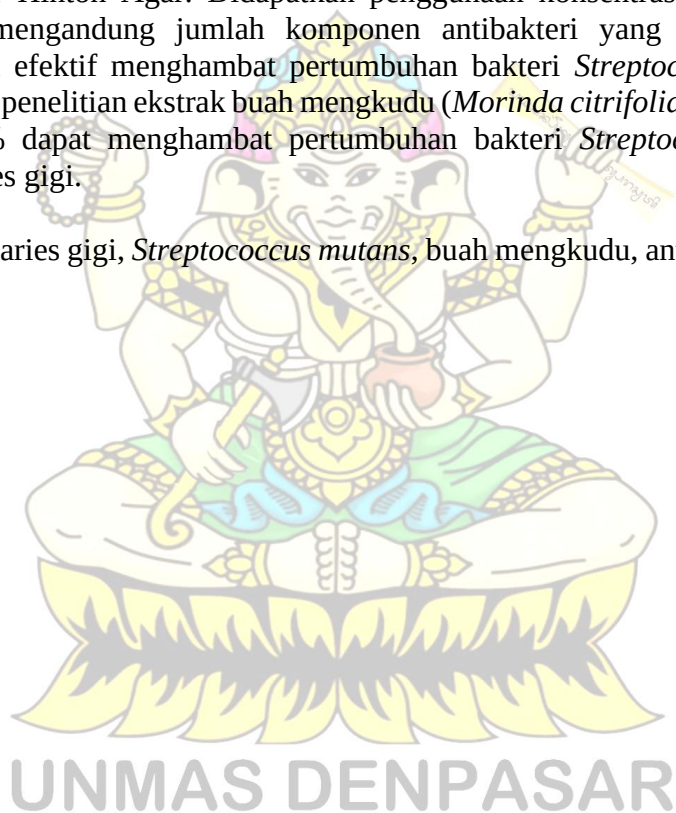


ABSTRAK

Karies gigi merupakan penyakit infeksi *multifactorial* akibat demineralisasi enamel oleh bakteri *Streptococcus mutans*. Penggunaan antiseptik kimia jangka panjang dapat menimbulkan efek samping, sehingga diperlukan alternatif bahan alami yaitu buah mengkudu (*Morinda citrifolia L.*) yang mengandung senyawa bioaktif seperti alkaloid, flavonoid, tanin, dan saponin yang memiliki aktivitas antibakteri. Penelitian ini bertujuan untuk mengetahui efektivitas ekstrak buah mengkudu konsentrasi 15% dan 30% dalam menghambat pertumbuhan *Streptococcus mutans* secara *in vitro* rancangan penelitian *post-test control group design* dibagi 4 kelompok perlakuan konsentrasi 15%, 30%, kelompok kontrol positif kalsium hidroksida dan kontrol negatif *aquadest*, dengan metode pengumpulan data dilakukan melalui uji difusi agar (Kirby–Bauer) menggunakan media Mueller Hinton Agar. Didapatkan penggunaan konsentrasi ekstrak yang lebih tinggi mengandung jumlah komponen antibakteri yang lebih banyak, sehingga lebih efektif menghambat pertumbuhan bakteri *Streptococcus mutans*. Sehingga hasil penelitian ekstrak buah mengkudu (*Morinda citrifolia L.*) konsentrasi 15% dan 30% dapat menghambat pertumbuhan bakteri *Streptococcus mutans* penyebab karies gigi.

Kata kunci: Karies gigi, *Streptococcus mutans*, buah mengkudu, antibakteri alami.



ABSTRACT

Dental caries is a multifactorial infectious disease caused by enamel demineralization by Streptococcus mutans. Long-term use of chemical antiseptics can cause side effects; therefore, natural alternatives such as noni fruit (Morinda citrifolia L.), which contains bioactive compounds including alkaloids, flavonoids, tannins, and saponins with antibacterial activity, are needed. This study aimed to determine the effectiveness of noni fruit extract at concentrations of 15% and 30% in inhibiting the growth of Streptococcus mutans in vitro. The study used a post-test control group design and was divided into four groups: 15% and 30% extract concentrations, a positive control (calcium hydroxide), and a negative control (distilled water). Data were collected using the agar diffusion (Kirby–Bauer) method on Mueller Hinton Agar. The results showed that higher extract concentrations contained more antibacterial components and were therefore more effective in inhibiting the growth of Streptococcus mutans. Thus, noni fruit extract (Morinda citrifolia L.) at concentrations of 15% and 30% can inhibit the growth of Streptococcus mutans, a causative agent of dental caries.

Keywords: *Dental caries, Streptococcus mutans, noni fruit, natural antibacterial.*

