

# Review of: "Meropenem Usage Assessment amid the Antibiotic Resistance Crisis: A Comprehensive Analysis in a Tertiary Care Hospital in Pakistan"

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Potential competing interests: No potential competing interests to declare.

Carbapenems are the last resort in the armamentarium against Gram-negative and multidrug-resistant organisms (MDROs), especially in developing countries like Pakistan. Drug utilization data for these agents is of great importance in designing Antibiotic Stewardship Programs. The authors' work is commendable in this regard.

## 1. Abstract Section

1. Background: This study aims to comprehensively assess meropenem prescribing patterns,----
2. Methods: Add the start and end dates of the study.
3. Results: What was the age and gender distribution of the participants? What were the common diagnoses necessitating meropenem prescription? What was the mean hospital stay and mean duration of meropenem use? "Despite meticulous monitoring, deficiencies persisted in patient education and antibiotic stewardship." Such statements must be supported by data; otherwise, they can be removed.
4. Conclusion: Must be aligned with the results, like the high rate of empirical meropenem prescription that was not aligned with culture reports.

## 2. Introduction

1. In the first paragraph: Should highlight the global, regional, or local burden of antimicrobial resistance. The number of patients suffering from MDROs, related mortality, hospital stay, and cost of treatment.
2. Paragraphs 2 and 3: Look quite redundant and non-scientific. How is meropenem resistance developing? How is it related to empirical versus definitive (culture-based) prescription practices? What data is already available on meropenem utilization across the globe?
3. Last paragraph: \*This endeavour contributes to a more comprehensive understanding of prescription practices, -----  
.\* An overarching statement about the judgment of one's own work.

## 3. Methods

1. Study design and population: Need not repeat the study objectives. Mention the exact study dates (August - February = 7 months).
2. Inclusion/Exclusion criteria: What about surgical units? Isn't there any use of meropenem?

3. Study sample: Add the assumptions (confidence level, absolute precision, anticipated proportion of outcome) for reaching the sample size of 100. How many medical units are there in the institute? What is the patient turnaround? Is it currently admitted patients or previously admitted patients now coming for follow-up?
4. Variables and operational definition: What was the criteria for prescription appropriateness? References 5 and 6 are incomplete and do not provide the details.

#### 4. Statistical Analysis

1. How was the normality of numerical data determined?
2. How are the qualitative and quantitative data dealt with in this study?
3. Were there any comparisons made? If any, what statistical tests were used for these comparisons? What significance level was set?

#### 5. Results

1. Rephrase "The average age of the patients, represented as the mean  $\pm$  standard deviation, was  $37.84 \pm 20.34$  years" as "The mean age of the patients was  $37.84 \pm 20.34$  years". The standard deviation is too large. Was normality checked? Median with IQR will be a better representation.
2. The indications given in the second paragraph account for 65% of cases. What were the remaining cases? Could you draw a table for the admission diagnoses?
3. Fig. 1: Add a standalone title. It also needs clarity: What is the Y-axis indicating? The number of patients or the dose of meropenem?
4. The results section must not give interpretations/comments of the authors. "This disjunction emphasizes a potential discordance between empirical prescription practices and culture results." This statement could be part of the discussion.
5. Could you provide antimicrobial days/100 admission days? As required by the WHO Core Drug Use Module.
6. Figs. 2 and 3: Use only one response (preferably Yes). Also, add the X-axis title.

#### 6. Discussion

1. The 1st paragraph is redundant and repetitive. Consider removing it.
2. Strengths and limitations paragraphs should be added.

#### 7. Conclusion

1. Conclude with major findings followed by recommendations.