

TESIS

**HUBUNGAN KADAR CYSTATIN-C SERUM DENGAN
GANGGUAN FUNGSI KOGNITIF PADA PASIEN *CHRONIC*
*KIDNEY DISEASE***



Pembimbing I : Dr. dr. Yuliarni Syafrita, Sp.N (K)
Pembimbing II : dr. Syarif Indra, Sp. N (K)

**PROGRAM PENDIDIKAN DOKTER SPESIALIS NEUROLOGIFAKULTAS
KEDOKTERAN UNIVERSITAS ANDALAS
RSUP. Dr. M. DJAMILPADANG
2023**

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ABSTRAK

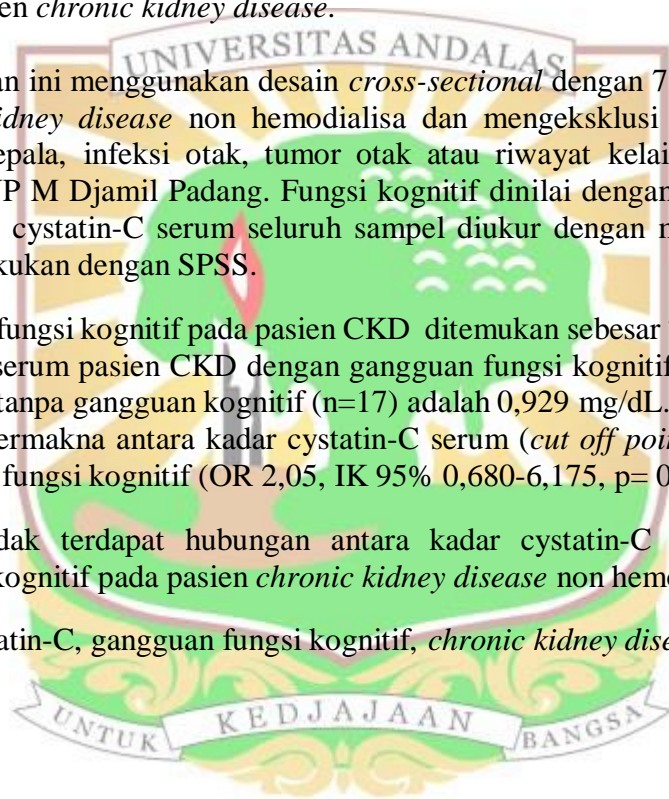
Latar Belakang: Pada kadar normal cystatin-C berperan sebagai neuroprotektor di sistem saraf pusat, namun pada kadar serum yang tinggi cystatin-C dikaitkan dengan gangguan fungsi kognitif. Kadar cystatin-C serum meningkat pada keadaan fungsi ginjal yang terganggu dan gangguan fungsi kognitif merupakan komorbid yang dapat meningkatkan morbiditas dan mortalitas pasien *chronic kidney disease*. Penelitian ini bertujuan untuk menilai hubungan antara kadar cystatin-C serum dengan fungsi kognitif pada pasien *chronic kidney disease*.

Metode: Penelitian ini menggunakan desain *cross-sectional* dengan 73 orang sampel pasien *chronic kidney disease* non hemodialisa dan mengeksklusi pasien dengan stroke, trauma kepala, infeksi otak, tumor otak atau riwayat kelainan otak yang dilakukan di RSUP M Djamil Padang. Fungsi kognitif dinilai dengan menggunakan MoCa-Ina. Kadar cystatin-C serum seluruh sampel diukur dengan metode ELISA. Analisis data dilakukan dengan SPSS.

Hasil: Gangguan fungsi kognitif pada pasien CKD ditemukan sebesar 76.7%. Median kadar cystatin-C serum pasien CKD dengan gangguan fungsi kognitif (n=56) adalah 1,015 mg/dL dan tanpa gangguan kognitif (n=17) adalah 0,929 mg/dL. Tidak terdapat hubungan yang bermakna antara kadar cystatin-C serum (*cut off point* 0,98 mg/dL) dengan gangguan fungsi kognitif (OR 2,05, IK 95% 0,680-6,175, p= 0,198).

Kesimpulan: Tidak terdapat hubungan antara kadar cystatin-C serum dengan gangguan fungsi kognitif pada pasien *chronic kidney disease* non hemodialisa.

Kata Kunci: cystatin-C, gangguan fungsi kognitif, *chronic kidney disease*



THE RELATIONSHIP BETWEEN SERUM CYSTATIN-C LEVELS WITH COGNITIVE FUNCTION DISORDERS IN CHRONIC KIDNEY DISEASE PATIENTS

ABSTRACT

Background: At normal levels, cystatin-C acts as a neuroprotector in the central nervous system, but at high serum levels, cystatin-C is associated with impaired cognitive function. Serum cystatin-C levels increase in impaired renal function and impaired cognitive function which are comorbidities that can increase the morbidity and mortality of chronic kidney disease patients. This study aims to assess the relationship between serum cystatin-C levels and cognitive function in chronic kidney disease patients.

Method: This study used a cross-sectional design with 73 samples of non-hemodialysis chronic kidney disease patients and excluded patients with stroke, head trauma, brain infection, brain tumor or history of brain abnormalities who were performed at RSUP M Djamil Padang. Cognitive function was assessed using the MoCa-Ina. Serum cystatin-C levels of all samples were measured by ELISA method. Data analysis was performed with SPSS

Results: The impairment cognitive function was found in 76.7% of CKD patients. The median serum cystatin-C level of CKD patient with cognitive impairment (n=56) was 1,015 ng/mL and without cognitive impairment (n=17) was 0,929 mg/dL. There was no significant relationship between serum cystatin-C levels (cut off point 0,98 mg/dL) and cognitive impairment (OR 2,05, IK 95% 0,680-6,175, p= 0,198).

Conclusion: There is no relationship between serum cystatin-C levels and impaired cognitive function in non-hemodialysis chronic kidney disease patients.

Keywords: cystatin-C, cognitive function disorder, chronic kidney disease