

Pengaruh faktor risiko pajanan timbal terhadap kejadian gangguan perkembangan mental di wilayah Daur Ulang Aki Bekas, Desa Cinangka, Kabupaten Bogor = Effect of lead exposure risk factors on mental and developmental disorders in lead-acid battery recycling site, Cinangka Village, Bogor Regency

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Abstrak

Timbal yang bersifat neurotoksik dapat dikeluarkan dari daur ulang baterai bekas. Ada kegiatan daur ulang aki bekas di Desa Cinangka yang sudah beroperasi sejak 1978. Studi ini menyangkut faktor risiko untuk eksposur terkait timbal dan mempengaruhi kejadian gangguan perkembangan mental di area daur ulang aki bekas, Desa Cinangka. Penelitian ini menggunakan desain studi kasus kontrol dengan analisis bivariat. Pengumpulan data dilakukan dengan mengukur kadar timbal dalam tanah dan air, kuesioner, dan observasi. Hasilnya menunjukkan tingkat rata-rata timbal dalam tanah adalah 4.448,21 ppm dan rata-rata kadar timbal dalam air adalah 0,02 ppm. Variabel yang berhubungan dan mempengaruhi gangguan perkembangan mentalitas di area daur ulang aki bekas adalah riwayat aktivitas daur ulang aki bekas di rumah ($p = 0,036$; $OR = 7.000$). Kesimpulan dari penelitian ini adalah di Desa Cinangka, Area daur ulang aki bekas, ada area yang memiliki kadar timbal dalam tanah melebihi standar kualitas 400 ppm dari US EPA dan variabel pengaruh yang signifikan gangguan perkembangan mental di bidang daur ulang baterai bekas adalah sejarah kegiatan mendaur ulang baterai bekas di rumah.

.....Lead which is neurotoxic can be removed from recycling used batteries. There is a used battery recycling activity in Cinangka Village that has been operating since 1978. This study concerns the risk factors for lead-related exposure and affects the incidence of mental development disorders in the used battery recycling area, Cinangka Village. This study used a case control study design with bivariate analysis. Data collection was carried out by measuring lead levels in soil and water, questionnaires, and observations. The results showed that the average level of lead in the soil was 4,448.21 ppm and the average level of lead in water was 0.02 ppm. The variable related to and affecting mental development disorders in the used battery recycling area was the history of recycling used batteries at home ($p = 0.036$; $OR = 7,000$). The conclusion of this study is that in Cinangka Village, a used battery recycling area, there are areas that have lead levels in the soil exceeding the 400 ppm quality standard of the US EPA and the significant influence variable mental development disorders in the field of used battery recycling is the history of recycling activities. used batteries at home.