ABSTRACT

Benzene, also known as benzol, is a colorless liquid with a sweet odor. Benzene evaporates intoair very quickly and dissolves slightly in water. Benzene is highly flammable. WHO (1996) explains that biomarkers that can be used as indicators of benzene exposure are benzene in blood; benzene in urine; benzene in air breathing; phenol in the urine; catechol in urine; hydroquinone in the urine; 1,2,4-trihydroxibenzene in urine, phenylmercapturic in urine, and trans, trans-muconic acid in urine. The purpose of this study wasto analyze the assosiation of benzene content in air, characteristics of workers, worker'sbehavioral factors with urine phenol level in Dharmahusada SPBU Surabaya.

The method of this study was observational analytic research with cross sectional design and analyzed using T-Test in order to carry out the differences as well as the correlation of spearman and logistic regression in order to seek out the relation.

The results of this study showed that there were 3 measurement points for benzene levels that exceeded NAB. There was no difference in the phenol content of urine before and after work (p = 0.621), there was a relationship between the use of APD with phenol levels of urine (p = 0.007) and there was a relationship between consumption of vegetables and fruits with phenol levels of urine before work (p = 0.007).

The conclusion of this study is that there is no assosiation between the concentration of benzene and the phenol content of urine both before and after work, but there are several other factors that can affect the increase in phenol levels in urine

Keywords :benzena, fenol, SPBU, NAB, PPE

ABSTRAK

Benzena merupakan cairan yang tidak memiliki warna dan memiliki bau manis. Penguapan benzene keudara sangat cepat, benzene juga mudah terbakar, dan larut sedikit di dalam air.WHO (1996) menjelaskan bahwa biomarker yang dapat dijadikan sebagai indicator pajanan benzene yaitu benzene dalam darah; benzene dalam urine; benzene dalam udara pernapasan; fenoldalam urine; catechol dalam urine; hydroquinone dalam urine; 1,2,4-trihydroxibenzena dalam urine, phenylmer capturic dalam urine, dan asam trans,trans-muconic dalam urine. Tujuan penelitian ini adalah menganalisis hubungan kadar benzena di udara dengan kadar fenol urine di Stasiun Pengisian Bahab Bakar Umum (SPBU) Dharmahusada Surabaya

Metode dari penelitian ini merupakan penelitian analitik observasional dengan rancangan *cross sectional* dan dianalisis menggunakan uji T-test *paired* untuk mengetahui perbedaan serta korelasi *Spearman rho* untuk menganalisis hubunganan atara kosentrasi benzena di udara dengan kenaikan kadar fenol urine sebelum dan sesudah bekerja.

Hasil dari penelitian ini didapatkan bahwa terdapat 3 titik pengukuran kadar benzena yang melebihi NAB. Tidak ada perbedaan kadar fenol urine sebelum dan sesuadah bekerja (p=0,621), terdapat hubungan antara penggunaan APD dengan kadar fenol urine (p=0,007) dan terdapat hubungan antara konsumsi sayur dan buah dengan kadar fenol urine sebelum bekerja (p=0,007).

Kesimpulan pada penelitian ini yaitu tidak terdapat hubungan antara konsentrasi benzene dengan kadar fenol urine baik sebelum maupun sesudah bekerja, namun ada beberapa faktor lain yang dapat mempengaruhi peningkatan kadar fenol dalam urine

Kata kunci :benzenaudara, fenolurine,operatorspbu, NAB, APD