ABSTRACT

Background: Periodontitis is an inflammation on periodontal structure that caused by invasion microorganism. Among periodontitis’s types, chronic periodontitis is the most prevalent type and often associated with Porphyromonas gingivalis. Nowadays, herbal therapy is often used as antibacterial agent to inhibit microorganism’s growth. The herbs used in this research is lime fruit (Citrus aurantifolia, swingle) that contain hesperidin as antibacterial agent. Purpose: The aim of this research is to find the inhibition of lime hesperidin isolation (Citrus aurantifolia, swingle) on the growth of Porphyromonas gingivalis. Method: This research was done in vitro experiment using agar disc diffusion method. The extract was diluted into concentration of 100%, 50%, 25%, 12.5%, 6.25%, 3.12%, 1.56%, and 0.78%. The inhibitory zones were recorded in millimeters and analyzed using Mann-Whitney test. Result: The result showed that antibacterial activity of lime hesperidin isolation was active on Porphyromonas gingivalis with Minimum Inhibitory Concentration (MIC) of 6.25% with average of inhibitory zone 4.8 mm. From statistical test showed that there were significant differences of inhibitory zone from each concentration. Conclusion: Lime hesperidin isolation (Citrus aurantifolia, swingle) could inhibit the growth of Porphyromonas gingivalis with Minimum Inhibitory Concentration (MIC) at 6.25%.

Keywords: Hesperidin, Lime fruit (Citrus aurantifolia, swingle), Porphyromonas gingivalis, Minimum Inhibitory Concentration (MIC)