BAB 5
KESIMPULAN DAN SARAN

5.1 Kesimpulan

1. Golongan senyawa fitokimia yang terkandung dalam ekstrak bawang putih, bawang hitam dan serbuk adalah alkaloid, flavonoid, saponin, tanin, glikosida, serta steroid/triterpenoid, sedangkan golongan senyawa kuinon menunjukkan hasil negatif pada ketiga sampel.
2. Ekstrak bawang putih (IC_{50} = 550,31 ± 43,40 µg/ml) memiliki aktivitas penghambatan enzim *a*-glukosidase lebih baik dibandingkan akarbose (IC_{50} = 646,83 ± 87,17 µg/ml), sementara ekstrak bawang hitam nilai (IC_{50} = 1355,74 ± 128,66 µg/ml), dan bawang hitam serbuk (IC_{50} = 1543,49 ± 433,20 µg/ml) memiliki daya hambat yang lebih lemah dibandingkan akarbose.
3. Terdapat perbedaan signifikan pada daya hambat enzim *a*-glukosidase antara ekstrak bawang putih, bawang hitam dan serbuk berdasarkan uji *One-Way* ANOVA (p = 0,008 < 0,05). Lebih lanjut, uji *Post Hoc* menunjukkan aktivitas ekstrak bawang putih berbeda signifikan terhadap kelompok bawang hitam (p = 0,028) dan serbuk (p = 0,011), namun tidak terdapat perbedaan aktivitas yang signifikan antara bawang hitam dan serbuk (p = 1,000).

5.2 Saran

Untuk pengembangan penelitian selanjutnya, disarankan beberapa hal sebagai berikut :

1. Perlu dilakukan isolasi dan identifikasi lebih lanjut terhadap senyawa spesifik dalam ekstrak bawang putih yang bertanggung jawab penuh terhadap aktivitas inhibisi enzim *a*-glukosidase.
2. Perlu dilakukan pengujian aktivitas antidiabetes secara *in vivo* untuk memvalidasi korelasi efek penghambatan enzimatis dari hasil uji *in vitro* ini pada sistem biologis makhluk hidup.
3. Perlu dilakukan modifikasi atau optimasi pada parameter suhu dan durasi proses fermentasi bawang putih (*black garlic*) guna meminimalkan efek hambatan sterik molekul akibat polimerisasi lanjut, sehingga potensi senyawa flavonoid hasil fermentasi dapat bekerja lebih optimal.

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