

SHINTA NUR SYAFITRI. NIM. 22.03.4.1.1.00089. Analisis Konsentras Logam Kadmium Dan Evaluasi Risiko Kesehatan Konsumsi *Anadara granosa* Pada Lingkungan Perairan Di Pesisir Kenjeran Surabaya. **Jihannuma Adibiah Nurdini, M.T**

ABSTRAK

Pesisir Pantai Kenjeran Surabaya berpotensi mengalami pencemaran logam berat kadmium (Cd) akibat aktivitas antropogenik. Kerang darah (*Anadara granosa*) sebagai organisme *filter feeder* mampu mengakumulasi kadmium sehingga berpotensi menimbulkan risiko kesehatan bagi konsumen. Penelitian ini bertujuan menganalisis konsentrasi kadmium pada kerang darah, sedimen, dan air laut, mengevaluasi kualitas perairan, menentukan kemampuan bioakumulasi, mengetahui pengaruh perebusan terhadap kadar kadmium, serta mengevaluasi risiko kesehatan konsumsi menggunakan Target Hazard Quotient (THQ) dan Estimated Weekly Intake (EWI). Penelitian dilakukan di Perairan Kenjeran Surabaya menggunakan metode deskriptif kuantitatif dengan analisis kadar kadmium menggunakan *Atomic Absorption Spectrophotometry* (AAS). Hasil penelitian menunjukkan bahwa konsentrasi kadmium tertinggi ditemukan pada sedimen, diikuti kerang darah, dan terendah pada air laut. Kemampuan akumulasi kadmium dari sedimen tergolong rendah, sedangkan dari media air menunjukkan bahwa kerang darah mampu mengakumulasi kadmium. Perebusan selama 10 menit menyebabkan kadar kadmium meningkat akibat penyusutan kadar air dan masih kuatnya ikatan kadmium dengan protein metallothionein, sedangkan perebusan selama 20 menit menurunkan kadar kadmium karena sebagian kadmium berpindah ke media perebusan. Hasil analisis risiko menunjukkan bahwa nilai THQ dan EWI masih berada di bawah batas aman, sehingga konsumsi kerang darah dari Perairan Kenjeran Surabaya masih tergolong aman.

Kata kunci: *Anadara granosa*, kadmium, bioakumulasi, BSAF, BWAf, THQ, EWI.

SHINTA NUR SYAFITRI. NIM. 22.03.4.1.1.00089. *Analysis of Cadmium Metal Concentration and Evaluation of the Health Risks of Anadara granosa Consumption in the Coastal Environment of Kenjeran, Surabaya. Under the guidance of lecturer Jihannuma Adibiah Nurdini, M.T.*

ABSTRACT

The coast of Kenjeran, Surabaya, has the potential to experience heavy metal pollution from cadmium (Cd) due to anthropogenic activities. Blood cockles (Anadara granosa), as filter-feeding organisms, can accumulate cadmium, potentially posing a health risk to consumers. This study aimed to analyze Cd concentrations in blood cockles, sediment, and seawater, evaluate water quality, determine bioaccumulation capacity, determine the effect of boiling on cadmium levels, and evaluate the health risks of consumption using the Target Hazard Quotient (THQ) and Estimated Weekly Intake (EWI). The study was conducted in the waters of Kenjeran, Surabaya, using a quantitative descriptive method with cadmium levels analyzed using Atomic Absorption Spectrophotometry (AAS). The results showed that the highest cadmium concentrations were found in sediment, followed by blood cockles, and the lowest in seawater. The cadmium accumulation capacity of sediment was relatively low, while the water showed that blood cockles were capable of accumulating cadmium. Boiling for 10 minutes caused cadmium levels to increase due to reduced water content and the continued strong binding of cadmium to the metallothionein protein, while boiling for 20 minutes reduced cadmium levels because some of the cadmium was leached into the boiling medium. The risk analysis results showed that the THQ and EWI values were still below the safe limit, so consumption of blood cockles from the Kenjeran waters of Surabaya is still considered safe.

Keywords: *Anadara granosa, cadmium, bioaccumulation, BSAF, BSAF, THQ, EWI*