

Antibacterial Activity of the Essential Oil from *Rosmarinus officinalis* and its Major Components against Oral Pathogens

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The essential oil of *Rosmarinus officinalis* L. (rosemary) was obtained by hydro-distillation and analysed by gas chromatography-mass spectrometry. Sixty-two constituents were identified, representing 98.06% of the total oil content. Oxygenated monoterpenes were the predominant components. The rosemary oil was characterized as having prominent (> 5%) contents of camphor (18.9%), verbenone (11.3%), -pinene (9.6%), -myrcene (8.6%), 1,8-cineole (8.0%), and -caryophyllene (5.1%). The antimicrobial activity of the oil as well as of its major constituents was tested against the following microorganisms: *Streptococcus mutans*, *Streptococcus mitis*, *Streptococcus sanguinis*, *Streptococcus salivarius*, *Streptococcus sobrinus*, and *Enterococcus faecalis*, which are potentially responsible for the formation of dental caries in humans. The microdilution method was used for determination of the minimum inhibitory concentration (MIC) during evaluation of the antibacterial activity. The essential oil displayed low activity against the selected microorganisms. In the present study, the pure major compounds were more active than the essential oil. Among all the microorganisms tested, the pathogen *S. mitis* was the most susceptible and *E. faecalis* was the most resistant to the evaluated samples. This is the first report on antimicrobial activity of the major components of rosemary oil against oral pathogens.

Key words: *Rosmarinus officinalis*, Antibacterial Activity, Oral Pathogens