

ABSTRACT

THE EFFECTS OF ANTIBACTERIAL POWER OF ETHANOL EXTRACT MOUTHWASH FROM ANT-PLANT (*Myrmecodia pendens* Merr. & Perry) TOWARD *Lactobacillus acidophilus* BACTERIA *In Vitro*

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Background: Dental caries is one of the dental and oral health problems that still need attention in Indonesia. *Lactobacillus acidophilus* has a role in the caries process. *Lactobacillus acidophilus* can advance a progressive lesion caries and produce lactic acid as an end product of fermentation from carbohydrates, which is acidic in nature cariogenic. The acid formed can soften the hardest part of the tooth is the enamel. *Myrmecodia pendens* Merr. & Perry is one of the herbs that have been used as medicine such as for ulcer, haemorrhoid, allergies, tumors, cancer, and it has the antioxidant content as well as antiinflammation. Ant-plant has polyphenols, tannins, tocopherols, and flavonoids potential as an antimicrobial.

Research objective: This research aimed to find out the effects of antibacterial power of ethanol extract mouthwash from *Myrmecodia pendens* Merr. & Perry to *Lactobacillus acidophilus*.

Research methodology: This research was designed using purely laboratory experiment. Cultured *Lactobacillus acidophilus* was incubated with ethanol extract mouthwash from *Myrmecodia pendens* Merr. & Perry with concentration of 10%, 25%, 50%, 75%, dan 100% for 18-24 hours within the temperature of 37°C with 4 controls that are positive control was using of *Chlorhexidine gluconate* 0.2%, negative control was the basic formula of mouthwash (0% concentrate), control bacteria, and control media. The antibacterial power test was using liquid dilution method to determine the minimum inhibitory concentration (MIC) and solid dilution to determine the minimum bactericidal concentration (MBC). The data were analyzed using descriptive quantitative methode.

Research findings: The result of this research shows that ethanol extract of mouthwash from *Myrmecodia pendens* Merr. & Perry has minimum inhibitory concentration (MIC) at a formula I (concentration 10%) and minimum bactericidal concentration (MBC) at a formula II (concentration 25%).

Conclusion: Ethanol extract mouthwash from *Myrmecodia pendens* Merr. & Perry has antibacterial power to *Lactobacillus acidophilus*.

Key words: *Myrmecodia pendens* Merr. & Perry, *Lactobacillus acidophilus*, mouthwash, minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC)

INTISARI

PENGARUH DAYA ANTIBAKTERI OBAT KUMUR EKSTRAK ETANOL TANAMAN SARANG SEMUT (*Myrmecodia pendens* Merr. & Perry) TERHADAP BAKTERI *Lactobacillus acidophilus* In Vitro

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Latar Belakang: Karies gigi merupakan salah satu masalah kesehatan gigi dan mulut yang masih membutuhkan perhatian di Indonesia. *Lactobacillus acidophilus* memiliki peran dalam proses karies. Bakteri *Lactobacillus acidophilus* dapat memajukan lesi progresif karies dan menghasilkan asam laktat sebagai produk akhir fermentasi dari karbohidrat, dimana asam tersebut sifatnya kariogenik. Asam yang terbentuk dapat melunakkan bagian terkeras gigi yaitu email gigi. *Myrmecodia pendens* Merr. & Perry merupakan salah satu tumbuhan herbal yang sudah dimanfaatkan untuk pengobatan seperti obat ulkus, haemorrhoid, alergi, tumor, kanker, dan mempunyai kandungan antioksidan serta antiinflamasi. Tanaman sarang semut mempunyai kandungan *polifenol*, *tanin*, *tokoferol*, dan *flavonoid* yang berpotensi sebagai antimikroba.

Tujuan Penelitian: untuk mengetahui pengaruh daya antibakteri obat kumur ekstrak etanol tanaman sarang semut terhadap bakteri *Lactobacillus acidophilus*.

Metode Penelitian: Desain penelitian ini adalah eksperimental murni laboratorium. Menggunakan biakan bakteri *Lactobacillus acidophilus* yang diinkubasi dengan obat kumur ekstrak etanol tanaman sarang semut pada konsentrasi 10%, 25%, 50%, 75% dan 100% selama 18-24 jam dalam suhu 37°C, dengan 4 kontrol yaitu kontrol positif menggunakan *Chlorhexidine gluconate* 0.2%, kontrol negatif adalah formula dasar obat kumur (konsentrasi 0%), kontrol bakteri, dan kontrol media. Uji daya antibakteri menggunakan metode dilusi cair untuk menentukan kadar hambat minimal (KHM) dan dilusi padat untuk menentukan kadar bunuh minimal (KBM). Analisis data menggunakan deskriptif kuantitatif.

Hasil Penelitian: penelitian ini menunjukkan bahwa obat kumur ekstrak etanol tanaman sarang semut mempunyai kadar hambat minimal (KHM) pada formula I (konsentrasi 10%) dan kadar bunuh minimal (KBM) pada formula II (konsentrasi 25%).

Kesimpulan: obat kumur ekstrak etanol tanaman sarang semut mempunyai pengaruh daya antibakteri terhadap bakteri *Lactobacillus acidophilus*.

Kata kunci: *Myrmecodia pendens* Merr. & Perry, *Lactobacillus acidophilus*, obat kumur, kadar hambat minimal (KHM), kadar bunuh minimal (KBM)