

# Prevalence of Common Nosocomial Infections and Evaluation of Antibiotic Resistance Patterns in Patients with Secondary Infections in Hamadan, Iran

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## Introduction

The prevalence of nosocomial infections in patients hospitalized to three hospitals of Shahid Beheshti, Farshchian, and Be' saat in Hamadan was investigated for 2 years (2020 to 2022).

## Materials and Methods

The samples were cultured and characterized using morphological and diagnostic biochemical tests. The analysis of the frequency of the isolates and their antibiotic resistance were calculated using SPSS (version 22) at a significant level of P-value < 0.05.

## Results

Bacterial isolates were collected from the 1194 clinical specimens, of which 1394 were isolated from urine, 16 from CSF, and 588 from tracheal aspiration. Also, 654 (54.8%) isolates were obtained from females and 540 (45.2%) from males with the age range 15–73 years ( $P > 0.05$ ). The results showed that 22.1% were gram-positive and 77.9% were gramnegative. In our study, the frequency of *Klebsiella pneumoniae* bacteria was higher than in some studies, and this indicates the genetic changes and resistance of this bacterium to many antibiotics.

## Conclusion

To prevent further spread of resistance, increase the effectiveness of antibiotics and prevent multidrug resistance, it is essential to establish a precise schedule for the use of antibiotics and assess the resistance pattern periodically in each region based on the antibiotic resistance pattern.

**Keywords:** nosocomial infections, UTI, trachea, CSF, antimicrobial resistance pattern