the ICU. The patients' calorie requirements were not taken into consideration before initiating a diet plan.

3.5 Documentation of patient care

The stat orders were usually not mentioned in the patient's charts (missing in 55.68 % of charts, n=49). The routine orders, including medications, investigations, and daily progress notes were thoroughly completed. The documentation of nursing care was missing in 09 cases (10.22% charts), which could impact the quality of care provided to patients. The assessment and

monitoring of vital signs were done by established standards of care. The care plans were consistently completed with relevant information, promoting continuity of care among the interdisciplinary team.

4. Discussion

Pain assessment and management in ICU patients are crucial aspects of patient care that can significantly impact patient well-being. Critically ill patients feel moderate to severe pain at rest and during general care and therapeutic procedures. Effective pain management promotes patient comfort, facilitates recovery, and reduces the risk of complications [3]. Untreated pain in ICU patients can lead to several adverse effects, including increased stress responses, prolonged mechanical ventilation, delayed mobilization, impaired wound healing, psychological distress, and decreased patient satisfaction, in the long run, uncontrolled pain can also lead to chronic pain syndromes and post-traumatic stress disorder [4].

However, assessing pain in ICU patients can be challenging due to their critical condition and altered communication abilities. Therefore, it is important to use appropriate pain assessment tools in conjunction with clinical judgment. One of the commonly used methods for pain assessment in mechanically ventilated patients is the Critical Care Pain Observation Tool (CPOT) [5]. CPOT utilizes facial expression, body movement, compliance with the ventilator, and muscle tension to assess the severity of pain. A CPOT score of >2 indicates the threshold for intervention. The Society of Critical Care Medicine (SCCM) published clinical practice guidelines for the management of pain in critically ill adults in 2018 [6]. The guidelines emphasize regular pain assessment, individualized treatment plans, and a multimodal approach to pain management that combines pharmacological and non-pharmacological interventions [7].

Pressure ulcers or bedsores, are a common complication in critically ill patients. Immobility, altered consciousness, poor bowel and bladder care, and medical devices increase the risk of pressure ulcers. Validated pressure ulcer risk assessment tools, such as the Braden Scale, are used to identify patients at higher risk and guide preventive interventions [8]. Routine assessment of patients' skin integrity is crucial to early detection. Regular repositioning, adequate support surfaces, and skin care are then implemented to prevent the development of pressure ulcers [9]. ICU patients often experience gastrointestinal and bladder dysfunctions, such as constipation, diarrhea, paralytic ileus, urinary retention, or catheter-associated urinary tract infections (CAUTIs). Proper bowel and bladder care involves early assessment and monitoring followed by the enactment of bowel protocols, using stool softeners, promoting early mobilization, maintaining fluid and electrolyte balance, ensuring proper hygiene, and implementing infection control measures.

Feeding problems in ICU patients are prevalent and can stem from various factors, including mechanical ventilation, sedation, gastrointestinal dysmotility, and critical illness. These issues cause inadequate nutritional intake leading to malnutrition, impaired immunity, and prolonged hospital stays. To address these problems, standardized feeding protocols based on evidence-based guidelines such as those provided by the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) are commonly employed. Early initiation of enteral nutrition is recommended as the preferred method of feeding, as it helps maintain gut integrity and function, reduces the risk of infections, and improves patient outcomes [10]. Parenteral nutrition is

considered when enteral nutrition is not feasible or sufficient. This is followed by closely monitoring the tolerance and nutrient delivery, thereafter, adjusting the feeding regimen.

Detailed and standardized documentation of care provided to the patient is of paramount importance in healthcare, especially in critical care settings. Accurate and comprehensive documentation serves several critical purposes such as ensuring patient safety by minimizing the risk of errors and omissions; facilitating effective communication among healthcare providers so that important details about the patient's condition and care plan are not lost; promoting continuity of care; supporting legal and regulatory requirements and contributing to research and quality improvement efforts.

Pakistan bears a significant burden of critical illness, with patients admitted to ICUs often presenting with multiple comorbidities and requiring complex interventions. Although the demand for critical care services continues to rise, the existing literature reveals a scarcity of data on the quality of care provided, as no comprehensive clinical audits or studies have been conducted to evaluate adherence to standard protocols. The lack of standardized care practices and inadequate staffing are potential contributors to the perceived suboptimal quality of care. In this context, conducting a comprehensive clinical audit is imperative to assess the current state of general and nursing care practices in selected ICUs, identify potential shortcomings, and propose interventions for optimizing patient health outcomes.

5. Standards

1. Pain assessment and management:

SCCM PADIS Guidelines 2018 [6].

