

TITLE: DETERMINATION OF THE MINIMUM INHIBITORY CONCENTRATION (MIC) OF THE GREEN AND BROWN PROPOLIS EXTRACTS

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ABSTRACT:

The propolis is derived from apiculture, with resinous aspect and variable chemical composition, it is used since the past centuries for the treatment of various diseases due to its antimicrobial, anti-inflammatory, antioxidant, anesthetic, and healing properties. Its biological activities are explained by the synergy of the bioactive composites present in this substance. Besides that, there are recommendations of propolis use on infectious oral disease treatment. However, there is still a shortage of propolis products that can be used on the therapy against these diseases.

Therefore, this study aims to determine the antimicrobial activity of the aqueous extract of two different species of propolis on clinics strains of *Candida albicans* and *Enterococcus faecalis*.

The aqueous extract of green and brown propolis was used, complexed and non-complexed by cooper, on concentrations that variate from 2,5 to 0,078mg/ML, the minimum inhibitory concentration (MIC) was determined through micro-dilution in broth, after 24 hours incubation the measurement of viable cells was performed with 2,3,5-triphenyltetrazolium chloride (TTC). The MIC of the complexed brown propolis and complexed green propolis was 0,32 and 0,626 mg/ml, respectively, against *candida albicans*. With non-complexed brown and green propolis the MIC was higher than 2,5 mg/ml. Against *Enterococcus faecalis*, The MIC was 0,625 mg/ml using the complexed brown and green propolis and higher than 2,5 when using the non-complexed brown and green propolis. According to the results, it's possible to analyze that the complexed brown propolis has a more effective antimicrobial activity against *candida albicans* while the complexed brown and green propolis showed the same results against the *enterococcus faecalis*. The plant derived products with antimicrobial activity can show a promising alternative in dentistry due to the shortage of products with this purpose on the market.

Keywords: Propolis, *Candida albicans*, *Enterococcus faecalis*, MIC.

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