

EFFECTIVENESS OF GARLIC (*Allium sativum*) EXTRACT AGAINST *Aggregatibacter actinomycetemcomitans* AS A CAUSE OF GINGIVITIS IN CHILDREN

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Abstract

Introduction: Gingivitis is very common in children. Gingivitis is the first stage in the development of periodontal disease, which is caused by dental plaque. The bacteria found in these plaques is *Aggregatibacter actinomycetemcomitans*. Treatment of gingivitis can be done by rinsing with a chlorhexidine 0.2% solution. Garlic (*Allium sativum*) has been a medicinal plant since around 300 BC. Garlic contains allicin compounds which has an antibacterial effect. **Objective:** To determine the effectiveness of garlic (*Allium sativum*) extract to inhibit the growth of *Aggregatibacter actinomycetemcomitans* as a cause of gingivitis in children. **Method:** This research used true experimental laboratory with a "Post-test only control group design" study design. Antibacterial Ability of Garlic Extract was tested using the well diffusion method. The extracts was made by maceration method with a concentration of 12.5%, 25%, 50%, and chlorhexidine 0.2% as a positive control. Repetition was carried out 6 times each concentration followed by observation of bacterial inhibition zones. **Results:** The average of inhibitory zone of garlic extract against the growth of *Aggregatibacter actinomycetemcomitans* bacteria with a concentration of 50% was 11.50 mm, concentration of 25% was 8.17 mm, and positive control was 7.22 mm. The concentration of 12.5% did not inhibit the growth of *Aggregatibacter actinomycetemcomitans*. **Conclusion:** The concentration of 50% is the most effective concentration in inhibiting the growth of *Aggregatibacter actinomycetemcomitans* when compared with chlorhexidine 0.2%.

Keywords: Garlic extract, *Aggregatibacter actinomycetemcomitans*