Proceeding

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The Difference In Anti-Bacterial Activity Between Basil Leaf (Occinum Sanctum) Essential Oil And Chlorhexidine Gluconate Towards Enterococcus Faecalis

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Abstract

INTRODUCTION: Chlorhexidine gluconate is a commonly used irrigation agent for root canal treatments. However, it is ineffective towards *Enterococcus faecalis* because these bacteria possess the ability to enter deeper layer of tissue beyond dentinal tubules. The increase of bacterial resistancy towards synthetic agents has encouraged a few researches to investigate the anti-bacterial properties of herbs as irrigation agents for root canal, one of which is basil. Basil (*Occinum sanctum*), is a herbal plant with a characteristic aroma that is commonly used as an appetizer. It possesses anti-bacterial, anti-fungal and anti-viral properties. Essential oil obtained from basil possesses high levels of eugenol, which plays a major role in its anti-bacterial property. Basil essential oil is effective towards gram-positive and gram-negative bacteria.**Objective**:This research was carried out to investigate the presence anti-bacterial property in basil leaf essential oil compared to chlorhexidine gluconate towards the growth of *Enterecoccus faecalis* ATCC 29212. **Materials and methods**: Initial procedures were to extract the essential oil from basil leaves through distillation. Results from phytochemical tests show that basil contains phenol, flavonoid, triterpenoid saponin, tannin with negative results on steroids. Bacterial tests in this research adapted the microdilution method by measuring Minimum Inhibitory Concentration (MIC) basil leaf essential oil towards *Enterecoccus faecalis ATCC* 29212 compared to chlorhexidine gluconate.**Result:**Results from this research showed that the MIC value for basil leaf essential oil was 31,25 ppm while the value for chlorhexidine gluconate was 0,49 ppm.**Discussion**: Therefore, it can be concluded that essential oil from basil leaves posses anti-bacterial effects but are lower than that of chlorhexidine gluconate towards *Enterecoccus faecalis ATCC* 29212.

Keywords :*Occinum sanctum, Anti-bacterial activity, Enterecoccus faecalis*

INTRODUCTION

The success of endodontic therapies highly depend on the eradication of infection-