

LEMBAR PERSETUJUAN PEMBIMBING

SKRIPSI

**ANALISIS KADAR TIMBAL (Pb) PADA RAMBUT POLISI LALU
LINTAS DAN KADAR TIMBAL (Pb) PADA TANAMAN
BIOINDIKATOR DI KOTA GORONTALO**

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Gorontalo, 20 Januari 2018

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**LEMBAR PENGESAHAN
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ABSTRAK

Fitriyanti Katili. 2018. Analisis Kadar Timbal (Pb) pada Rambut Polisi Lalu Lintas dan Kadar Timbal (Pb) pada Tanaman Bioindikator di Kota Gorontalo. Skripsi, Jurusan Kesehatan Masyarakat, Fakultas Olahraga dan Kesehatan, Universitas Negeri Gorontalo. Pembimbing I Dr. Hj. Herlina Jusuf Dra., M.Kes. Pembimbing II Ekawaty Prasetya S.Si, M.Kes.

Kota Gorontalo mempunyai jumlah kendaraan yang cenderung meningkat setiap tahunnya. Emisi kendaraan menghasilkan bahan pencemar berupa timbal ke udara dan akan berdampak pada lingkungan serta pekerja yang berada di jalan raya seperti polisi lalu lintas. Pemantauan kualitas udara dapat dilakukan dengan menggunakan tanaman bioindikator. Rumusan masalah apakah terdapat perbedaan kadar timbal pada rambut polantas dan kadar timbal pada tanaman bioindikator. Tujuan penelitian menganalisis kadar timbal pada rambut polantas dan tanaman bioindikator, serta perbandingan kedua variabel.

Metode penelitian survei observasional, dengan pengumpulan data menggunakan kuesioner dan lembar observasi. Populasi penelitian adalah Polisi Lalu Lintas di satlantas Polres Gorontalo Kota dengan jumlah sampel 12 orang. Populasi tanaman bioindikator adalah tanaman *lichen* pada jalur transportasi Kota Gorontalo, sampel berada pada 3 titik yakni jln. M.H Thamrin, bundaran Hulonthalo indah dan perlimaan Gorontalo.

Hasil penelitian kadar timbal pada rambut polantas berkisar antara 5.0788-8.5161 ppm, telah melebihi batas normal 2 ppm. Sementara kadar timbal pada tanaman bioindikator di 3 titik lokasi penelitian adalah 1.0117, 1.2411, 1.3885 ppm, menunjukkan *lichen* tercemar timbal dengan batas toleransi 0,25 ppm. Hasil analisis perbandingan, didapatkan nilai Asymp. Sig. (2-tailed) 0.009, nilainya < 0.05, maka terdapat perbedaan signifikan dari kedua variabel. Perbedaan ini disebabkan oleh karakteristik masing-masing variabel. Walaupun berbeda secara signifikan, keduanya telah menunjukkan adanya bahan pencemar timbal.

Disimpulkan udara di area transportasi Kota Gorontalo telah tercemar timbal, ditandai dengan kadar timbal pada rambut polantas dan *lichen* yang melebihi batas normal. Disarankan agar polantas menggunakan masker saat bertugas, serta pemerintah dapat melakukan pemantauan kualitas udara secara berkala.

Kata Kunci: Pencemaran, Udara, Timbal, Rambut, Bioindikator.

ABSTRACT

Fitriyanti Katili. 2018. Analysis of Lead (Pb) Content at Traffic Police Hair and Bio-indicator Plant in Gorontalo City. Skripsi, Department of Public Health, Faculty of Sport and Health, State University of Gorontalo. Principal supervisor is Dr. Hj. Herlina Jusuf Dra.,M.Kes. and Co-supervisor is Ekawaty Prasetya, S.Si, M.Kes.

Number of vehicle keeps increasing in Gorontalo City in yearly base. Emission of the vehicle creates contaminants namely Lead to air and it may impact environment as well as worker at road such as traffic police. The air quality can be monitored by using bio-indicator plant. Problem statement of this research is whether or not there is difference of Lead content at traffic police hair and at bio-indicator plant. The research aims to analyze Lead content at traffic police hair and at bio-indicator plant as well as comparison among both variables.

This research applies observational survey method by gathering data through questionnaire and observation sheet. Research population is 12 Traffic Police at Satlantas Polres Gorontalo Kota while population of bio-indicator plant is lichen plant at transportation route of Gorontalo City. Then, research samples are on 3 points namely M.H. Thamrin Street, Hulonthalo Indah Roundabout and Five Junction of Gorontalo.

Research finding shows that Lead content at traffic police hair is about 5.0788-8.5161 ppm in which it has exceeded threshold for 2 ppm. Meanwhile, Lead content at bio-indicator plant at three research locations are 1.0117, 1.2411 and 1.3885 ppm and it confirms that lichen has been polluted by Lead for tolerance limit of 0,25 ppm. Result of comparison analysis obtains value of Asymp. Sig. (2-tailed) for 0.009 and its value is lower than 0.05, thus it indicates that there is significant difference of the two variables. The difference is caused by characteristics of every variable and although they are different significantly, both of them have shown presence of contaminant of Lead.

In conclusion, air at transportation area of Gorontalo City has been polluted by Lead as marked by Lead content at traffic police and lichen that has exceeded the threshold. The traffic police are suggested to use mask when on duty while the government is suggested to do gradual monitor over quality of air.

Keywords: Pollution, Air, Lead, Hair, Bio-indicator

