

REVIEWER'S REPORT

Manuscript No.: IJAR-50849

Date: 03-4-25

Title: The duration of antibiotic therapy in intensive care (Prospective study)

Recommendation:

Accept after minor revision:

Optimizing Antibiotic Therapy Duration in the Intensive Care Unit: A Prospective Observational Study on Clinical Outcomes and Antimicrobial Resistance Patterns

	Excel.	Good	Fair	Poor
Rating				
Originality		✓		
Techn. Quality			✓	
Clarity		✓		
Significance		✓		

Reviewer Name: Dr. Payal Adwani (PT)

Date: 03-4-25

Reviewer's Comment for Publication.

- This prospective descriptive study evaluates antibiotic therapy duration in 226 ICU patients with infections, emphasizing resistance patterns and clinical outcomes.
- While it addresses a critical issue in antimicrobial stewardship, significant methodological and statistical limitations hinder its current suitability for publication.
- Revisions are needed to enhance rigor, clarity, and generalizability.

Detailed Reviewer's Report

Strengths

- **Relevance:** Focuses on antibiotic stewardship in ICUs, a high-priority area for reducing resistance.
- **Data Richness:** Detailed resistance profiles (e.g., 89% carbapenem resistance in *Acinetobacter baumannii*) highlight local epidemiology.
- **Biomarker Integration:** Mentions procalcitonin (PCT) as a tool for guiding therapy discontinuation.

Major Concerns

1. Methodological Limitations

- **Study Design:** Descriptive without a control/comparator group. Causal inferences about treatment duration and outcomes cannot be made.
- **Sample Size Justification:** No power calculation provided. Results may lack generalizability.
- **Ethical Oversight:** Missing IRB approval and patient consent statements.

2. Statistical and Data Issues

- **Analysis Depth:** Reliance on Excel for percentages is insufficient. Advanced statistics (e.g., regression to adjust for confounders like comorbidities) are needed.



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- Data Inconsistencies: Table 1 (Acinetobacter resistance): Percentages for "Not Tested" overlap ambiguously (e.g., Doxycycline: 60% "Not Tested" vs. 19% susceptible).
- Mortality Rates: Discrepancy between overall mortality (31%) and infection-specific mortality (e.g., 47% for respiratory infections). Clarify denominators.
- Missing Figures: FIGURE 1 (antibiotic distribution) and FIGURE 2 (pathogen distribution) are referenced but not included.

3. Clarity and Presentation

- Language Errors: "Supportative lesions" (Page 2) → Likely "Supportive lesions." French terms in figures (e.g., "Répartition des familles d'antibiotiques utilisées") must be translated.
- Table Formatting: Table 1 headers are unclear (e.g., "Susceptible (high dose)" lacks context).

4. Discussion Gaps

- PCT Implementation: Despite mentioning PCT, the study does not detail how it guided therapy discontinuation (e.g., cutoff values, adherence rates).
- Resistance Context: High resistance rates (e.g., 100% Acinetobacter resistance to piperacillin-tazobactam) should be compared to regional/national data.
- Generalizability: Single-center design and local resistance patterns limit broader applicability.

Minor Revisions

- Methods: Clarify exclusion criteria (e.g., why <72-hour antibiotic use was excluded).
- Results: Differentiate between community-acquired vs. hospital-acquired infections. Specify mortality calculation methods (e.g., infection-attributable vs. all-cause).
- Discussion: Address limitations (e.g., lack of de-escalation protocols, potential survivor bias). Compare findings to recent RCTs on short-course therapy (e.g., Kumar et al., 2020).
- Statistical Corrections: Confidence Intervals: Add 95% CIs for mortality rates and resistance percentages. Subgroup Analysis: Stratify outcomes by infection type, comorbidity burden, or resistance profiles. Chi-Square/Fisher's Tests: Compare outcomes between mono- vs. combination therapy.

Recommendation

- Ethical documentation.
- Advanced statistical analysis.
- Clarification of mortality/resistance data.
- Inclusion of missing figures and translation of non-English content.