

Original article

**Evaluation of antimicrobial effect of chlorhexidine and two different concentrations of thyme essence in pulp therapy of deciduous teeth.**

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**Abstract**

**Background and Aims:** Dental caries in deciduous teeth could progressively involve the pulp. What matters in pulpectomy is wiping out microorganisms and their products. The aim of this study is to compare antimicrobial effect of thymus vulgaris essential oil with that of chlorhexidine.

**Materials and Methods:** Forty teeth with clinical analysis of not more resorption than one third of the root went under pulpectomy and were infected with *Enterococcus faecalis*. Teeth were divided into four groups and the canals were washed with normal saline, chlorhexidine %0.2, thymus vulgaris essential oil %2, and thymus vulgaris essential oil %5. Eventually the microbial culturing was done, and antimicrobial effect of the aforementioned disinfectants was investigated. Also, four teeth were considered as the control group. Kolmogorov-Smirnov test, and Kruskal-Wallis test were used for statistical analysis, while Mann-Whitney U-test was utilized to compare the two samples means. The level of significance was less than 0.05.

**Results:** Results illustrated that thymus vulgaris essential oil %2 had the most antimicrobial effect, whereas thymus vulgaris essential oil %5 was proved a more effective disinfectant in comparison with chlorhexidine %0.2, although this difference was not significant. Nevertheless, thymus vulgaris essential oil %2 was significantly more effective than chlorhexidine %0.2.

**Conclusion:** Annihilating the bacteria is the major cause of performing pulpectomy, and many chemical irrigants are put to use to achieve this goal. Meanwhile, the urge to substitute medicinal plants for chemical irrigants is expanding, and thymus vulgaris essential oil %2 can replace the conventional disinfectants in dentistry.

**Key words:** canal irrigants, primary teeth, pulp therapy, thyme, chlorhexidine