

## عنوان مقاله:

Inhibitory Activity of Oliveria decumbens Essential Oil on Staphylococcus aureus Biofilm and Planktonic Cells

## محل انتشار:

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## خلاصه مقاله:

Background: Staphylococcus aureus is a pathogenic bacterium that forms biofilms on biotic and abiotic surfaces. Biofilm formation is important for researchers because it increases the risk of food contamination in the food industry, increases the pathogenicity of bacteria, and damages the equipment. The main purpose of this study was to find out the antimicrobial and antibiofilm properties of Oliveria decumbens essential oil (Od-EO) against Staphylococcus aureus. Methods: In this study, the antibacterial and anti-biofilm properties of Od-EO were tested against four strong biofilm producers. S. aureus isolates were obtained from food and humans. The antibacterial properties of Od-EO on planktonic S. aureus were investigated using the disk diffusion method; further, the minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) were determined. The microtiter plate (MTP) method and slime production evaluation were used to assess the inhibitory effect of Od-EO on S. aureus biofilm formation. Results: Od-EO indicated strong antimicrobial activity against planktonic S. aureus. After performing tests related to the anti-biofilm activity of Od-EO, it was found that Od-EO significantly reduced slime production and thus inhibited biofilm formation. Conclusions: Od-EO and its components can be used as a new anti-biofilm agent in medical, dental, and food industry equipment.

## کلمات کلیدی:

Biofilm, Essential oil, Oliveria decumbens, Staphylococcus aureus

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