



## Background and importance

UTIs (Urinary Tract Infections) are common bacterial infections with non-negligible hospitalization rate. The diagnosis of UTIs remains a challenge for prescribers and common source for misdiagnosis.

## Aim and objectives

This retrospective observational study aimed to evaluate whether recorded diagnosis by clinicians and empirical antibiotic therapy met the EAU (European Association of Urology) guideline in patients hospitalized with UTI.



## Materials and methods

- The study was conducted at an internal medicine unit of a tertiary care medical center in Hungary.
- We included all adult patients who were prescribed systemic antibiotic with UTI labelled diagnosis.
- Diagnosis was assessed based on the clinical presentation, physical examination, and laboratory (including microbiological) results. Misdiagnosis was defined when clinical presentation or clinical signs and symptoms of UTI were not present.
- Analyses for empirical antibiotic therapy were performed only for confirmed UTIs. Empirical treatment was considered guideline adherent when complying with the recommendations.
- Fisher's exact test and t-test were applied to compare categorical and continuous variables between groups. Significant p values were defined as below 0.05.

## Results

Out of the 185 patients who received antibiotic for UTI labelled diagnoses, in fact 42% (n=77) did not meet EAU diagnosis criteria, of which 25% (n=46) were misdiagnosis, 14% (n=26) were asymptomatic bacteriuria, and 3% (n=5) unconfirmed urosepsis (Figure 1). The initial empirical therapies for UTI showed a relatively low rate (45.4%, 49/108) of guideline adherence regarding to agent selection. The most common guideline non-adherent therapies were combinations with metronidazole (16.7%, 18/108). Although dosage appropriateness assessments shown a moderate guideline adherence rate (36.1%, 39/108), underdosing due to the higher body weight occurred (9.3%, 10/108). Overall (agent, route of administration, dose, duration) guideline adherence was found to be substantially low (10.2%, 11/108) (Figure 2).

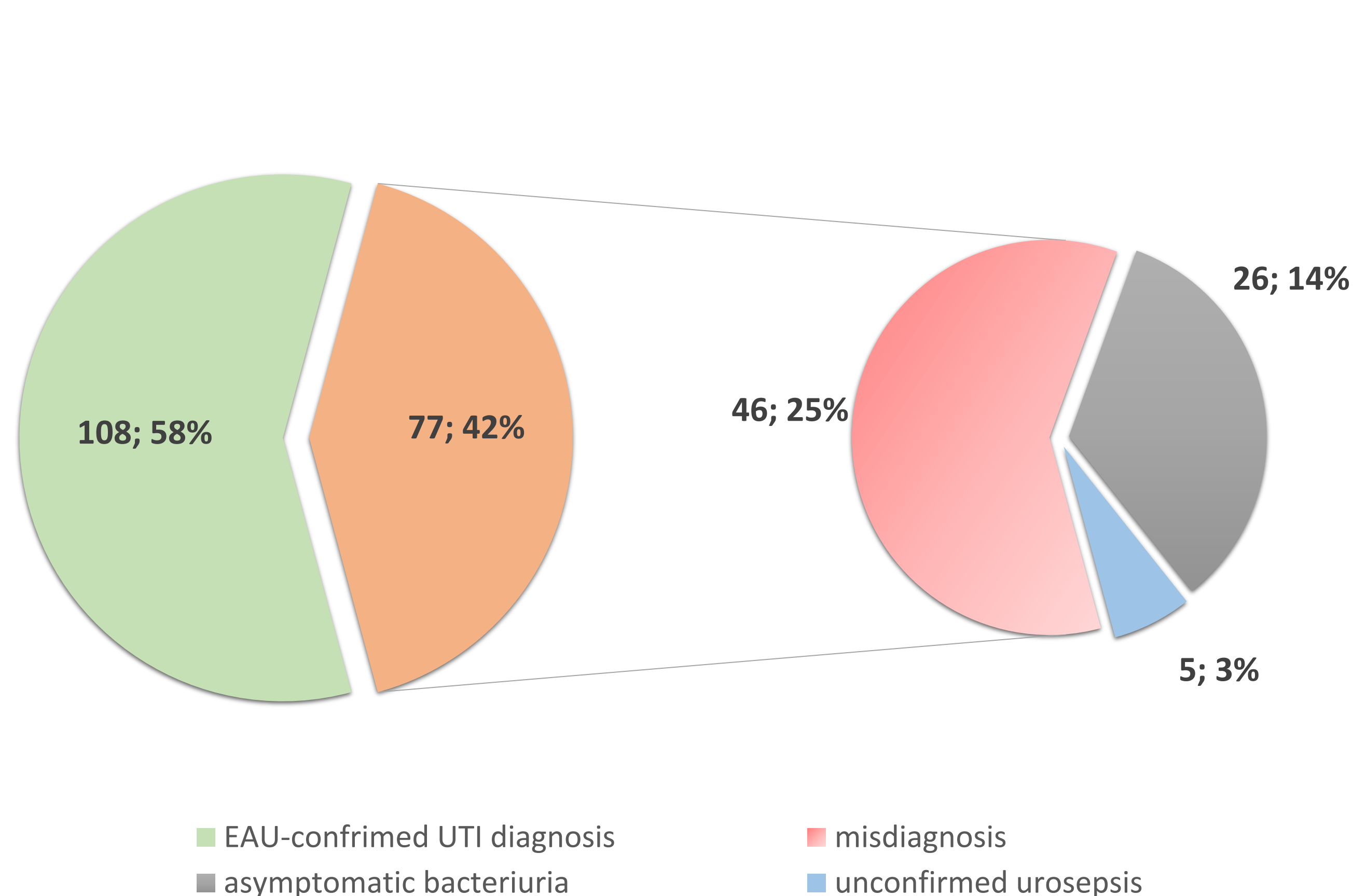


Figure 1: UTI diagnoses based on EAU criteria (n=185).

