

ABSTRACT

EFFECT OF PROPORTION OF GUAVA LEAF AND TURMERIC IN A MIXTURE OF HERBAL BEVERAGE ON INHIBITION OF α -AMYLASE AND α -GLUCOSIDASE ENZYMES ACTIVITY

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This study aimed to evaluate the effect of proportion of guava leaf and turmeric in a mixture of herbal beverage in inhibiting α -amylase and α -glucosidase enzymes activity. The treatments were proportion of guava leaf and turmeric in a mixture of herbal beverage, there were 0%:100% (C1), 20%:80% (C2), 40%:60% (C3), 60%:40% (C4), 80%: 20% (C5), 100%:0% (C6). This research was conducted by Randomized Complete Block Design with a single factor and 4 replications. The parameters that analysed were total phenolic content, inhibition α -amylase and α -glucosidase enzymes activity. The results showed that lessening the proportion of turmeric by 40% or more in a mixture of herbal beverage decreased inhibitory activity herbal beverage against α -amylase enzyme by 14.80% 50.78%. The proportion of guava leaf up to 20% in a mixture of herbal beverage increased the inhibition of α -glucosidase enzymes of 38.49%, but addition of proportion of guava leaf subsequently did not give a significant effect on the increasing

inhibitory activity herbal beverage against α -glucosidase enzyme. The best herbal beverage formulation that gave high inhibition in α -amylase and α -glucosidase was herbal beverage with proportion 40% guava leaf and 60% turmeric, its inhibition of α -amylase enzyme by 64,15% and α -glucosidase enzyme by 68,58%.

Keywords: *Antidiabetic, guava leaves, herbal beverage, turmeric.*

ABSTRAK

PENGARUH PROPORSI DAUN JAMBU BIJI DAN KUNYIT DALAM CAMPURAN MINUMAN HERBAL TERHADAP PENGHAMBATAN AKTIVITAS ENZIM -AMILASE DAN -GLUKOSIDASE

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Penelitian ini bertujuan untuk mengetahui pengaruh proporsi daun jambu biji dan kunyit dalam campuran minuman herbal terhadap penghambatan aktivitas enzim -amilase dan -glukosidase. Perlakuan pada penelitian utama adalah proporsi daun jambu biji dan kunyit dalam campuran, yaitu 0%:100% (C1), 20%:80% (C2), 40%:60% (C3), 60%:40% (C4), 80%: 20% (C5), 100%:0% (C6). Parameter yang diamati adalah total fenol, penghambatan aktivitas enzim -amilase dan -glukosidase. Hasil penelitian menunjukkan bahwa penurunan proporsi kunyit sebesar 40% atau lebih dalam campuran minuman herbal menurunkan daya hambat enzim -amilase sebesar 14,80% - 50,78%. Penambahan proporsi daun jambu biji sampai 20% dalam campuran minuman herbal meningkatkan daya hambat enzim -glukosidase sebesar 38,49% (21,05% - 59,54%), namun peningkatan proporsi daun jambu biji selanjutnya tidak memberikan pengaruh yang signifikan terhadap peningkatan daya hambat enzim -glukosidase.

Formulasi minuman herbal terbaik yang menghasilkan daya hambat enzim -amilase dan -glukosidase yang tinggi adalah minuman herbal campuran 40% daun jambu biji dan 60% kunyit dengan penghambatan enzim -amilase sebesar 64,15% dan -glukosidase sebesar 68,58%.

Kata kunci: *Antidiabetes, daun jambu biji, kunyit, minuman herbal.*