

POSTER PRESENTATIONS

EVALUATION OF ANTIBACTERIAL ACTIVITY *Cupressus sempervirens* L. ESSENTIAL OIL

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Acne is a multifactorial disease affecting the pilosebaceous unit. It usually appears on areas such as the face, back, shoulders, and head. It frequently occurs in adolescence and affects areas with a high concentration of sebaceous glands, such as the face, back, chest, and shoulders. Clinically, it presents as polymorphic lesions consisting of open and closed comedones, papules, pustules, nodules, and cysts. Although the lesions may be self-limiting, they can leave permanent sequelae by leaving atrophic or hypertrophic scars. Topical medications (erythromycin, clindamycin, etc.), retinoids, and oral antibiotics (tetracycline, amphotericin B, etc.) is used in acne treatment.

In recent years, interest in medicinal plants and their oils is increasing due to the development of resistance in antimicrobial treatments, their side effects, and treatment costs. Essential oils, due to their broad antimicrobial, and anti-inflammatory activities, are widely used in the cosmetic and pharmaceutical industries.

The essential oil of *Cupressus sempervirens* L., was obtained from a commercial source, and the chemical profiles of the essential oils was evaluated by gas chromatography and gas chromatography-mass spectroscopy for its chemistry. The *in vitro* antibacterial activity of the essential was evaluated against acne pathogens *Propionibacterium acnes* ATCC 11827, and *Staphylococcus aureus* ATCC 6538 strains using the microdilution method, where the Minimum inhibition concentration (MIC) was compared to Ciprofloxacin which was used as a positive control.

α -Pinene (44.9%), δ -3-carene (19.3%), 1,8-cineole (9.2%), and limonene (3.7%) were verified as main components of essential oil. The MIC values of essential oil were calculated as 3.12 and 1.56 mg/mL against *P. acnes* and *S. aureus* strains, respectively. Based on these initial results, the essential oil may be an effective agent for the treatment of acne, which has to be verified by more detailed *in vivo* and clinical studies.

Keywords: *Cupressus sempervirens* L., *Propionibacterium acnes*, *Staphylococcus aureus*, acne treatment.

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