Proporsi gangguan penglihatan warna diantara pekerja mebel yang terpajan toluene (kadar hippuric acid urine) = Proportion of color vision impairment among the furniture workers exposed to toluene hippuric acid content of urine

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Abstrak

Latar Belakang dan Tujuan penelitian : Pekerja mebel di Kelurahan Pondok Bambu adalah pekerja informal dalam pekerjaannya terpajan dengan pelarut organik seperti toluen. Gangguan penglihatan warna didapat (diskromatopsia) akibat pajanan toluen di tempat kerja bersifat subklinis, dengan perjalanan waktu dapat menjadi suatu diskromatopsia yang jelas secara klinis. Penelitian ini dilakukan untuk mengetahui proporsi gangguan penglihatan warna (diskromatopsia) pada pekerja mebel yang terpajan toluen (kadar Hippuric acid urine).

Metode: Penelitian ini menggunakan desain potong lintang, dengan jumlah subjek sebanyak 81 orang. Pengumpulan data dilakukan melalui wawancara, pemeriksaan fisik, pemeriksaan fungsi penglihatan warna dengan Fansworth D-15 , penentuan diskromatopsia secara kuantitatif dengan Bowman CCI dan pemeriksaan metabolit toluen.

Hasil: 40 (49,4%) dari 81 subjek mengalami gangguan penglihatan warna (diskromatopsia) sesuai dengan hasil pemeriksaan persepsi warna. Median kadar hippuric acid urine rata-rata adalah 0,34 (0,00-2,64). Nilai Bowman CCI mata kanan dengan median 1 (1-1,74) dan mata kiri 1 (1-1,87). Tidak didapat hubungan antara kadar hippuric acid urine (p=1,00 ; OR=0.50 ; CI 95% : 0,044-5,743) dengan diskromatopsia. Tidak terdapat hubungan yang bermakna antara masa kerja, penggunaan masker, jenis pekerjaan, lama pajanan, kebiasaan merokok dan alkohol dengan diskromatopsia.

Kesimpulan: Proporsi kejadian diskromatopsia pada penelitian ini sebesar 40 (49,4%), dan tidak mempunyai hubungan dengan kadar hippuric acid urine.

<hr><i>Background and Objective: Furniture Workers in the Village Pondok Bambu furniture are informal worker who may be occupationally exposed to organic solvent such as toluene. Acquired color vision disturbance (dyschromatopsia) due to exposure to toluene in the workplace is subclinical, that with the passage of time can be a clinically obvious dychromatopsia. This study was conducted to determine the proportion of impaired color vision (dyschromatopsia) furniture workers exposed to toluene (hippuric acid content of urine).

Methods: This study used a cross-sectional design, with 81 subjecs. Data collected through interview, physical examination, examination of color vision function with Fansworth D-15. The quantitative dyschromatopsia was assessed using the Color Confusion Index (CCI) by means of the Bowman scoring method and inspection of toluene metabolite.

Results: 40 (49.4%) of 81 subjecs had impaired color vision (diskromatopsia) in accordance with the result of the perception of color. Median level of urinary hippuric acid the average was 0.34 (0.00 to 2.64). CCI values were right eye with median of 1 (1 to 1.74) and the left eye 1 (1 to 1.87). Not significant association between urinary level of hippuric acid (p = 1.00; OR = 0.50 CI 95 %: 0.044 to 5.743) with diskromatopsia. There are not a significant association between year of service, the use of mask, type of work , duration of

exposure, smoking and alcohol habits with dyschromatopsia.
Conclusions: The proportion of dyschromatopsia event in this study was 40 (49.4%), and had no significant correlation with the level of urinary hippuric acid.</i>