

EFFECT OF TORCH GINGER EXTRACT (*Etlingera elatior*) ON THE ERADICATION OF *Aggregatibacter actinomycetemcomitans* BIOFILM AND CAUSES AGGRESSIVE PERIODONTITIS

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Abstract	<p><i>Aggregatibacter actinomycetemcomitans</i> is an oral microflora that forms biofilms and is the main cause of aggressive periodontitis. Long-term mouthwash therapy can cause mucositis and even oral cancer. The ethanol extract of torch ginger (<i>Etlingera elatior</i>) is reported to have analgesic, anti-inflammatory, and antibacterial activities, so it can be developed as an alternative to prevention or adjuvant therapy for aggressive periodontitis. The aim of this study was to determine the effect of the ethanol extract of the torch ginger plant on the biofilm degradation of <i>A. actinomycetemcomitans</i>. The study used ethanol extracts of torch ginger flowers, leaves, and stems at concentrations of 1.56 mg/mL, 3.125 mg/mL, 6.25 mg/mL, 12.5 mg/mL, 25 mg/mL, and 50 mg/mL. CHX 0.2% mouthwash was used as a positive control, while 1% DMSO was used as a negative control. The biofilm degradation test was carried out using a microtiter plate assay with 1% crystal violet staining at a wavelength of 450 nm. The results showed that there was significant activity against biofilm degradation of <i>A. actinomycetemcomitans</i> in the administration of an ethanol extract of torch ginger flowers, leaves, and stems compared to the negative control ($p < 0.05$). The optimum concentrations of biofilm degradation by extracts of flowers, leaves, and stems were 25 mg/mL (85.54%), 25 mg/mL (84.43%), and 50 mg/mL (72.10%), respectively. MBEC50 values of flowers are 4.82 mg/mL, MBEC50 leaves are 5.96 mg/mL, and MBEC50 stems are 10.15 mg/mL. The conclusion of this study is that there is an effect of giving an ethanol extract of torch ginger flowers, leaves, and stems on the biofilm degradation of <i>A. actinomycetemcomitans</i> bacteria.</p>
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