Korelasi antara asupan dan kadar vitamin C, E dengan kadar interleukin 6 serum sebagai penanda inflamasi pada pekerja pabrik asbes = Correlations between intakes and levels of vitamin C and vitamin E and level of interleukin 6 serum as a marker of inflammation in asbestos factory workers

Hasibuan, Zuainah Saswati, author

Abstrak

Serat asbes yang terinhalasi masuk ke dalam alveolus menyebabkan terjadinya peningkatan produksi reactive oxigen spesies (ROS) yang dapat memicu terjadinya reaksi inflamasi. Interleukin 6 merupakan penanda reaksi inflamasi akibat pajanan serat asbes. Vitamin C dan E merupakan antioksidan yang bekerja sebagai scavenger ROS. Vitamin C juga dapat menghambat aktivitas faktor transkripsi NFB. Vitamin E selain dapat menghambat aktivitas faktor transkripsi JAK/STAT3 dan NFB, juga dapat menghambat aktivitas COX2 dan LOX5.

Penelitian potong lintang di sekretariat serikat buruh pabrik asbes X Kabupaten Karawang bulan Oktober 2014 dilakukan untuk menilai korelasi asupan vitamin C, E dengan kadar interleukin 6 pada pekerja pabrik asbes. Lima puluh dua pekerja pabrik asbes berhasil menyelesaikan protokol penelitian. Hasilnya menunjukkan tidak terdapat korelasi bermakna (p >0,05) antara asupan vitamin C dengan kadar IL-6 dan antara asupan vitamin E dengan kadar IL-6. Terdapat korelasi positif antara kadar vitamin C dengan kadar IL-6 (r = 0,31) dengan p <0,05, namun tidak terdapat korelasi antara kadar vitamin E dengan kadar IL-6.

.....

Asbestos fibers that are inhaled into the alveoli cause increased production of reactive oxygen species (ROS) which may trigger inflammation reaction. Interleukin 6 (IL-6) is a marker of inflammation reaction caused by asbestos fibers exposure. Vitamin C and vitamin E are antioxidants acting as ROS scavengers. Vitamin C can also inhibit the activity of transcription factor NFB. Vitamin E can inhibit the activities of transcription factors JAK/STAT3 and NFB as well as the activities of COX2 and LOX5.

A cross-sectional sudy at a labor union secretariat in Karawang Regency in October 2014 was conducted to evaluate the correlations between intakes and levels of vitamin C and vitamin E and level of IL-6 in asbestos factory workers. Fifty two asbestos factory workers finished the study. The result showed no significant correlation between vitamin C intake and IL-6 level or between vitamin E intake and IL-6 level. There was a moderate positive correlation between vitamin C level and IL-6 level (r = 0.31, p <0.05), but there was no correlation between vitamin E level and IL-6 level.