EFFECTIVENESS OF LIME (*CITRUS AUNRANTIFOLIA*) EXTRACT IN INHIBITING DENTAL PLAQUE FORMATION FOR EARLY CHILDHOOD CARIES

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ABSTRACT

**Background:** Essential oils contained in the lime juice has anti-bacterial activity, especially phenolic compounds. Inhibition of bacteria will also inhibit the formation of plaque on the teeth, especially those in children with Early Childhood caries

**Objective:** This study aimed to look at the activity of the extract solution of lime rinse on plaque formation in children with ECC when used as a mouthwash.

**Methods:** This study used a pretest-posttest design with control group. Total object of 90 people suffering from ECC. Samples were divided into three groups: the treatment group were given a solution of lime extract with concentrate 20% and 40% and the control group with distilled water rinse. Scores of plaque was measured using the method Grenee and Vermillon before and after the intervention. Data analysis using SPSS version 22.0 for Windows.

**Results:** The test results Independent t-test showed a significant difference before and after the treated rinse lime extract solution (p <0.05). Average increase OHIS in groups before treatment control 2.18 ± 0.54 and 2.59 ± 0.51 after treatment while the treatment group decreased on average OHIS in group concentration of 20% before treatment 0.66 ± 2.17 and 0.44 ± 0.69 after treatment and group concentration of 40% 5.47 ± 2.93 before treatment and after treatment is 0.89 ± 0.49. Providing a solution of lime extract concentration of 20% and 40% more effective 40% concentration of lime juice can inhibit the formation of dental plaque and there are differences in the mean plaque score significantly between the control group and the treatment group 20%. The treatment group plaque score 40% lower than the control group.

**Conclusion:** It can be concluded that 40% lemon extract can inhibit the formation of plaque on the teeth of children with ECC.

**Keywords:** lemon extract, dental plaque formation, early childhood caries