

## INTISARI

**SARWANTI, G.D., 2019, PENGARUH EKSTRAK ETANOL UMBI BAWANG PUTIH (*ALLIUM SATIVUM LINN*) TERHADAP PENURUNAN KADAR GLUKOSA SECARA IN VITRO, KARYA TULIS ILMIAH, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI SURAKARTA.**

Bawang Putih (*Allium sativum L*) memiliki kandungan 65% air, 28% karbohidrat (terutama fruktosa), 2,3% organsulfur (terutama allinase dan ajoene), 2% protein, 1,2% asam amino (terutama arginin). Efek farmakologi dari bawang putih berasal dari allisin, yang berfungsi sebagai antidiabetes. Penelitian ini dilakukan untuk mengetahui penurunan kadar glukosa dan konsentrasi ekstrak etanol bawang putih yang paling efektif.

Penelitian ini dilakukan terhadap pengaruh ekstrak umbi bawang putih secara in vitro menggunakan Spektrofotometri UV-Vis dengan metode Somogyi-Nelson dan dibaca pada panjang gelombang 755 nm.

Validasi metode penelitian didapatkan hasil uji akurasi dengan nilai perolehan kembali 101,62%; 97,33%; dan 100,51%. Nilai LOD dan LOQ yang diperoleh sebesar 2,3095 dan 6,9985. Hasil penelitian ini diperoleh kadar penurunan glukosa karena pengaruh ekstrak umbi bawang putih Konsentrasi 62,5 ppm sebesar 11,93%, konsentrasi 125,0 sebesar 13,69 %, konsentrasi 250,0 ppm sebesar 19,91% dan konsentrasi 500,0 ppm sebesar 9,16 %. Hasil penelitian tersebut kadar penurunan glukosa yang tertinggi pada konsentrasi ekstrak 250,0 ppm dan yang terendah pada konsentrasi ekstrak 500,0 ppm. Hal tersebut dikarenakan hubungan dosis dan efesiensi, apabila suatu obat kimia maupun jamu sebagai obat herbal tradisional akan memberikan peningkatan efek farmakologi secara signifikan pada kisaran dosis tertentu, namun sampai pada suatu dosis tertentu efek obat tidak menunjukkan peningkatan yang berarti walaupun dosis ditambah.

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Kata Kunci : Kadar glukosa, ekstrak umbi bawang putih, metode Somgyi-Nelson, Spektrofotometri UV - Vis

## ABSTRACT

**SARWANTI, G.D., 2019, THE INFLUENCE OF GARLIC TUBER EXTRACT (ALLIUM SATIVUM LINN) TO DECREASE IN VITRO GLUCOSE LEVELS, A SCIENTIFIC WRITING, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY OF SURAKARTA**

Garlic (*Allium Sativum L*) contents of 65% of water, 28% of carbohydrate (especially fructose), 2.3% organ sulfur (mainly alliinase and ajoene), 2% protein, 1.2% amino acids (especially arginine). The pharmacological effect of garlic came from allysine, which served as an antidiabetic. This research was conducted to determine the most of effective glucose and garlic extract concentration of sugar.

This study was conducted against the influence of garlic tuber extract in vitro using UV-Vis spectrophotometry with the Somogyi-Nelson method and read at a wavelength of 755 nm.

The validation of this research method obtained the result of accuracy test with reacquisition value 101.62%; 97.33%; and 100.51%. The values of LOD and LOQ which were obtained, were 2.3095 and 6.9985. The results of this study obtained the rate of glucose declined due to the influence of garlic tuber extract concentration 62.5 ppm by 11.93%, 125.0% concentration of 13.69%, 250.0 ppm concentration of 19.91% and a concentration of 500.0 ppm of 9.16%. The results of the study were the highest levels of glucose lowering at a concentration of 250.0 ppm extract and the lowest at the extract concentration was 500.0 ppm. This was due to the relationship of dose and efficiency, if a drug chemical or herbal medicine as traditional herb would give a significant upsurge in pharmacological effect at a certain dose range. However, up to a certain dose of the effect of the drug did not show the significant improvement even though the dose was added.

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Keywords: Glucose Levels, Garlic Tuber Extract, Somgyi-Nelson method, UV-Vis Spectrophotometry