2. Pressure ulcer Care:

The European Pressure Ulcer Advisory Panel (EPUAP), National Pressure Injury Advisory Panel (NPIAP), and Pan Pacific Pressure Injury Alliance (PPPIA) [9].

3. Bowel and Bladder Care:

The American Association of Critical-Care Nurses (AACN) guidelines for bowel care, and the Centers for Disease Control and Prevention (CDC) provide guidelines for preventing CAUTIs in healthcare settings [11].

4. Feeding protocol:

Guidelines for the provision of nutrition support therapy in the adult critically ill patient: The American Society for Parenteral and Enteral Nutrition [12].

5. Documentation:

The Joint Commission. (2021). Record of Care, Treatment, and Services (RC) Chapter [Comprehensive Accreditation Manual for Hospitals] [13].

6. Recommendations for Improvement

1. Pain Management and Assessment:

- Provide additional training to healthcare professionals on assessing and documenting patients' responses to pain interventions.
- Enhance communication between nurses and physicians regarding pain management adjustments and their outcomes.

2. Pressure Ulcer Care:

- Develop a comprehensive pressure ulcer prevention protocol that includes regular skin assessments, turning schedules, and documentation of interventions.
- Educate staff on pressure ulcer staging and documentation to ensure accurate and consistent reporting.
- Establish a system for reporting any new or worsening pressure ulcers promptly.

3. Bowel and Bladder Care:

- Strengthen patient education on bladder and bowel care, including the rationale behind catheter use and plans for its removal.
- Implement a standardized bowel management protocol and document the patient's response to interventions more comprehensively.
- Encourage interdisciplinary collaboration to optimize bowel and bladder care plans.

4. Patient Nutrition:

- Document oral intake accurately, including patient preferences, dietary challenges, and any modifications made.
- Involve a registered dietitian in nutritional care planning for all patients and document their recommendations and involvement.
- Regularly review and update nutrition protocols based on the latest evidence and guidelines.

5. Documentation of Patient Care:

- Implement a standardized nursing diagnosis or problem list within the documentation to enhance care prioritization and communication. Documentation of patient care should be complete, accurate, and timely to ensure that patient care is effectively monitored and managed. Special attention needs to be paid to stat or emergency orders.
- Conduct regular training sessions on proper documentation practices, emphasizing accuracy, completeness, and timeliness.

7. Action Plan

1. The standard guidelines should be displayed in prominent and easily accessible areas in the Medical ICU so that the gap between knowledge and practice can be closed.
2. Develop a pain assessment guideline and provide training sessions for all nursing staff within the next two months.
3. Implement a pain management tracking tool to record interventions and patient responses.

4. Conduct monthly meetings to review pain management protocols and share best practices.
5. Develop and disseminate a pressure ulcer prevention protocol within three months.
6. Establish a weekly reporting system for pressure ulcer occurrences, with immediate feedback and action on new cases.
7. Develop and distribute patient education materials on catheter use and removal within three months.
8. Implement monthly interdisciplinary rounds to discuss challenging cases and optimize bowel and bladder care plans.
9. Develop and distribute patient education materials on catheter use and removal within three months.
10. The staff and the doctors must be given one-to-one and in-group education regarding the implementation of the standard practices and the adverse effects that negligence may produce.
11. Day-to-day supervision is necessary for implementing the changes made and feedback of the team is as important for improving overall practices.
12. Translate guidelines and protocols into the local language for easy access and understanding of the patients, family, and staff.

8. Plan For Reaudit

The re-audit will be conducted six months from now to assess the impact of the implemented recommendations and action plans. The audit team will consist of individuals not directly involved in the initial audit process to ensure objectivity. The focus will be on the specific areas identified for improvement as stated above.

The re-audit process will involve:

- Reviewing updated protocols, guidelines, and educational materials.
- Analyzing documentation records to assess adherence to new practices.
- Conducting interviews with nursing staff, physicians, patients, and family members to gather feedback.
- Comparing current practices and documentation against the previous audit results.

The results of the re-audit will guide further adjustments to practices and processes, ensuring a continuous cycle of improvement in the general care practices of the critical care unit.

9. Conclusion

The critical care unit demonstrated overall strong adherence to general care practices. While several areas for improvement were identified, the unit's commitment to evidence-based care and patient-centered approaches was evident throughout the assessment process. Addressing the highlighted opportunities and recommendations for improvement will contribute to further enhancing the quality of care provided to critically ill patients.

10. Conflict of Interest

None of the contributing authors have any conflicts of interest, including specific financial interests or relationships and affiliations relevant to the subject.

11. Ethical Consideration

No experiments were performed on subjects and the confidentiality of data was maintained. We have followed the protocols of our work center on the publication of patient data. All perspectives were told in detail and informed consent was taken from the patient (where feasible) and the family both verbally and in writing.

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