

ABSTRAK

Salah satu jenis logam berat yang termasuk dalam formulasi pestisida dan berpotensi menyebabkan kanker adalah timbal. Setelah masuk ke dalam tubuh melalui berbagai mekanisme paparan, paparan timbal cenderung terakumulasi dalam darah, yang berpotensi menyebabkan penyakit ginjal kronis dan kerusakan tubulus proksimal. Tujuan penelitian ini adalah menganalisis hubungan kadar timbal (Pb) dalam darah terhadap fungsi ginjal pada petani di Kecamatan Tanggulangin Kabupaten Sidoarjo menggunakan AAS dan Fotometer. Jenis penelitian yang digunakan yaitu studi korelasional yang dilaksanakan di laboratorium BSPJI dan laboratorium Kimia Klinik Jurusan Teknologi Laboratorium Medis Poltekkes Kemenkes Surabaya pada bulan Maret – Mei 2024. Populasi pada penelitian ini adalah para petani yang diambil menggunakan teknik *purposive sampling* sebanyak 30 bahan uji. Hasil penelitian menunjukkan bahwa nilai kadar timbal pada petani antara 0,64 µg/dL - 58,05 µg/dL, dan kadar kreatinin antara 0,60 mg/dL - 2,80 mg/dL, serta kadar BUN antara 11 mg/dL - 34 mg/dL. Kesimpulan dari hasil penelitian ini tidak terdapat hubungan kadar timbal dalam darah terhadap fungsi ginjal pada petani di Kecamatan Tanggulangin Kabupaten Sidoarjo.

Kata kunci: Timbal; Kreatinin; BUN; Petani

ABSTRACT

One type of heavy metal commonly used in pesticide formulations and has the potential to cause cancer is lead. Once lead enters the body through various exposure pathways, it tends to accumulate in the blood. This accumulation can increase the risk of chronic kidney disease and lead to damage to the proximal tubules. The aim of this study is to analyze the relationship between blood lead (Pb) levels and kidney function in farmers in Tanggulangin Subdistrict, Sidoarjo Regency using AAS and Photometer. This study is a correlational study conducted at the BSPJI laboratory and the Clinical Chemistry Laboratory of the Medical Laboratory Technology Department at the Health Polytechnic of the Ministry of Health Surabaya from March to May 2024. The population in this study consists of farmers, with 30 blood samples taken using purposive sampling techniques. The results showed that the lead levels in farmers ranged from 0.64 $\mu\text{g/dL}$ to 58,05 $\mu\text{g/dL}$, creatinine levels ranged from 0.60 mg/dL to 2.80 mg/dL , and BUN levels ranged from 11 mg/dL to 34 mg/dL . The conclusion of this study is that there is no relationship between blood lead levels and kidney function in farmers in Tanggulangin Subdistrict, Sidoarjo Regency.

Keywords: Lead; Creatinine; BUN; Farmers