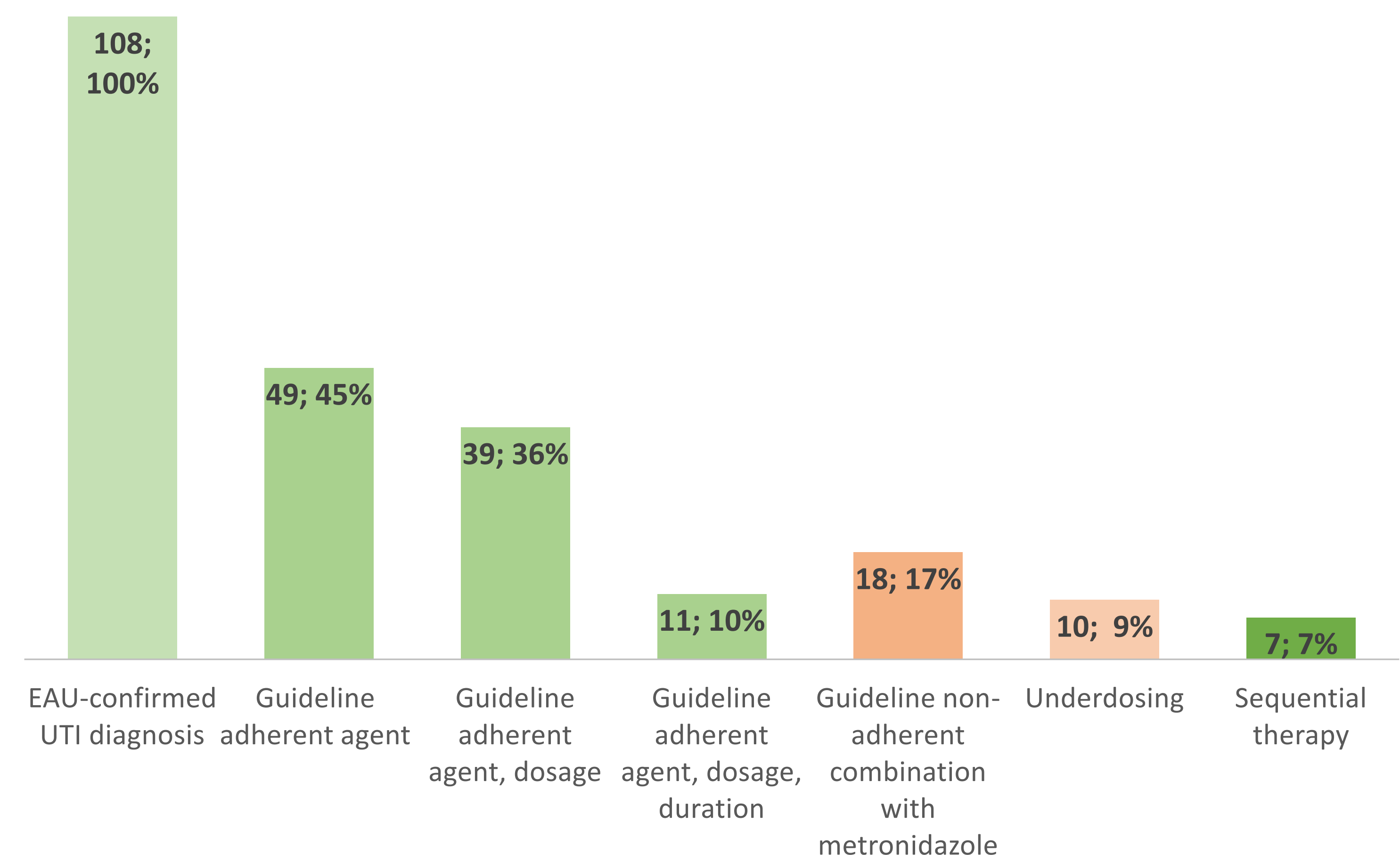


Figure 2: Characteristics of antibiotic therapies for EAU-confirmed UTIs.

## Conclusions

We found a relatively high rate of non-confirmed UTIs.  
 Written protocols on the ward may be crucial in reducing misdiagnosis and in optimizing antibiotic use.

### Reference

Fesus A, Matuz M, Papfalvi E, et al. (2023) Evaluation of the Diagnosis and Antibiotic Prescription Pattern in Patients Hospitalized with Urinary Tract Infections: Single-Center Study from a University-Affiliated Hospital. *Antibiotics (Basel)* 12(12).

### Resources

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