

Analisis hubungan kadar fenol urin dengan pajanan uap benzena pada pekerja di suatu percetakan di Jakarta

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Abstrak

Ruang lingkup: Benzena, bahan kimia yang berdampak negatif terhadap kesehatan dalam jangka panjang, pada saat ini masih banyak digunakan di industri percetakan. Penelitian ini bertujuan untuk mengetahui hubungan antara umur, pendidikan, status kawin, masa kerja, kebiasaan merokok dan lokasi kerja di lingkungan terpajan benzena dengan tingginya fenol urin.

Metodologi: Penelitian ini menggunakan disain krosseksional dan melakukan perhitungan Odd Ratio (OR), untuk itu digunakan metode kasus-kontrol. Sebanyak 65 subjek penelitian didapat yang terdiri atas 32 dari lingkungan kerja terpajan tinggi dan 33 dari lingkungan kerja terpajan rendah. Data diperoleh dengan Cara wawancara terstruktur, pemeriksaan fisik dan pemeriksaan sampel urin yang dikumpulkan setelah 8 jam kerja.

Hasil penelitian: Kadar uap benzena di lingkungan kerja terpajan tinggi lima kali lebih tinggi dari NAB yang ditetapkan, sedangkan di lingkungan kerja terpajan rendah $< 1/10$ NAB. Penelitian ini tidak menemukan adanya hubungan bermakna ($p = 0,485$) antara pajanan uap benzena dengan peningkatan kadar fenol urin. Hanya dua responden dari kelompok terpajan rendah mempunyai kadar normal fenol urin.

Kesimpulan: Tidak terbukti adanya hubungan yang bermakna antara peningkatan kadar fenol urin pekerja di lokasi kerja dengan faktor-faktor umur, pendidikan, status kawin, masa kerja, dan kebiasaan merokok. Pajanan terjadi tidak hanya di lokasi kerja terpajan tinggi tapi juga di lokasi kerja terpajan rendah, Walaupun kadar uap benzena di lingkungan kerja terpajan rendah < 1 ppm , kadar fenol urin pekerja di lokasi tersebut rata-rata di atas normal.

Karena tingginya kadar uap benzena di lingkungan kerja, manajemen perusahaan perlu menerapkan Kesehatan dan Keselamatan Kerja (K3). Hal ini perlu diperhatikan oleh Hiperkes, Dinas Kesehatan, Departemen Tenaga Kerja, Departemen Kesehatan, Departemen Perindustrian dan Perdagangan dan K3 untuk mencegah dan mengurangi dampak negatif jangka panjang pada pekerja di percetakan tersebut.

Analysis of The Relationship of Urinary Phenol With The Exposure of Benzene Volatile on The Workers at a Printing Company in Jakarta

Scope: Benzene, a chemical substance which has long-term negative impacts on health is still widely used in printing industry. The goal of this study is to find the relationship between age, education, marital status, working period, smoking habit and workplace at the environment exposed to benzene with the increase of urinary phenol.

Methodology: This study used cross sectional design. Since Odd Ratio (OR) was also calculated, case-control method had been used. A total number of 65 respondents consisting of 32 workers worked at high-exposed workplace and of 33 workers worked at low-exposed workplace. The data were obtained from

structured interview, physical examination and test of urine collected after 8 working-hours.

Results: Benzene volatile at the high-exposed workplace is fivefold higher than TLV (threshold limit value), meanwhile at the low-exposed one is less than 1110 of TLV. This study did not find a significant relationship ($p = 0,485$) between exposure of benzene volatile with the increase of urinary phenol. Only two respondents of low-exposed workplace have normal urinary phenol

Conclusion: No relationship was found between the increase of urinary phenol with workplace and all those factors mentioned above. The exposure happened not only at high-exposed but also low-exposed workplace. Although the benzene-volatile at low-exposed workplace is less than 1 ppm, the average of workers' urinary phenol is above normal (28,39 mg/l)

Due to high exposure of benzene volatile at workplace, the management of this printing industry should apply the Occupational Health and Safety. This should also be noticed by the Industry Hygiene and Occupational Health, Health Service, Departement of Workers, Departement of Health, Departement of Industry and Trade and Occupational Health and Safety to prevent and decrease long-term negative impacts on workers at this company.</i>