ABSTRAK

Salah satu penyebab diare yaitu bakteri *Shigella flexneri*. Pengobatan diare biasanya menggunakan antibiotik, namun penggunaan antibiotik yang tidak sesuai dapat menyebabkan resistensi. Salah satu tumbuhan yang diketahui memiliki khasiat sebagai antibakteri adalah pandan wangi (*Pandanus amaryllifolius* Roxb.) karena mengandung senyawa flavonoid yang dapat menghambat pertumbuhan bakteri. Penelitian ini bertujuan untuk mengetahui efektivitas antibakteri daun pandan wangi dan menentukan konsentrasi optimal sebagai antibakteri.

Proses ekstraksi dilakukan menggunakan metode dekoktasi dilanjutkan dengan fraksinasi cair-cair. Deteksi kandungan senyawa flavonoid total dengan metode spektrofotometri. Hasil fraksi diujikan terhadap bakteri *Shigella flexneri* ATCC 12022 menggunakan metode difusi sumuran dengan konsentrasi 10% - 100% sebanyak 30 µL, kontrol positif menggunakan kloramfenikol 30 µg. Data dianalisis menggunakan statistik *Mann-Whitney* dengan taraf kepercayaan 95%.

Hasil skrining fitokimia menunjukkan adanya alkaloid, flavonoid, tanin, dan polifenol. Hasil rata-rata uji kadar flavonoid total sebanyak 118,5 mg/g QE. Fraksi etil asetat ekstrak daun pandan wangi konsentrasi 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90% dan 100% dapat menghambat *Shigella flexneri* ATCC 12022 dengan rata-rata zona hambat bertutut-turut 14,50 ± 3,90 mm; 21,30 ± 1,94 mm; 21,60 ± 2,00 mm; 21,06 ± 1,76mm; 30,33 ± 1,15mm; 30,73 ± 0,46 mm; 29,80 ± 1,50 mm; 29,90 ± 0,10 mm; 31,06 ± 1,34 mm dan 32,53 ± 1,34 mm.

Kesimpulan yang dapat diambil adalah fraksi etil asetat ekstrak daun pandan wangi dapat menghambat pertumbuhan bakteri *Shigella flexneri* ATCC 12022 dan konsentrasi yang paling optimal adalah 20%.

Kata kunci: daun pandan wangi, fraksi etil asetat, *Shigella flexneri* ATCC 12022

ABSTRACT

One of the causes of diarrhea is the infection bacteria *Shigella flexneri*. The most common treatment of diarrhea is antibiotics. However, but the irrational use of antibiotics can cause bacterial resistance. *Pandanus amaryllifolius* Roxb. containing flavonoid has been shown to have an antibacterial activity. This study aimed to determine the antibacterial acitivity of *Pandanus amaryllifolius* Roxb. against *Shigella flexneri*.

The leave was extracted using decoction methods. After fractionation, the results were subjected to a phytochemical screening. Detection of total flavonoid compound was conducted using spectrophotometric method. The antimicrobial activity of the extracts of *Pandanus amaryllifolius* Roxb. were studied in different *concentrations (*10% - 100% up to 30 µL) against bacteria *Shigella flexneri* ATCC 12022 using diffusion wells. Chloramphenicol 30 µg served as control. Data were analyzed using the Mann-Whitney at 95% confidence interval.

The result showed that the fraction contain alkaloids, flavonoids, tannins, and polyphenols. The mean of total flavonoid test were 118.5 mg / g QE. The mean zone of inhibition of *Pandanus amaryllifolius* Roxb. were 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90% and 100% were 14.50 ± 3.90 mm; 21.30 ± 1.94 mm; 21.60 ± 2.00 mm; 21.06 ± 1,76 mm; 30.33 ± 1,15 mm; 30.73 ± 0.46 mm; 29.80 ± 1.50 mm; 29.90 ± 0.10 mm; 31.06 ± 1.34 mm and 32.53 ± 1.34 mm respectively.

In conclusion, ethyl acetate fraction of *Pandanus amaryllifolius* Roxb. leaf extract can inhibit the growth of bacteria *Shigella flexneri* ATCC 12022 and the most optimum concentration is 20%.

Keywords*: Pandanus amaryllifolius* Roxb., ethyl acetate fraction, *Shigella flexneri* ATCC 12022