Letter to Editor
Sciences of Pharmacy

Inappropriate Use of Parenteral Analgesics for Mild Pain and Uncomplicated Fever in the Emergency Department: Findings from an Internal Audit

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[The author informations are in the declarations section. This article is published by ETFLIN in Sciences of Pharmacy, Volume 5, Issue 1, 2026, Page 57-59. DOI 10.58920/etflin000000 (pending update; Crossmark will be active once finalized)]

Received: 30 November 2025
Revised: 23 January 2026
Accepted: 28 January 2026
Published: 12 February 2026

Editor: Mohammad B. Nusair

Keywords: Inappropriate, Analgesics, Mild pain, Numeric Rating Scale (NRS), RCEM guidelines 2021, In the emergency department, Private hospital, Banjarbaru.

Abstract: Inappropriate prescribing of parenteral analgesics in patients with mild pain or uncomplicated fever remains a relevant concern in emergency care. This study reports findings from a retrospective internal audit conducted in the emergency department of a private hospital in Banjarbaru, Indonesia, to evaluate the appropriateness of non-steroidal anti-inflammatory drug (NSAID) use. Medical records of 384 emergency department visits were reviewed, including data on pain intensity using the Numeric Rating Scale (NRS), clinical indications, route of administration, and immediate adverse reactions. Inappropriate use was defined as administration of parenteral NSAIDs in patients with mild pain (NRS 1–3) or uncomplicated fever when oral therapy was feasible, based on Royal College of Emergency Medicine (RCEM) guidelines. The audit identified inappropriate parenteral NSAID use in 7 patients (3.6%). These cases were associated with mild, immediate adverse effects such as nausea and dizziness. Although the proportion was small, the findings indicate potentially avoidable use of injectable analgesics and highlight the need for improved adherence to guideline-based analgesic selection. Reinforcement of routine pain assessment, clinician re-education, and periodic prescribing audits are recommended to support rational and patient-centered analgesic use in emergency settings.

Dear Editor

Inappropriate prescribing of parenteral analgesics in the emergency department (ED) remains a relevant clinical concern, particularly in patients presenting with mild pain or uncomplicated fever (1). Rational analgesic use is essential to minimize avoidable adverse drug reactions and unnecessary invasive interventions (2). This letter reports findings from an internal audit conducted in the ED of a private hospital in Banjarbaru, Indonesia, which identified a small but consistent proportion of patients receiving parenteral analgesics without clear clinical indication.

The audit employed a retrospective descriptive design. Medical records of all patients attending the ED during the audit period were reviewed to evaluate analgesic prescribing practices. Data collected included patient age, presenting complaint, pain intensity using the Numeric Rating Scale (NRS), type and route of analgesic administered, and documented immediate adverse effects. Inappropriate use was defined as administration of parenteral analgesics in patients with mild pain (NRS 1-3) or uncomplicated fever when oral therapy was feasible (3).

Among the total audited ED visits, approximately 3.6% of patients met the criteria for inappropriate parenteral analgesic use. Three representative cases are summarized to illustrate the pattern observed. A quantitative summary of patient characteristics, clinical indications, pain severity, and NSAID prescribing patterns is presented in **Table 1**.

Case 1 involved a 17-year-old male presenting with a one-day history of fever and mild headache (NRS 2). Despite the low pain intensity and absence of contraindications to oral medication, intravenous metamizole 500 mg was administered. The patient subsequently developed nausea within two h of treatment.

Case 2 concerned a 24-year-old male who presented with a one-day history of fever without significant pain. Injectable ketorolac 30 mg was administered. Following treatment, the patient reported dizziness and abdominal discomfort.

Case 3 was a 28-year-old female presenting with mild abdominal pain (NRS 1-3). She received injectable ketorolac and later complained of dizziness, without evidence of clinical deterioration or need for parenteral therapy.

These cases exemplify the broader audit findings and suggest a recurring prescribing pattern rather than isolated clinical decisions.

Current guidance from the Royal College of Emergency Medicine (RCEM) recommends oral paracetamol or ibuprofen as first-line therapy for mild pain (NRS 1-3) and uncomplicated fever (4). Parenteral non-steroidal anti-

Table 1. Quantitative summary of NSAID prescribing audit in the emergency department (n = 384).

Audit Variable	Result
Total patients receiving NSAIDs	384 patients
Sex distribution	Male: 201 (53.34%) Female: 183 (47.66%)
Age group (most frequent)	17–25 years: 139 patients (36.2%)
Pain severity (NRS)	Mild pain (NRS 1–3): 178 patients (46.35%) Moderate pain (NRS 4–6): 206 patients (53.65%)
Most common clinical indication	Fever, unspecified: 180 patients (46.88%)
NSAID types most frequently prescribed	Metamizole sodium (injection): 112 patients (29.17%) Ketorolac (injection): 80 patients (20.83%) Ibuprofen (oral): 123 patients (32.03%) Mefenamic acid (oral): 58 patients (15.10%) Natrium diclofenac (oral): 11 patients (2.87%)
Route of administration	Parenteral: 193 patients (50.3%) Oral: 191 patients (49.7%)
Inappropriate parenteral NSAID use	7 patients (3.6%)
Pattern of inappropriate use	Parenteral NSAIDs administered in patients with mild pain (NRS 1–3)

inflammatory drugs, such as ketorolac, are indicated primarily for moderate to severe pain or when oral administration is not possible. Similar principles are supported by international pain management literature, which emphasizes stepwise analgesic escalation and route appropriateness to reduce adverse drug events (5).

In this audit, all representative cases were associated with immediate, non-severe adverse effects following parenteral analgesic administration. While the incidence rate of 3.6% appears numerically small, it highlights potentially avoidable patient discomfort and unnecessary exposure to injectable medications. Importantly, the findings do not allow conclusions regarding systemic failure, significant clinical harm, or economic burden, but they do underscore the need for improved adherence to basic analgesic prescribing principles.

Based on these observations, several practical measures may be considered, including reinforcement of routine pain assessment prior to analgesic selection, targeted re-education of ED clinicians on guideline-based analgesic use, and periodic internal audits to monitor prescribing practices.

In conclusion, this internal audit identifies limited but consistent inappropriate use of parenteral analgesics in patients with mild pain or uncomplicated fever in the ED. Although the clinical impact observed was minor, the findings provide contextual insight into everyday prescribing behavior and may support ongoing efforts to promote rational, patient-centered analgesic use in emergency care settings.

Declarations

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Acknowledgment

We express our appreciation and gratitude to the Institute for Research and Community Service (LPPM) of Sultan Agung Islamic University Semarang for funding this research as a form of support in improving the quality of lecturers in the three pillars of higher education, as well as a form of educational institution service to the community to improve health.

Conflict of Interest

The authors declare no conflicting interest.

Data Availability

The unpublished data is available upon request to the corresponding author.

Ethics Statement

Not applicable

Funding Information

This work was supported by the Institute for Research and Community Service (LPPM), Sultan Agung Islamic University, Semarang, under Grant Number 54/B.1/SA-LPPM/VIII/2025.

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Additional Information

How to Cite

Rissa Maharani Dewi, Abdur Rosyid, Willi Wahyu Timur, Nindita Sari Nastiti, Dwi Monika Ningrum, Dimas Widiyanto. Inappropriate Use of Parenteral Analgesics for Mild Pain and Uncomplicated Fever in the Emergency Department: Findings from an Internal Audit. *Sciences of Pharmacy*. 2026;5(1):57-59

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