

# Gangguan keseimbangan tubuh pada masyarakat terpajan merkuri di Pertambangan Emas Skala Kecil (PESK) Desa Lebaksitu Kabupaten Lebak, Banten = Body balance disorders at mercury exposed communities in Artisanal and Small Scale Gold Mining (ASGM) Desa Lebaksitu, Kabupaten Lebak Banten

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## Abstrak

Otak merupakan target utama pajanan merkuri yang dapat mengganggu organ lain karena merkuri organik merupakan neurotoksik yaitu racun terhadap sistem saraf pusat terutama pada bagian korteks dan serebellum sehingga dapat menimbulkan gangguan keseimbangan tubuh. Salah satu sumber pencemaran terbesar merkuri berasal dari pertambangan emas skala kecil PESK yang dilakukan oleh masyarakat.

Penelitian ini bertujuan untuk mengetahui hubungan antara kadar merkuri dalam rambut terhadap gangguan keseimbangan tubuh pada masyarakat terpajan merkuri. Desain studi yang digunakan adalah cross sectional, pemilihan sampel menggunakan sistem teknik total sampel dengan data kadar merkuri dalam rambut menggunakan data sekunder penelitian sebelumnya. Jumlah sampel dalam penelitian ini adalah 58 responden. Pengukuran gangguan keseimbangan tubuh menggunakan tes Romberg. Hubungan antara kadar merkuri rambut, gangguan keseimbangan tubuh dan karakteristik individu umur, pekerjaan, lama tinggal, indeks massa tubuh dan konsumsi ikan diuji menggunakan regresi logistik, chi square dan independen t test. Hasil menunjukkan kadar merkuri rambut yang melebihi batas normal > 2 ppm sebanyak 31 orang 53,4 dan yang mengalami gangguan keseimbangan tubuh pada masyarakat sebanyak 37 orang 63,8. Secara statistik terdapat hubungan yang signifikan antara kadar merkuri rambut dengan gangguan keseimbangan tubuh dengan p value 0,010 sebanyak 25 orang 80,6 responden dengan kadar merkuri > 2 ppm mengalami gangguan keseimbangan tubuh. Responden dengan kadar merkuri > 2 ppm, berisiko mempunyai gangguan keseimbangan tubuh sebesar 6 kali dibandingkan responden dengan kadar merkuri rambut ≤ 2 ppm setelah dikontrol variabel umur. Untuk penelitian berikutnya disarankan untuk melakukan pengukuran udara di sekitar lokasi PESK sebagai referensi pajanan merkuri yang masuk melalui jalur inhalasi.

Brain is the main target of mercury exposure that can interface other organs because organic mercury is a neurotoxic that is toxic to the central nervous system, especially in the cortex and cerebellum so can cause disturbance of the body balance. One of the largest sources of mercury contamination come from artisanal and small scale gold mining ASGM conducted by the community.

This study aims to determine the relationship between levels of mercury in hair against body balance disorders in community exposed to mercury. This study used cross sectional design, sample selection used total sampling technique. Data of mercury levels in hair used secondary data from previous research. The number of samples in this study were 58 respondents. Measurement of body balance disorders using Romberg test. The relationship between mercury level in hair, body balance disorders and individual characteristics age, occupation, length of stay, body mass index and fish consumption were tested using chi square, independent T test and logistic regression.

The results showed hair mercury levels exceeded normal limits of 2 ppm as many as 31 people 53.4 and those with disturbance of body balance in community were people 63.8. Statistically, there was a significant

correlation between hair mercury level with body balance disorder p value 0.010 , proved by as many as 25 people 80,6 respondents with mercury level 2 ppm had disturbance of body balance. Respondents with mercury levels 2ppm, risk to have body balance disorders 6 times compared to respondents with mercury levels in hair le 2ppm after controlled by age variable. For further research it is suggested to conduct airborne measurements around the ASGM location as a reference for mercury exposure which is enter through the inhalation pathway.</i>