

## عنوان مقاله:

In vitro and in vivo evaluation of antibacterial and anti-biofilm properties of five ethnomedicinal plants against oral bacteria by TEM

## محل انتشار:

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## خلاصه مقاله:

**Objective:** The aim of the present study was to investigate antibacterial and antibiofilm activity of a few medicinal plants against oral bacteria. **Materials and Methods:** *Salvia officinalis*, *Lippie citriodora*, *Mentha piperita*, *Echinacea purpurea* and *Matricaria chamomilla* were extracted. Isolates from oral cavity were identified by microbiological and molecular methods. Minimum inhibitory concentration and minimum bactericidal concentration were determined by Broth microdilution method. The anti-biofilm activity of essential oils and extracts investigated and as a mixture by Broth dilution method. Toxicity of the herbal mixture was assayed by in Wistar rats treated with intradermal injection. Wound healing properties of the herbal mixture against infected wounds on the back of the rats were investigated. Anti-biofilm activity was investigated on tooth surfaces. Bacterial structure changes and fine-structure study were performed by light microscopy and Transmission electron microscopy. **Results:** The lowest MIC and MBC for the plant mixtures was  $0.0002$  mg/ml belonged to *Streptococcus pyogenes* and the highest values ( $0.025$  mg/ml) belonged to *Eikenella corrodens*. The essential oils of *S. officinalis*, *L. citriodora* and *M. piperita*, but not *E. purpurea* and *M. chamomilla* extracts, were able to remove the biofilms created by the studied bacteria. The herbal mixture was able to completely heal the wound skin of rats in 21 days (p Conclusion: It was concluded that the essential oils of *S. officinalis*, *L. citriodora* and *M. piperita* had significant effects on inhibition of oral bacteria biofilm formation

## کلمات کلیدی:

Ethnomedicinalplants, Antibacterial, Anti-biofilm, oral bacteria

## لینک ثابت مقاله در پایگاه سیویلیکا:

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