

## ORIGINAL RESEARCHES

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### Antimicrobial susceptibility and biofilm production among *Staphylococcus* and *Candida* species

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#### Abstract

**Background:** Biofilms are surface-attached groups of microbial cells that are embedded in an extracellular matrix. One of the main features of biofilms is their resistance to antimicrobial drugs; therefore, the biofilm-based infections are extremely difficult to treat. This study aimed to investigate the biofilm-forming capacity of *Staphylococcus* spp. and *Candida* spp. strains isolated from collected clinical samples, as well as to assess their antibiotic susceptibility.

**Material and methods:** The study was conducted on 134 strains of *Staphylococcus* spp. and 147 strains of *Candida* spp. isolated from various clinical specimens. Both biofilm formation and antibiotic susceptibility of the isolated strains were studied using contemporary standardized microbiological methods.

**Results:** The results of the study showed a high biofilm-forming capacity among the clinical strains of *Staphylococcus* spp. and *Candida* spp., as well as a higher level of antibiotic resistance in biofilm-producing strains compared to biofilm non-producing ones.

**Conclusions:** The high rates of antibiotic resistance and biofilm-forming capacity of strains represent a major public health challenge. The study showed a strong correlation between biofilm formation and antimicrobial resistance patterns.

**Key words:** *Staphylococcus* spp., *Candida* spp., biofilm formation, antimicrobial resistance.

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