

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

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Abstrak

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Serat asbes yang terinhalasi masuk ke dalam alveolus menyebabkan terjadinya peningkatan produksi reactive oxygen 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.

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ABSTRACT

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 study 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.