Gangguan fungsi paru akibat pajanan kromium (studi pada pekerja penyamakan kulit di Sukaregang Kabupaten Garut tahun 2015) = Pulmonary dysfunction due to chromium exposures (study on tannery worker in the Sukaregang Garut district 2015)

Rico Kurniawan, author

Abstrak

[ABSTRAK
Pendahuluan: Pekerja penyamakan kulit berpotensi terpajan oleh berbagai polutan pencemar udara, salah satunya kromium. Terhirupnya polutan kromium dapat mempengaruhi kesehatan seperti sesak nafas, batuk, penurunan fungsi paru, hingga kanker paru. Tujuan: Untuk mengetahui hubungan pajaran konsentrasi kromium di tempat kerja dengan gangguan fungsi paru. Metode: Penelitian ini menggunakan desain studi cross sectional terhadap 61 orang pekerja penyamakan kulit di Sukaregang Kabupaten Garut. Kapasitas vital paksa (FVC) dan volume ekpirasi paksa satu detik (FEV1) diukur menggunakan spirometri Datospris mod 120 Sibelmed. Kromium total di tempat kerja diukur menggunakan low volume sampler dan dianalisis menggunakan atomic absorbtion spectrofotometry (AAS). Hasil: konsentrasi kromium total di tempat kerja berkisar antara 3.94-11.79 μg/m3. Kondisi fungsi paru pekera penyamakan kulit sebagaian besar masih besar masih dalam keadaan normal (FEV1/FVC>75%). Analisis multivariat menunjukkan bahwa masa kerja dan pajanan debu kromium meningkatkan risiko tejadinya fungsi paru pada pekerja, (p 0.024) dengan 95% CI (0.086-0.830). Kesimpulan: setelah dikontrol dengan masa kerja, pekerja yang terpajan kromium lebih besar, berisiko terkena gangguan fungsi paru.
<hr>
ABSTRACT
Background: tannery workers have been potentially exposed to various air pollutants, such as chromium. Exposed by chromium can affect health status, such as shortness of breath, cough, decreased lung function, and lung cancer. Objective: to determine the relationship of chromium exposure in the workplace and worker?s pulmonary dysfunction. Method: this study used a cross-sectional design on 61 people working at tanneries in Sukaregang, Garut district. Lung function was measured by spirometry. Low volume of sample was used to measure the chromium in the air and analyzed using atomic absorbtion spectrofotometry (AAS). Result: the concentration of total chromium in the workplace ranged from 3.94-11.79 μg/m3, while most of worker?s pulmonary function still in normal condition. Multivariate analysis showed that length of exposure and chromium concentration increases the risk of pulmonary dysfunction in tannery workers, (p 0.024 95% CI 0.068-0.830). Conclusion: control by lenght of exposure showed tannery worker who expose to higher concentration of chromium, have more risk to get pulmonary dysfunction.;Background: tannery workers have been potentially exposed to various air pollutants, such as chromium. Exposed by chromium can affect health status, such as shortness of breath, cough, decreased lung function, and lung cancer. Objective: to determine the relationship of chromium exposure in the workplace and worker?s pulmonary dysfunction. Method: this study used a cross-sectional design on 61 people working at tanneries in Sukaregang, Garut district. Lung function was measured by spirometry. Low volume of sample was used to measure the chromium in the air and analyzed using atomic absorbtion spectrofotometry (AAS). Result: the

concentration of total chromium in the workplace ranged from 3.94-11.79 μg/m3, while most of worker?s pulmonary function still in normal condition. Multivariate analysis showed that length of exposure and chromium concentration increases the risk of pulmonary dysfunction in tannery workers, (p 0.024 95% CI 0.068-0.830). Conclusion: control by lenght of exposure showed tannery worker who expose to higher concentration of chromium, have more risk to get pulmonary dysfunction., Background: tannery workers have been potentially exposed to various air pollutants, such as chromium. Exposed by chromium can affect health status, such as shortness of breath, cough, decreased lung function, and lung cancer. Objective: to determine the relationship of chromium exposure in the workplace and worker’s pulmonary dysfunction. Method: this study used a cross-sectional design on 61 people working at tanneries in Sukaregang, Garut district. Lung function was measured by spirometry. Low volume of sample was used to measure the chromium in the air and analyzed using atomic absorbtion spectrofotometry (AAS). Result: the concentration of total chromium in the workplace ranged from 3.94-11.79 μg/m3, while most of worker’s pulmonary function still in normal condition. Multivariate analysis showed that length of exposure and chromium concentration increases the risk of pulmonary dysfunction in tannery workers, (p 0.024 95% CI 0.068-0.830). Conclusion: control by lenght of exposure showed tannery worker who expose to higher concentration of chromium, have more risk to get pulmonary dysfunction.]