



Dental products with *Lippia gracilis* Schum essential oil and antimicrobial evaluation action against *Streptococcus mutans*

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Essential oils are composed by volatile organic compounds. Lipophilic, mainly extracted from the leaves, they can be found in various parts of the plants and are characterized by their strong aroma found in plants, presenting themselves as a promising source of new antimicrobials. Efforts have been conducted aiming the prospection, isolation and characterization of active principles to be used in formulations. The tooth decay is caused by acid actions that come from the food and beverage decomposing due bacteria that live in human mouth, which causes the tooth enamel erosion and subsequent corrosion. The essential oil extracted from *Lippia gracilis* Schum, a deciduous and branched shrub, contains in their terpenic composition some monoterpenes, and as major components thymol, carvacrol and *p*-cymene. They present pharmacological, fungicide and antimicrobial activities. The oil was extracted from the dried leaves by hydrodistillation and the constituents were identified by GC-MS. The obtained oil presented 4.7 % yield and the GC-MS analysis led to the identification of 23 compounds. Major compounds were thymol (77.0 %), *p*-cymene (7.4 %) and thymol methyl ether (4.7 %). Incorporation *L. gracilis* essential oil in a formulation did not change its physical characteristics, neither influence the evaluated parameters in the stability tests. Through evaluation of the effectiveness of the formulation against *Streptococcus mutans*, it was possible to establish the Minimum Inhibitory Concentration (MIC) at $0,625 \times 10^{-3}$ µg/ml and the Minimum Bactericidal Concentration (MBC) at $0,625 \times 10^{-3}$ µg/ml for both, of the formulation with *L. gracilis* essential oil. The product developed showed a bactericidal action and, therefore, is effective for preventing the onset of caries.

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