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Investigating the effect of *Oliveria decumbens* plant essential oil on the formed *Staphylococcus aureus* biofilm

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Abstract

Staphylococcus aureus is a gram-positive and pathogenic bacterium that causes many problems in the field of medicine, veterinary and food industry. Most microorganisms, including *Staphylococcus aureus*, are able to attach and form biofilms on different surfaces. The formation of biofilm increases the resistance of bacteria to environmental stresses, antimicrobial compounds and disinfectants. In this study, the effect of the *Oliveria decumbens* essential oil on the biofilm formed by *Staphylococcus aureus* isolated from humans and food (dairy) was investigated using the microtiter plate method. The results of the present study showed that *Oliveria decumbens* essential oil has a significant destructive effect on *Staphylococcus aureus* bacteria and the difference in the effect of essential oil on the biofilm formed by bacteria isolated from humans and food is not significant. Considering the effect of *Oliveria decumbens* essential oil on *Staphylococcus aureus* biofilm, this essential oil can be used as an effective agent in controlling bacterial biofilms.

Key words: Biofilm, *Staphylococcus aureus*, *Oliveria decumbens*, Essential Oil

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