

REVIEWER'S REPORT

Manuscript No.:JNHM- 161

Title: Antibiotic resistance associated with *bap* and *ompA* genes in *Acinetobacter baumannii* isolated from respiratory infections

Recommendation:

Accept after minor revision

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

Reviewer's ID: JPR-Bilqees Hamza

Detailed Reviewer's Report

The manuscript assesses the prevalence of biofilm-associated genes (*bap* and *ompA*) and their correlation with multidrug resistance (MDR) phenotypes among 90 clinical isolates of *Acinetobacter baumannii*. The study was conducted at Hilla Teaching Hospital in Babylon Province, Iraq, over a four-month period (December 2025 – March 2026) using respiratory specimens from patients suspected of lower respiratory tract infections. Conventional microbiological methods and the API 20NE system were utilized for isolate identification, while antimicrobial susceptibility was determined via Kirby-Bauer disk diffusion according to CLSI guidelines. Polymerase Chain Reaction (PCR) was subsequently deployed to detect *bap* and *ompA* genes in confirmed MDR strains.

Key findings reveal alarmingly high rates of resistance to ciprofloxacin (85.6%), imipenem (82.2%), meropenem (80.0%), trimethoprim-sulfamethoxazole (75.6%), and gentamicin (66.7%), whereas amikacin retained the highest susceptibility (46.7% susceptible, 53.3% resistant). Molecular detection showed *ompA* in 91.9% and *bap* in 71.6% of MDR isolates. Statistical evaluation demonstrated that *bap* expression significantly correlates with resistance across all evaluated antimicrobial classes, while *ompA* showed significant associations with carbapenems, ciprofloxacin, gentamicin, and trimethoprim-sulfamethoxazole.

The study addresses a critical clinical challenge in hospital-acquired respiratory infections and highlights the coregulation of virulence factors and antimicrobial resistance. However, several methodological

REVIEWER'S REPORT

inconsistencies, reporting discrepancies between tables and text, formatting errors, and editorial oversights require substantial revision prior to potential publication.

Detailed Recommendations for Improvement

1. Data Integrity and Discrepancy Reconciliation

- Discrepancies in Table 4 vs. Text:** In Table 4 (lines 252–253), antibiotics such as *Ceftazidime* and *Levofloxacin* are listed with Chi-square statistics, while key tested drugs like *Trimethoprim-Sulfamethoxazole* are omitted. Conversely, the main text (lines 249–251) states that *ompA* was correlated with trimethoprim-sulfamethoxazole resistance. The author(s) must align Table 4 strictly with the six antimicrobial agents specified in the Methods (lines 165–171).
- Discrepancy in Denominator for Gene Prevalence:** Lines 241–243 state that *ompA* was found in 68 (91.9%) isolates and *bap* in 53 (71.6%) isolates. However, the text does not clarify whether the total number of MDR isolates was 74 (which matches $68/74 = 91.89\%$ and $53/74 = 71.62\%$) or the total 90 isolates. The methodology must explicitly define the exact count of MDR isolates derived from the 90 clinical specimens.

2. Methodological & Technical Clarifications

- PCR Master Mix Formulation:** Line 193 specifies $1.25\ \mu\text{L}$ of $2\times$ GoTaq Green Master Mix in a total reaction volume of $25\ \mu\text{L}$. Standard $2\times$ master mix formulations require $12.5\ \mu\text{L}$ to achieve a $1\times$ working concentration. The authors must correct this typographical error in the reaction formulation.
- Inconsistent Disk Diffusion Listing:** Line 170 lists "Methicillin ($5\ \mu\text{g}$)" before "Trimethoprim-Sulfamethoxazole". Methicillin is not indicated for Gram-negative pathogens like *A. baumannii*. This stray entry should be removed from the methods section.
- Thermal Cycling Conditions:** Line 204 states "Annealing at 30 seconds, $T(3\times\text{the length of primer})$ ". Exact annealing temperatures (58°C for *bap* and 56°C for *ompA*, as noted in Table 1) should be explicitly detailed in the text instead of a placeholder formula.

3. Manuscript Formatting & Editorial Refinements

- Textual Artifacts & Stray Headings:** The draft contains multiple structural artifacts, such as stray text like "FERREt" (line 124), duplicated lines ("Methods:" duplicated on lines 14–15, "RE" on line 224), and overlapping running headers ("JNHM", "ER REVIEW IN JNHM", "UNDER PY").
- Reference Citation Duplicate:** References 6 and 10 in the bibliography are identical (Mendes et al., 2023). Duplicate citations should be consolidated, and inline callouts updated accordingly.

Jana Nexus: Journal of Health and Medicine

Publisher's Name: Jana Publication and Research LLP

<https://www.jananexushm.com>

REVIEWER'S REPORT

Final Recommendation

Decision: Minor Revisions

Note to the Editor

The manuscript "*Antibiotic resistance associated with *bap* and *ompA* genes in *Acinetobacter baumannii* isolated from respiratory infections*" presents valuable regional surveillance data on carbapenem-resistant and MDR *A. baumannii* in Iraq, underscoring the vital link between biofilm virulence genes and antimicrobial tolerance.

Despite its merit, the current version exhibits notable technical errors in the PCR protocols, conflicting data between Table 4 and the primary text, incomplete sample size definitions for MDR isolates, and duplicate entries in the reference section. revisions are required to resolve these data inconsistencies and methodological descriptions before the manuscript can meet the peer-reviewed standards of the journal.

.