

Hubungan pelarut organik dengan gejala neurotoksik pada pekerja alas kaki di sektor informal Ciomas Bogor: Menggunakan kuesioner Swedish Q16 = The Correlation between organic solvent and neurotoxic symptoms among informal sector footwear workers at Ciomas Bogor: Based on Swedish Q16 questionnaire

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Abstrak

Latar belakang : Terpajan pelarut organik merupakan kejadian sehari-hari yang dialami oleh banyak pekerja. Pelarut organik banyak digunakan dalam proses pembuatan alas kaki disektor formal maupun informal. Menurut beberapa penelitian beberapa jenis pelarut organik mempunyai sifat neurotoksik sehingga perlu deteksi gejala-gejala tersebut yang mungkin timbul pada para pekerja. Kuesioner Swedish Q16 adalah kuesioner deteksi dini yang paling sering digunakan untuk penupisan pekerja yang terpajan pelarut organik. Penelitian ini bertujuan untuk mengetahui prevalensi gejala neurotoksik akibat pajanan pelarut organik menggunakan Kuesioner Swedish Q16, serta mengetahui beberapa faktor yang mempengaruhi seperti : umur, pendidikan, masa kerja, status gizi, pemakaian APD, kebiasaan minum alkohol, merokok, cuci tangan, makan minum di tempat kerja dan hasil pemantauan kadar pelarut organik di lingkungan, kerja.

Metode : Penelitian ini menggunakan desain penelitian cross-sectional dengan subyek penelitian 138 orang pekerja alas kaki di sektor informal Ciomas Bogor. Pengumpulan data dilakukan dengan menggunakan kuesioner dan pengamatan langsung, sedangkan lingkungan kerja dilakukan dengan pengukuran personal sampling dan hasilnya diperiksa menggunakan teknik Gas Chromatography. Gejala neurotoksik dideteksi menggunakan kuesioner Swedish Q16. Pengumpulan data dilakukan pada bulan September-Oktaber 2006. Hasilnya diolah menggunakan program statistik SPSS 11,5.

Hasil : Hasil identifikasi lem didapatkan lem kuning mengandung : toluen (45,3%), benzen (5,18%) dan metil etil keton (18,68%), lem putih mengandung : toluen (41,31%), benzen (3,52%) dan aseton (19,24%). Kadar toluen di lingkungan kerja rata-rata 1,12 ppm, tertinggi 2,48 ppm dan terendah 0,33 ppm. Keluhan terbanyak kesemutan (62,3%), sakit kepala (62,3%), mudah Ietih (56,5%). Prevalensi gejala neurotoksik pads subyek penelitian sebesar 55,8%. Pada analisis bivariat faktor umur, masa kerja dan IMT memiliki hubungan bermakna terhadap terjadinya gejala neurotoksik. Setelah dilakukan analisis multivariat didapatkan umur < 28 tahun memiliki risiko 6 kali lipat untuk mengalami gejala neurotoksik. ($p = 0,000$; $OR = 6,235$). Penieriksaan finger tapping test dilakukan secara sub sampling pada 53 subyek dan dipemleh basil tidak normal pada tangan kanan 47,2% dan tangan kiri 43,3%.

Kesimpulan : Prevalensi gejala neurotoksik pada pekerja industri alas kaki sektor informal , Ciomas , Bogor yang terpajan pelarut organik sebesar 55,8%. Faktor umur berhubungan dengan terjadinya gejala neurotoksik ($OR = 6,235$; $p = 0,000$).

<hr><i>Background : Exposed by organic solvent is form of occurrence day by day for many workers. Organic solvent is used in many process on footwear manufacture both formal and informal sector.

According to several studies, many organic solvents have neurotoxic characteristics; therefore, early detection for symptoms that influence workers is important. The Swedish Q16 is a questionnaire often used for workers screening from exposure by organic solvents. The goal of this study is to identify the prevalence of neurotoxic symptoms caused by organic solvent exposure, using the Swedish Q16 Questionnaire, and to know the influencing factors such as: age, education, working period, body mass index, use of PPE, alcohol consumption, hand washing, smoking, eating and drinking at the workplace, and organic solvent levels in the workplace.

Method: The design of this study was cross-sectional, and the total number of samples were 138 footwear workers. Data collection was conducted through interviews, direct monitoring, and personal sampling at the workplace, which was checked by Gas Chromatography technique. Neurotoxic symptoms were detected by the Swedish Q16 Questionnaire. Data collection was done from September to October 2006. All data research results were processed by the Statistical Program SPSS version 11.5.

Result: Identification of glue types showed that yellow glue contains toluene (45.3%), benzene (5.18%), and methyl ethyl ketone (18.68%), while white glue contains toluene (41.31%), benzene (3.52%), and acetone (19.24%). The average toluene concentration at the workplace was 1.12 ppm, with a range from 0.33 ppm to 2.48 ppm. The most common complaints from subjects were tingling (62.3%), headache (62.3%), and fatigue (56.5%). The prevalence of neurotoxic symptoms among subjects was 55.8%. In bivariate analysis, age, work period, and body mass index were related to neurotoxic symptoms. In multivariate analysis, it was found that subjects aged < 28 years have a six-fold higher risk of experiencing neurotoxic symptoms ($p < 0.000$; OR = 6.235). Examination of the finger tapping test as a sub-sampling on 53 subjects showed abnormal results on the right hand (47.2%) and left hand (43.3%).

Conclusions: The prevalence of neurotoxicity symptoms in the informal sector footwear workers at Ciomas Bogor was 55.8%. Age was related to neurotoxic symptoms (OR = 6.235; $p = 0.000$).