

ABSTRAK

Penggunaan silitol sebagai substitusi sukrosa dilakukan sebagai salah satu upaya untuk menghambat pertumbuhan bakteri kariogenik di gigi. Aktivitas antibakteri silitol masih tergolong lemah, oleh karena itu diperlukan beberapa senyawa tambahan alami untuk memperkuat efeknya. Penelitian terdahulu mengenai *sucrose-free hard candy* cabe jamu masih memiliki zona hambat antibakteri yang lemah serta skor hedonik rendah, oleh karena itu perlu menambahkan ekstrak jeruk nipis. Penambahan ekstrak jeruk nipis dimaksudkan untuk meningkatkan aktivitas antibakteri serta meningkatkan skor hedonik *hard candy* cabe jamu. Penelitian dilakukan untuk mengetahui karakteristik fisik, hedonik dan aktivitas antibakteri *hard candy* cabe jamu dengan penambahan ekstrak jeruk nipis yang berbeda (6, 9,12 dan 15 g). Uji yang dilakukan antara lain adalah uji kelarutan, uji warna, uji pH, uji hedonik dan uji antibakteri. Hasil penelitian menunjukkan bahwa penggunaan ekstrak jeruk nipis dalam konsentrasi yang berbeda mampu memengaruhi karakteristik fisik, karakteristik hedonik rasa dan aktivitas antibakteri melawan *Streptococcus mutans*. Beberapa parameter penelitian tidak dipengaruhi oleh perlakuan, yaitu penilaian hedonik terhadap warna, aroma, tekstur dan kesukaan keseluruhan. Waktu kelarutan, pH, RGB warna dan skor hedonik terhadap rasa *hard candy* cabe jamu semakin menurun seiring dengan bertambahnya ekstrak jeruk nipis. Zona hambat antibakteri terbesar (3,40 mm) ditunjukkan oleh perlakuan dengan penambahan ekstrak jeruk nipis 9 g.

Kata kunci: *Hard Candy*, Cabe Jamu, Ekstrak Jeruk Nipis, Perisa Alami, Antibakteri

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ABSTRACT

The use of xylitol as a substitute for sucrose is carried out as an effort to inhibit the growth of cariogenic bacteria in teeth. The antibacterial activity of xylitol is still relatively weak, therefore several additional natural compounds are needed to strengthen its effect. Previous research on javanese long pepper sucrose-free hard candy still has a weak antibacterial inhibition zone and a low hedonic score, therefore it is necessary to add lime extract. The addition of lime extract is intended to increase antibacterial activity and increase the hedonic score of javanese long pepper hard candy. The experiment was conducted to determine the physical, hedonic characteristics and antibacterial activity of javanese long pepper hard candy with the addition of different lime extracts (6, 9, 12 and 15 g). The experiment carried out include solubility time tests, color tests, pH tests, hedonic tests and antibacterial tests. The results showed that the use of lime extract in different concentrations was able to influence the physical characteristics, hedonic characteristics of taste and antibacterial activity against *Streptococcus mutans*. Several experiment parameters were not influenced by treatment, to be specific hedonic assessment of color, aroma, texture and overall liking. Solubility time, pH, RGB color and hedonic scores for the taste of javanese long pepper hard candy decreased with the increasing of lime extract. The largest antibacterial inhibition zone (3.40 mm) was shown by treatment with the addition of 9 g of lime extract.

Keyword: *Hard Candy, Javanese Long Pepper, Lime Extract, Natural Flavor, Antibacterial*