KORELASI KADAR HbA1c DENGAN KADAR KREATININ PADA PASIEN DIABETES MELITUS TIPE 2 DI RSJD DR.RM.SOEDJARWADI KLATEN"

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ABSTRAK

Latar Belakang: Pengendalian kadar glukosa darah merupakan salah satu langkah utama dalam mencegah perkembangan komplikasi diabetes. Salah satu parameter yang banyak digunakan untuk mengevaluasi keberhasilan kontrol glikemik adalah hemoglobin terglikasi (HbA1c). Pengukuran HbA1c diperlukan untuk menilai status kontrol glikemik secara objektif dan berkesinambungan, memprediksi risiko terjadinya komplikasi kronis seperti nefropati diabetik serta menjadi dasar evaluasi dan penyesuaian terapi pada pasien DMT2. Pemeriksaan HbA1c memberikan gambaran rerata kadar glukosa darah selama dua hingga tiga bulan terakhir karena terbentuk melalui proses glikasi hemoglobin yang berlangsung sepanjang masa hidup eritrosit. Oleh karena itu, HbA1c dianggap lebih representatif dibandingkan pemeriksaan glukosa darah sesaat dalam menilai kualitas pengendalian diabetes. [10,11].
Tujuan Penelitian: Mengetahui hubungan antara kadar HbA1c yang tidak terkontrol (≥7%) dengan kadar kreatinin serum pada pasien diabetes melitus tipe 2 yang menjalani rawat jalan di RSJD Dr. RM. Soedjarwadi Klaten.
Metode Penelitian: Penelitian ini menggunakan desain analitik observasional dengan pendekatan potong lintang retrospektif. Data diperoleh dari rekam medis pasien DMT2 rawat jalan periode November 2025 sampai Februari 2026. Sebanyak 122 sampel yang memenuhi kriteria inklusi dan eksklusi dipilih menggunakan teknik total sampling. Distribusi data dianalisis menggunakan uji Kolmogorov–Smirnov. Karena data tidak berdistribusi normal, hubungan antara variabel ditentukan melalui uji korelasi Spearman dengan tingkat kepercayaan 95%.
Hasil Penelitian: Sebagian besar responden memiliki kadar HbA1c pada kategori tidak terkontrol (66,4%), sedangkan 33,6% lainnya termasuk kategori sangat tidak terkontrol. Kadar kreatinin di atas nilai rujukan ditemukan pada 64% responden, dengan proporsi lebih tinggi pada kelompok laki-laki. Hasil uji korelasi Spearman menunjukkan nilai koefisien korelasi sebesar 0,053 dengan nilai signifikansi 0,565 ($p>0,05$). Temuan ini menunjukkan bahwa hubungan antara HbA1c dan kreatinin serum tidak signifikan secara statistik.
Kesimpulan: Tidak terdapat hubungan yang bermakna antara kadar HbA1c yang tidak terkontrol dan kadar kreatinin serum pada pasien DMT2 di RSJD Dr. RM. Soedjarwadi Klaten. Hasil penelitian mengindikasikan bahwa kreatinin serum belum cukup sensitif apabila digunakan sebagai satu-satunya parameter untuk mendeteksi gangguan ginjal pada tahap awal.
Kata Kunci: Diabetes Melitus Tipe 2, HbA1c, Kreatinin, Nefropati Diabetik,

CORRELATION BETWEEN HBA1C AND CREATININE LEVELS IN TYPE 2 DIABETES MELLITUS PATIENTS AT RSJD DR. RM SOEDJARWADI KLATEN

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ABSTRACT

Background: Blood glucose control is one of the primary steps in preventing the development of diabetes complications. One parameter widely used to evaluate the success of glycemic control is glycated hemoglobin (HbA1c). HbA1c measurement is needed to objectively and continuously assess glycemic control status, predict the risk of chronic complications such as diabetic nephropathy, retinopathy, and neuropathy, and serve as a basis for evaluating and adjusting therapy in T2DM patients. HbA1c testing reflects the average blood glucose level over the past two to three months, as it is formed through a hemoglobin glycation process that occurs throughout the lifespan of erythrocytes. Therefore, HbA1c is considered more representative than a single blood glucose measurement in assessing the quality of diabetes control [10,11].
Objective: To determine the relationship between uncontrolled HbA1c levels (≥7%) and serum creatinine concentrations in outpatients with type 2 diabetes mellitus at RSJD Dr. RM. Soedjarwadi Klaten.
Method: This analytical observational study employed a retrospective cross-sectional design. Secondary data were obtained from the medical records of T2DM outpatients treated between November 2025 and February 2026. A total of 122 eligible subjects were included using a total sampling technique. Data normality was assessed using the Kolmogorov–Smirnov test. Since the variables were not normally distributed, the association between HbA1c and serum creatinine was analyze
Results: Most participants were classified as having uncontrolled HbA1c levels (66.4%), while 33.6% were categorized as severely uncontrolled. Elevated serum creatinine levels were identified in 64% of subjects and were more frequently observed among male patients. Spearman correlation analysis yielded a correlation coefficient of 0.053 with a significance value of 0.565 ($p>0.05$), indicating the absence of a statistically significant association between HbA1c and serum creatinine levels.
Conclusion: No significant relationship was found between uncontrolled HbA1c levels and serum creatinine concentrations among patients with T2DM at RSJD Dr. RM. Soedjarwadi Klaten. These findings suggest that serum creatinine alone may not be sufficiently sensitive for detecting early renal impairment in individuals with poor glycemic control.
Keywords: Type 2 Diabetes Mellitus, HbA1c, Creatinine, Diabetic Nephropathy,