

UJI AKTIVITAS KEFIR (*Lactobacillus bulgaricus*, *Streptococcus thermophilus* DAN *Saccharomyces cerevisiae*) TERHADAP PENGHAMBATAN PERTUMBUHAN ISOLAT *Shigella sp* PENYEBAB DISENTRI

Abstrak

Disentri merupakan salah satu bentuk diare dengan gejala klinis BAB sering, tinja bercampur lendir, darah, disertai demam, nyeri perut, dan tenesmus yang disebabkan oleh *Shigella sp*. Kefir sebagai salah satu minuman probiotik mengandung bakteri asam laktat (BAL) yang dihasilkan melalui proses fermentasi. Penelitian ini bertujuan menguji aktivitas kefir (*Lactobacillus bulgaricus*, *Streptococcus thermophilus* dan *Saccharomyces cerevisiae*) dalam menghambat pertumbuhan isolat *Shigella sp* penyebab disentri. Fokus penelitian ini adalah untuk menentukan konsentrasi hambat minimum kefir dalam menghambat pertumbuhan isolat *Shigella sp*. Penelitian ini menggunakan metode ekperimental, dengan metode *post-test only*. Jumlah sampel yang digunakan sebanyak 30 dan terbagi menjadi 4 kelompok konsentrasi. K2 (20%), K3 (40%), K4 (60%), K5 (80%) dibandingkan dengan kontrol (0%). Pengujian bakteri menggunakan teknik dilusi cair. Analisa data menggunakan *One Way Anova* dilanjutkan dengan *Post-hoc Bonferroni*. Hasil penelitian ini menunjukkan pH kefir yang terbentuk pada K2 (6,3), K3 (6,1), K4 (6,0), K5 (5,7). Uji *One Way Anova* menunjukkan perbedaan secara signifikan pada masing-masing konsentrasi $p = 0,000$ ($p < 0,005$). Hasil pengujian lanjutan dengan *Post-hoc Bonferroni* menunjukkan perbedaan yang signifikan pada konsentrasi 20%, 40%, 60%, 80% berturut-turut sebesar 70,89%, 72%, 74,26%, 79,05%. Kesimpulan penelitian ini, terdapat penghambatan BAL kefir terhadap isolat *Shigella sp* dengan konsentrasi hambat minimum kefir terhadap *Shigella sp* sebesar 20%.

Kata Kunci : Bakteri Asam Laktat, Kefir, *Shigella sp*.

KEFIR ACTIVITY TEST (*Lactobacillus bulgaricus*, *Streptococcus thermophilus* and *Saccharomyces cerevisiae*) AGAINST INHIBITORY GROWTH ISOLATES OF *Shigella sp* CAUSES DYSENTERY

Abstract

*Dysentery is a type of diarrhea with clinical symptoms characterized by high frequency, with the stool mixed with mucous and blood, fever, abdominal pain, and tenesmus caused by Shigella sp. Kefir as one of probiotic drinks contains lactic acid bacteria (LAB) produced by fermentation process. This research examined the activity of kefir (Lactobacillus bulgaricus, Streptococcus thermophilus and Saccharomyces cerevisiae) in an incline growth of Shigella sp isolates cause dysentery. The study focuses on knowing the minimum inhibitory concentration of kefir in inhibiting the growth of the isolates of Shigella sp. The research uses an experimental method, with the post-test only method. The number of samples is used as much as 30 and divided into 4 concentration groups. K2(20%), K3(40%), K4(60%), K5(80%) compared to controls (0%). Bacterial testing using liquid dilution technique. Data analysis using One Way Anova is followed by Post-hoc Bonferroni. The results of this study showed the pH of Kefir formed on K2 (6.3), K3 (6.1), K4 (6.0), K5 (5.7). Test One Way Anova shows a significant difference in each concentration $p=0.000(p<0,005)$. The results of advanced testing with Post- hoc Bonferroni showed significant differences in concentrations of 20%,40%, 60%, 80% consecutively at 70.89%, 72%, 74.26%, 79.05%. In conclusion, there is the inhibition of BAL kefir to the *Shigella sp* isolates with a minimum inhibitory concentration of kefir against *Shigella sp* by 20%.*

Keywords : *Lactic Acid Bacteria, Kefir, Shigella sp.*