

INTISARI

Periodontitis merupakan penyakit peradangan pada jaringan pendukung gigi yang merusak tulang alveolar dan ligamen periodontal. *Aggregatibacter actinomycetemcomitans* merupakan bakteri yang ditemukan pada 90% kasus *rapid rate of progression* periodontitis. Buah Gama Melon Parfum atau melon GMP (*Cucumis melo* L. cv. 'GMP') merupakan bahan alami mengandung senyawa metabolit sekunder berupa flavonoid, saponin, terpenoid, cucurbitacin B, dan fenol yang bersifat antibakteri. Penelitian ini bertujuan untuk mengetahui daya hambat ekstrak Gama Melon Parfum (*Cucumis melo* L. cv. 'GMP') terhadap bakteri *Aggregatibacter actinomycetemcomitans* (kajian *in vitro*)

Melon GMP diekstraksi dengan metode maserasi. Pengujian daya hambat ekstrak terhadap bakteri dilakukan dengan metode dilusi. Tabung uji ditanami suspensi bakteri *Aggregatibacter actinomycetemcomitans* dan dibagi menjadi 7 kelompok perlakuan, yakni klorheksidin glukonat 0,2% sebagai kontrol positif, akuades sebagai kontrol negatif, serta ekstrak melon GMP konsentrasi 50%, 25%, 12,5%, 6,25%, dan 3,125%. Pengujian dilakukan menggunakan 4 sampel tiap kelompok. Tabung diinkubasi pada *anaerobic jar* suhu 37°C selama 24 jam dan diukur kekeruhannya menggunakan spektrofotometer UV-Vis BK-D560 ($\lambda = 600$ nm). Data penelitian dianalisis dengan uji *one-way ANOVA* dan uji *Post-Hoc LSD*.

Rerata nilai kekeruhan berturut-turut dari terkecil hingga terbesar adalah kontrol positif, ekstrak melon GMP konsentrasi 50%, 25%, 12,5%, 6,25%, hingga 3,125%, dan kontrol negatif. Hasil analisis data menunjukkan adanya pengaruh ekstrak melon GMP dan adanya *dose-dependent* dengan perbedaan yang bermakna ($p < 0,05$) antar masing-masing kelompok. Kesimpulan penelitian ini adalah ekstrak Gama Melon Parfum (*Cucumis melo* L. cv. 'GMP') memiliki daya hambat terhadap bakteri *Aggregatibacter actinomycetemcomitans* (kajian *in vitro*) dengan konsentrasi ekstrak paling efektif adalah 50%.

Kata kunci: *Aggregatibacter actinomycetemcomitans*, antibakteri, Gama Melon Parfum, kekeruhan, melon GMP

ABSTRACT

Periodontitis is an inflammatory disease of tooth-supporting tissue that damages the alveolar bone and periodontal ligament. *Aggregatibacter actinomycetemcomitans* occurs at 90% of the total cases of rapid-rate progression periodontitis. Gama Melon Perfume or GMP melon (*Cucumis melo* L. cv. 'GMP') is a natural herbal that contains antibacterial compounds such as flavonoids, saponins, terpenoids, cucurbitacin B, and phenols. This research aimed at determining the inhibitory power of Gama Melon Perfume (*Cucumis melo* L. cv. 'GMP') extract against bacteria *Aggregatibacter actinomycetemcomitans* (in vitro study).

The GMP melon was extracted using the maceration method. Testing the extract's inhibitory power was carried out using the dilution method. The research utilized seven group of treatment, i.e., 0,2% chlorhexidine gluconate as positive control, aquadest as negative control, and GMP melon extract solution with concentrations of 50%, 25%, 12,5%, 6,25%, and 3,125%. The test tubes were planted with the suspension of *Aggregatibacter actinomycetemcomitans*. Testing was undertaken using four samples in each group. The test tubes that had been incubated in anaerobic jar at 37°C for 24 hours were measured for turbidity using BK-D560 UV-Vis spectrophotometer ($\lambda = 600$ nm). The statistical analysis was done using *one-way* ANOVA test and *Post-Hoc* LSD test.

The results showed that the mean of turbidity values, from smallest to largest, are positive control, GMP melon extract with concentrations of 50%, 25%, 12,5%, 6,25%, and 3,125%, and negative control. The analysis results showed an influence of GMP melon extract and a dose-dependent effect significantly ($p < 0,05$) between each group. It concluded that Gama Melon Perfume (*Cucumis melo* L. cv. 'GMP') extract has inhibitory power against the growth of *Aggregatibacter actinomycetemcomitans* (in vitro study) bacteria, with the most effective concentration at 50%.

Keywords: *Aggregatibacter actinomycetemcomitans*, antibacterial, GMP melon, Gama Melon Parfum, turbidity