

# What doesn't kill bacteria - makes them resistant: antibiotic susceptibility of planktonic and biofilm forms clinical isolates extracted from children with urinary tract infection



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## Introduction

The aim of work is determine the antibiotic resistance of planktonic and biofilm (BF) forms clinical isolates from children with different types of urinary tract infection.

## Material and methods

We tested 60 clinical isolates from 85 childrens with different diagnosis: first group (infection of lower urinary tract – 23 strains ), second and third (acute – 19; and chronic pyelonephritis - 18). BF was determined in bacteria that were isolated in children with UTI, using 96-well plate assay. BF parameters estimated by optical density (OD) of the samples (divided into: no BF < 0,4 OD; small < 0,459 OD; medium < 0,519 OD; large > 0,519 OD). Antibiotic susceptibility was establishment by serial dilutions method. Analysis of the results was performed using the SPSS program version 12. The results were considered statistically significant at  $p < 0.05$ .

## Conclusion

- ✓ The clinical isolates have different ability of biofilm formation depending on different types of UTI.
- ✓ After biofilm formation the number of strains resistant to antibiotics increased with statistical credibility (except furagin).
- ✓ Observed some features of resistance depending on the group of antibiotics in different types UTI.

## Acknowledgmetns

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## Results

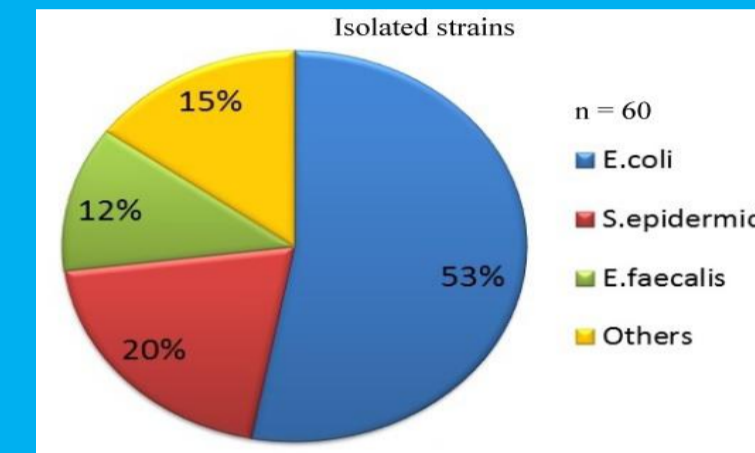


Table 1. Diversity of pathogens

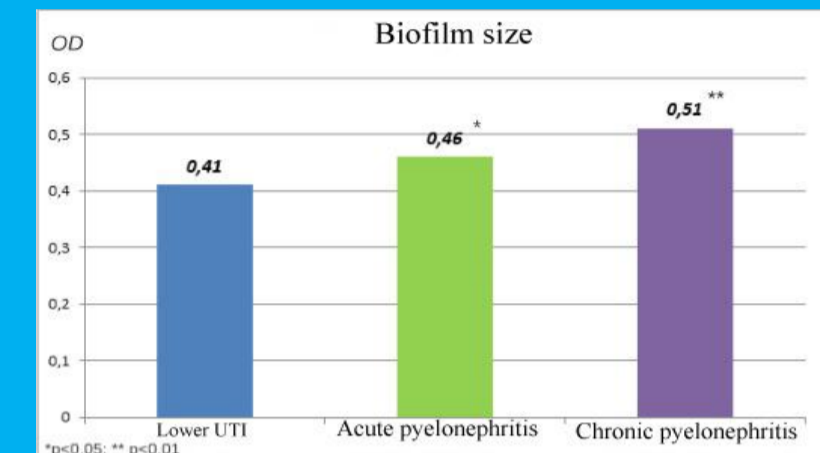


Table 2. Biofilm size according to diagnosis

## Antibiotic susceptibility pattern to planktonic and biofilm forms of bacteria

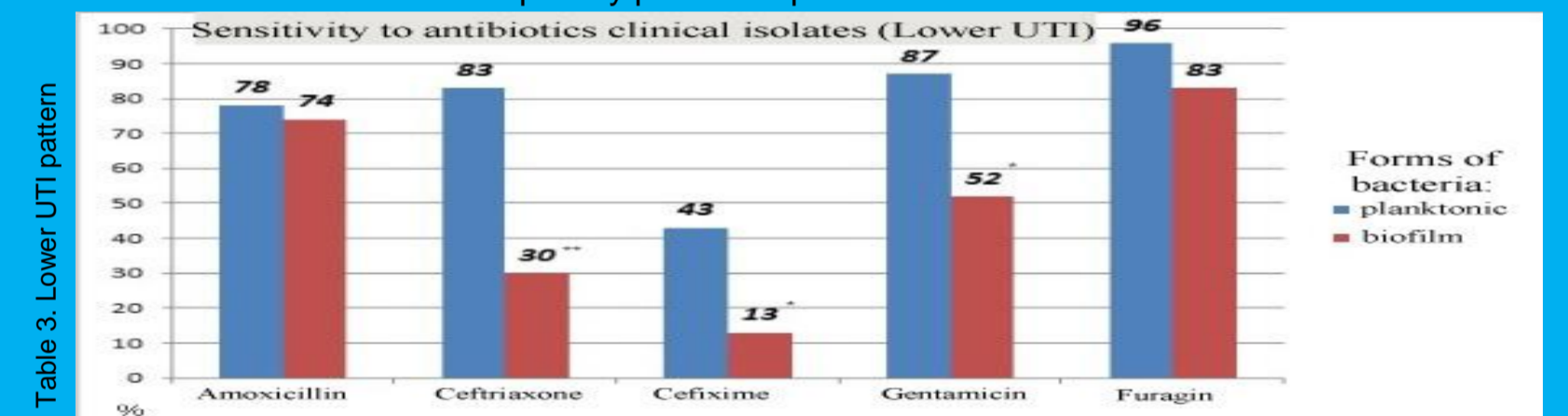


Table 3. Lower UTI pattern

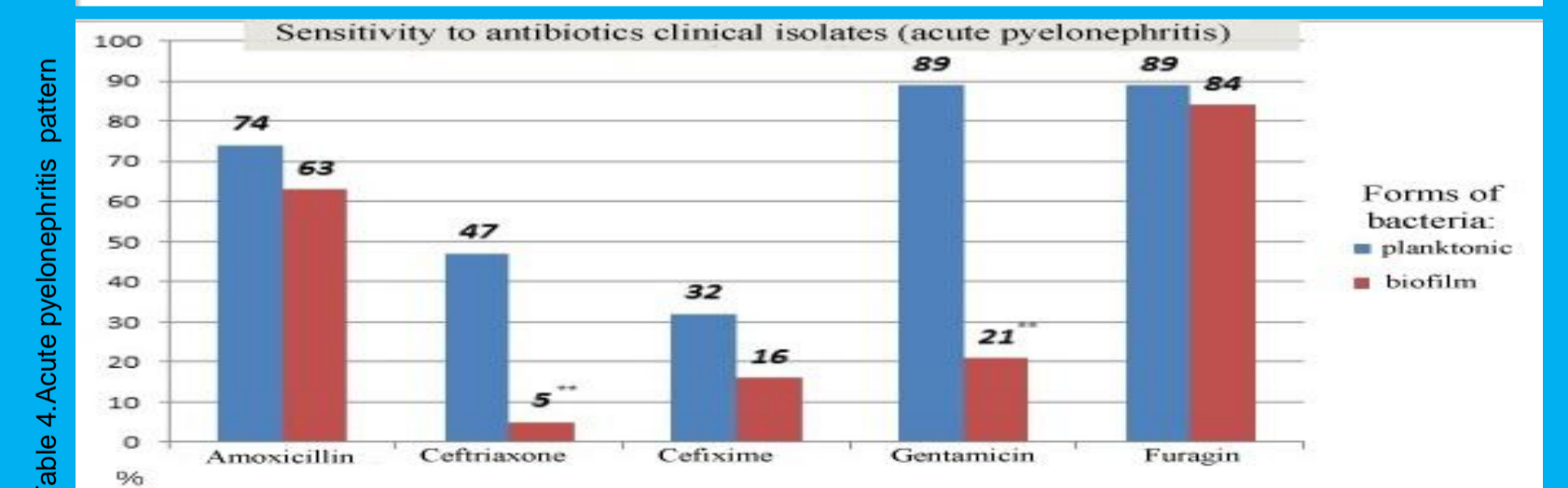


Table 4. Acute pyelonephritis pattern

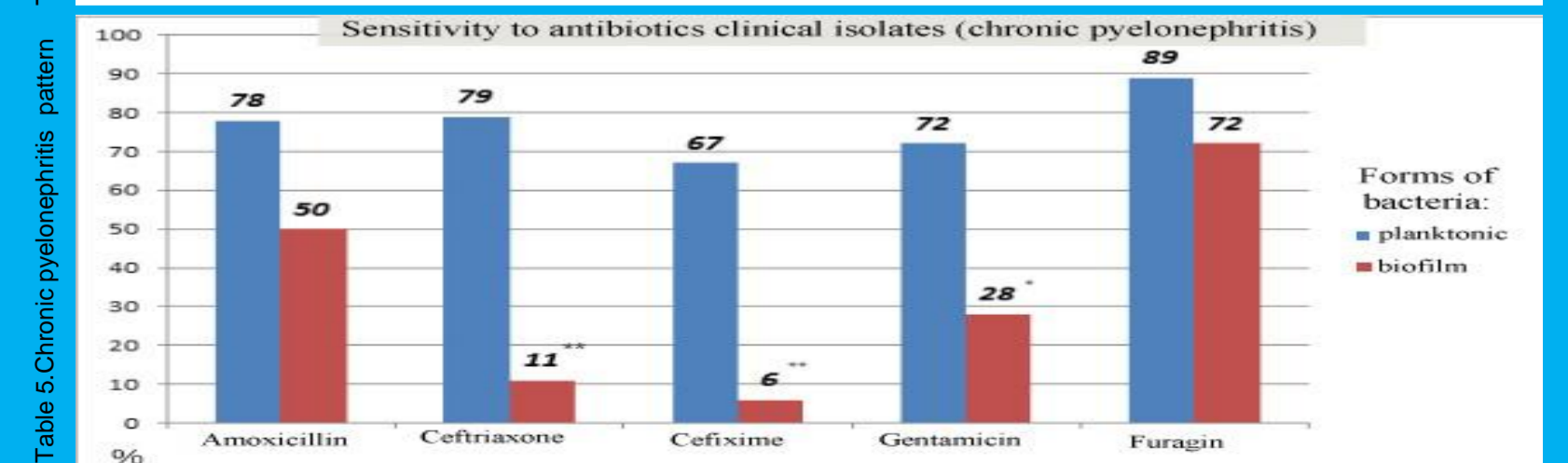


Table 5. Chronic pyelonephritis pattern