

Screening of the Antimicrobial Action of the Essential Oil of *Salvia leriifolia* Benth Against *Streptococcus pyogenes*, A Microorganism Responsible For Several Otorhinolaryngological Infections

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Background & Objectives: The use of plant essential oils as functional ingredients in foods and pharmaceutical industries is gaining momentum, both for the growing consumers' interest in the ingredients coming from natural sources, and also because of the increasing concern with harmful synthetic drugs. Due to their bioactive components, essential oils are indeed promising in view of their use as effective antibacterial agents. In current study, essential oil of *S. leriifolia*, as a native and pharmaceutical plant species of South Khorasan province (Lamiaceae), was tested for its antimicrobial action against *Streptococcus pyogenes*, a major cause of bacterial pharyngitis/tonsillitis.

Methods: The aerial parts of *S. leriifolia* were collected at full flowering stage and essential oil was obtained by steam distillation Methods. The effects of different concentrations of essential oil (50,25,12.5,6.25 mg/ml) against *S. pyogenes* (PTCC:1447) were evaluated by common calibrated methods. Chlorhexidine (0.2% v/v) was used as positive control. After 48h, the colony forming units were counted. Results were compared with chlorhexidine using JMP and MSTATC analyses.

Results: Result showed that antimicrobial action of essential oils in all concentrations were significant, especially in 50 mg/ml, but in compare with chlorhexidine, its antibacterial effects was lower.

Conclusion: These results, showing a potent antibacterial activity of essential oil from *S. leriifolia* against otorhinolaryngological infections. More studies are suggested for production an effective gargle as a prophylactic against acute pharyngitis.

Keywords: *Salvia leriifolia* Benth; Essential Oil; Antimicrobial Action; Bacterial Pharyngitis; Chlorhexidine