

KORELASI PAPARAN KADMIUM DENGAN KADAR UREUM DAN KREATININ SERUM PADA PETANI TANAMAN HIAS DI BATURRADEN

Nafiisah

ABSTRAK

Latar Belakang: Kadmium merupakan logam berat yang sangat toksik bagi manusia dan digunakan sebagai salah satu bahan pada pestisida dan pupuk fosfat oleh petani tanaman hias di Baturraden. Paparan kadmium dengan dosis kecil dan dalam waktu yang lama dapat menyebabkan kadmium terakumulasi di dalam ginjal, sehingga dapat menyebabkan kerusakan ginjal yang ditandai dengan peningkatan kadar ureum dan kreatinin serum.

Tujuan: Mengetahui korelasi paparan kadmium dengan kadar ureum dan kreatinin serum pada petani tanaman hias di Baturraden.

Metode: Penelitian ini dilakukan dengan menggunakan rancangan penelitian analitik observasional dengan pendekatan *cross sectional*. Jumlah sampel penelitian ini adalah 43 petani tanaman hias di Baturraden. Data penelitian bersumber dari wawancara, pemeriksaan kadar kadmium urin dengan menggunakan alat *Atomic Absorption Spectrophotometry* (AAS) serta pemeriksaan kadar ureum dan kreatinin serum dengan menggunakan metode kinetika enzimatis. Analisis data menggunakan uji *Spearman*.

Hasil: Terdapat korelasi yang signifikan antara paparan kadmium terhadap kadar ureum serum dengan arah korelasi positif dan kekuatan korelasi lemah ($r=0,399$, $p=0,08$). Terdapat korelasi yang signifikan antara paparan kadmium terhadap kadar kreatinin serum dengan arah korelasi positif dan kekuatan korelasi lemah ($r=0,331$, $p=0,03$).

Kesimpulan: Semakin besar paparan kadmium maka akan semakin besar pula kadar ureum dan kreatinin serum pada petani tanaman hias di Baturraden.

Kata Kunci: Kadmium, Ureum Serum, Kreatinin Serum, Petani Tanaman Hias

**THE CORRELATIONS BETWEEN CADMIUM EXPOSURE
AND THE SERUM UREA AND CREATININE LEVELS
IN ORNAMENTAL PLANT FARMERS IN BATURRADEN**

Nafiisah

ABSTRACT

Background: Cadmium is a heavy metal which highly toxic to human, and it is used as an ingredient in pesticides and phosphates of ornamental plant farmers in Baturraden. Cadmium exposure in small doses and for a long time causes cadmium accumulation in the kidneys, the kidney damage that may result due to increased serum urea and creatinine levels.

Objective: To determine the correlation between cadmium exposure and the serum urea and creatinine levels in ornamental plant farmers in Baturraden.

Methods: This study was analytic observational, cross sectional design. Number of respondents were 43 farmers of ornamental plants in Baturraden. Research data were collected by interviews, examination of urinary cadmium levels using Atomic Absorption Spectrometry (AAS) and examination of serum urea and creatinine levels using enzymatic kinetics methods. Data were analyzed using Spearman test.

Result: Study result showed, that there was a significant correlation between cadmium exposure and serum levels of urea with positive and weak correlation ($r=0.399$, $p=0.08$). There was a significant correlation between cadmium exposure and serum levels of creatinine with positive and weak correlation ($r=0.331$, $p=0.03$).

Conclusion: The higher the cadmium exposure level, the higher the serum ureum and creatinin levels in ornamental plants farmers in Baturraden.

Keywords: Cadmium, Serum Urea levels, Serum Creatinine Levels, Ornamental Plant Farmers