

**HUBUNGAN KADAR UREUM DAN KREATININ SERUM
DENGAN FUNGSI KOGNITIF PENDERITA
PENYAKIT GINJAL KRONIK**



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ABSTRACT

RELATIONSHIP BETWEEN SERUM UREUM AND CREATININE LEVELS WITH COGNITIVE FUNCTION IN CHRONIC KIDNEY DISEASE

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Chronic Kidney Disease (CKD) may lead to various complications, including cognitive impairment. The causative factor is the toxic substances accumulation in the body, including serum ureum and creatinine. This study aims to determine the relationship between serum ureum and creatinine levels with cognitive function in CKD patients.

This observational analytic study with a cross-sectional design was conducted on 46 CKD patients who were hemodialyzed at Dr. M. Djamil Padang Hospital. Samples were taken using a consecutive sampling technique. Cognitive function was assessed using the Montreal Cognitive Assessment Indonesian version (MoCA-Ina). Serum ureum and creatinine were measured with a spectrophotometer. Data were analyzed using the Chi-Square test.

The results showed cognitive impairment affected 52.2% of CKD patients. Patients with cognitive impairment were more likely to be older than 50 years old (54.2%) and male (58.3%), had at least a high school education and above (70.8%), were accompanied with hypertension (75%), and without diabetes mellitus (91.7%). The median serum ureum and creatinine level in patients with cognitive impairment was 124 mg/dL and 10.05 mg/dL. The relationship between serum ureum and creatinine levels with cognitive function has a 0.039 and 0.768 p-value.

The conclusion is there is a significant relationship between serum ureum levels with cognitive function of CKD patients, but there is no significant relationship between serum creatinine levels with cognitive function of CKD patients.

Keywords : *Chronic Kidney Disease, Cognitive Function, Serum Ureum, Serum Creatinine*

ABSTRAK

HUBUNGAN KADAR UREUM DAN KREATININ SERUM DENGAN FUNGSI KOGNITIF PENDERITA PENYAKIT GINJAL KRONIS

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Penyakit Ginjal Kronik (PGK) dapat menimbulkan berbagai komplikasi, salah satunya adalah gangguan fungsi kognitif. Faktor penyebabnya adalah akumulasi zat-zat toksik di dalam tubuh, termasuk ureum dan kreatinin serum. Tujuan penelitian ini adalah melihat hubungan kadar ureum dan kreatinin serum dengan fungsi kognitif penderita PGK.

Penelitian analitik observasional dengan desain *cross-sectional* ini dilakukan kepada 46 pasien PGK yang dihemodialisa di RSUP Dr. M. Djamil Padang. Sampel diambil menggunakan teknik *consecutive sampling*. Fungsi kognitif dinilai menggunakan *Montreal Cognitive Assessment* versi Indonesia (MoCA-Ina). Kadar ureum dan kreatinin serum diukur dengan alat spektrofotometer. Data dianalisis menggunakan uji *Chi-Square*.

Hasil penelitian menunjukkan 52.2% pasien PGK mengalami gangguan kognitif. Gangguan kognitif lebih banyak pada usia di atas 50 tahun (54.2%) dan berjenis kelamin laki-laki (58.3%), sebagian besar menempuh pendidikan minimal pada jenjang SMA dan ke atas (70.8%), mayoritas disertai hipertensi (75%), dan tanpa diabetes melitus (91.7%). Median kadar ureum dan kreatinin serum pasien dengan gangguan kognitif adalah 124 mg/dL dan 10.05 mg/dL. Hubungan antara kadar ureum dan kreatinin serum dengan fungsi kognitif memiliki nilai *p-value* sebesar 0.039 dan 0.768.

Kesimpulan penelitian ini adalah terdapat hubungan yang bermakna antara kadar ureum serum dengan fungsi kognitif penderita PGK, tetapi tidak terdapat hubungan yang bermakna antara kadar kreatinin serum dengan fungsi kognitif penderita PGK.

Kata kunci : Penyakit Ginjal Kronik, Fungsi Kognitif, Ureum Serum, Kreatinin Serum