

PENGARUH INFUSA BUAH BELIMBING WULUH (*Averrhoa bilimbi L*) TERHADAP ANGKA BAKTERI ISOLAT DARAH MENCIT (*Mus musculus*) YANG DIINFEKSI *Shigella dysenteriae*

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ABSTRAK

Latar Belakang : Diare merupakan salah satu masalah kesehatan masyarakat di negara berkembang. Data di Indonesia memperlihatkan 29% kematian diare disebabkan oleh disentri basiler. *Shigella dysenteriae* tipe 1 berpotensi menjadi penyebab sebagian besar kasus disentri serius. Terapi antimikroba biasanya dianjurkan untuk pengobatan Shigellosis, namun banyak didapatkan kasus resistensi antimikroba. Buah belimbing wuluh adalah tumbuhan yang telah dipercaya sebagai obat tradisional. Kandungan belimbing wuluh antara lain: flavonoid, terpenoid, glikosid, protein, lemak, kalsium, fosfor, besi, vitamin B1, vitamin C, vitamin A, saponin, dan tanin. Penelitian bertujuan untuk mengetahui pengaruh infusa buah belimbing wuluh (*Averrhoa bilimbi L*) terhadap angka bakteri isolat darah mencit (*Mus musculus*) yang diinfeksi *Shigella dysenteriae*.

Metode Penelitian : Desain penelitian ini adalah penelitian eksperimen dengan rancangan *post test control design*. Sampel terdiri dari 24 ekor mencit (*Mus musculus*) galur *swiss* jantan yang dibagi menjadi 4 kelompok dengan K1 kelompok kontrol, K2 terapi nodiar, K3 terapi infusa 50% dan K4 terapi infusa 25%. Mencit diinfeksi bakteri *Shigella dysenteriae* pada hari ke 8 dan hari ke 12 secara peroral. Perlakuan infusa dilakukan selama 4 hari. Pada hari ke-17 mencit dikorbankan lalu dilakukan penghitungan angka bakteri isolat darah.

Hasil analisis : Angka bakteri tertinggi 250 didapatkan pada kelompok K2 dan terendah 6 didapatkan pada K3. Hasil analisis diperoleh nilai $p < 0,05$ (ANOVA) dan $p > 0,05$ (*Posthoc Test*).

Kesimpulan : Infusa buah belimbing wuluh tidak mampu menurunkan angka bakteri isolat darah mencit (*Mus musculus*) yang diinfeksi bakteri *Shigella dysenteriae*. Konsentrasi efektif infusa buah belimbing wuluh yang mampu menurunkan angka bakteri isolat darah mencit (*Mus musculus*) yang diinfeksi bakteri *Shigella dysenteriae* lebih dari 50%.

Kata Kunci : Diare, *Averrhoa bilimbi L*, Antibacteria, Flavonoid

THE EFFECT OF STARFRUIT (*Averrhoa bilimbi* L) INFUSE TO THE RATE OF ISOLATE BACTERIA IN THE BLOOD OF MICE (*Mus musculus*) INFECTED BY *Shigella dysenteriae*

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ABSTRACT

Background : Diarrhea is one public health problem in developing countries. Data in Indonesia showed that 29% of deaths are caused by bacillary dysentery. *Shigella dysenteriae* type 1 has the potential to be cause of most cases of serious dysentery. Antimicrobial therapy is usually recommended for the treatment of shigellosis, but there are some cases of antimicrobial resistance. Starfruit fruit is a plant that has been trusted as a traditional medicine. Starfruit contains as follows: flavonoids, terpenoids, glikosid, protein, fat, calcium, phosphorus, iron, vitamin B1, vitamin C, vitamin A, saponins and tannins. The study aims to determine the effect of infusion of star fruit (*Averrhoa bilimbi* L) against the number of bacteria isolates the blood of mice (*Mus musculus*) were infected with *Shigella dysenteriae*.

Methods : This study was an experimental study with post test control design. Sample were 24 male mice (*Mus musculus*) strain male swiss divided into 4 groups with the control group K1, K2 nodiar therapy, infusion therapy 50% K3 and K4 infusion therapy 25%. Mice infected with the bacteria *Shigella dysenteriae* on day 8 and day 12 is orally. Infusion treatment is done for 4 days. On day 17 mice were sacrificed and the bacteria count of the numbers of blood isolates.

Analysis result : Highest score 250 bacteria found in the group K2 and number of bacteria found in the lowest 6 K3. The results obtained by analysis of the value of $p < 0.05$ (ANOVA) and $p > 0.05$ (Posthoc Test).

Conclusion : infuse fruit starfruit not be able to reduce the number of bacteria isolates the blood of mice (*Mus musculus*) infected bacteria *Shigella dysenteriae*. Concentration effectively infuse fruit starfruit were able to reduce the number of bacteria isolates the blood of mice (*Mus musculus*) infected bacteria *Shigella dysenteriae* more than 50% .

Keywords : Diarrhea, *Averrhoa bilimbi* L, Antibacteria, Flavonoid