

EVALUASI PENGARUH INDEKS MASSA TUBUH, USIA DAN PENGUNAAN OBAT TERHADAP PENURUNAN GLUKOSA DARAH PASIEN DIABETES MELITUS TIPE 2 DI PUSKESMAS SUMBERSARI

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ABSTRAK

Latar Belakang: Diabetes Melitus Tipe 2 (DMT2) merupakan penyakit metabolik kronis yang prevalensinya terus meningkat. Faktor seperti indeks massa tubuh (IMT), usia, dan jenis obat yang digunakan dapat mempengaruhi efektivitas pengendalian kadar glukosa darah. Namun, evaluasi secara simultan terhadap ketiga faktor ini di tingkat layanan primer masih terbatas. Tujuan: Menilai pengaruh IMT, usia, dan penggunaan obat (metformin dan glimepiride) terhadap penurunan kadar glukosa darah pada pasien lama dan baru DMT2 di Puskesmas Summersari. Metode: Penelitian ini bersifat kuantitatif observasional dengan desain cross-sectional. Data rekam medis pasien tahun 2024 dianalisis menggunakan uji asumsi klasik, korelasi Pearson, uji t-test, dan regresi linear berganda. Hasil: Mayoritas pasien tergolong obesitas (85,5%) dan lebih dari separuh berusia ≥ 45 tahun. IMT menunjukkan hubungan kuat terhadap penurunan glukosa darah ($r = 0,647-0,744$), sedangkan usia menunjukkan hubungan lemah namun signifikan. Metformin lebih efektif dibandingkan glimepiride dalam menurunkan kadar glukosa darah, baik pada pasien lama maupun baru ($p < 0,01$). Hasil regresi menunjukkan ketiga variabel berpengaruh signifikan secara simultan terhadap penurunan kadar glukosa darah ($R^2 = 0,910-0,949$). Kesimpulan: IMT, usia, dan penggunaan obat memiliki pengaruh signifikan terhadap penurunan kadar glukosa darah. Metformin terbukti lebih efektif daripada glimepiride. Hasil ini dapat menjadi acuan dalam penentuan terapi yang lebih tepat di layanan kesehatan primer.

Kata kunci: Diabetes melitus tipe 2, indeks massa tubuh, usia, metformin, glimepiride, glukosa darah

EVALUATION OF THE INFLUENCE OF BODY MASS INDEX, AGE, AND MEDICATION USE ON BLOOD GLUCOSE REDUCTION IN TYPE 2 DIABETES MELLITUS PATIENTS AT SUMBERSARI PRIMARY HEALTH CENTER

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ABSTRACT

Background: Type 2 Diabetes Mellitus (T2DM) is a chronic metabolic disorder with a growing prevalence. Key factors such as Body Mass Index (BMI), age, and the type of antidiabetic drugs administered may affect blood glucose control. However, a comprehensive evaluation of these factors in primary healthcare settings remains limited. **Objective:** This study aimed to evaluate the influence of BMI, age, and medication use specifically metformin and glimepiride on the reduction of blood glucose levels among T2DM patients old and patients new. **Methods:** This quantitative observational study used a cross-sectional design. Data were collected from medical records of T2DM patients in 2024 at Summersari Primary Health Center. Data analysis was performed using classical assumption tests, Pearson correlation, independent t-tests, and multiple linear regression. **Results:** Most patients were classified as obese (85.5%) and over half were aged 45 or older. BMI showed a strong correlation with blood glucose reduction ($r = 0.647-0.744$), while age had a weaker yet statistically significant correlation. Metformin was more effective than glimepiride in lowering glucose levels ($p < 0.01$). Regression analysis revealed that BMI, age, and medication use significantly influenced glucose reduction ($R^2 = 0.910-0.949$). **Conclusion:** BMI, age, and medication use significantly impact the reduction of blood glucose levels in T2DM patients. Metformin demonstrated greater effectiveness than glimepiride. These findings provide clinical insights for optimizing individualized therapy at the primary healthcare level.

Keywords: Age, blood glucose, BMI, glimepiride, metformine, Type 2 diabetes mellitus