

Gambaran Konsentrasi Paparan Personal Particulate Matter 2,5 (PM_{2,5}) dan Efek Akut Pernapasan Subyektif pada Pekerja Patrol bagian Produksi di Industri Semen PT X, 2016.

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Abstrak

Particulate matter merupakan salah satu kontaminan udara yang dihasilkan oleh industri semen. Paparan jangka panjang ataupun jangka pendek PM_{2,5} mengakibatkan efek kesehatan, salah satunya gangguan fungsi pernapasan. Penelitian ini bertujuan untuk menggambarkan konsentrasi paparan personal PM_{2,5} dan efek akut pernapasan subyektif pada pekerja patrol bagian produksi di industri semen PT X, tahun 2016.

Penelitian ini merupakan penelitian kuantitatif dengan desain deskriptif. Pengukuran konsentrasi PM_{2,5} menggunakan Leland Legacy Pump dan Sioutas Cascade Impactor selama 8 jam kerja pada patroler area reklamer, raw mill, firing, finish mill, dan packhouse. Hasil penelitian menunjukkan rata-rata konsentrasi paparan personal PM_{2,5} pada patroler industri semen PT X adalah 1495,651 $\mu\text{g}/\text{m}^3$ dan konsentrasi paparan PM_{2,5} tertinggi terdapat pada area packhouse. Seluruh patroler mengalami efek akut pernapasan subyektif, dengan keluhan tertinggi sakit tenggorokan dan bersin (64,7%).

Kata kunci: Particulate matter 2,5 (PM_{2,5}), efek akut pernapasan subyektif, pekerja patrol bagian produksi industri semen

Particulate matter is one of the air contaminant produced by cement industry. Health effect that caused by long term or short term of PM_{2,5} exposure lead to respiratory diseases. This study purposes to describe personal exposure concentrations of particulate matter (PM_{2,5}) and percentage subjective acute respiratory effects on production patrol workers at PT X cement industry 2016. This research is a quantitative descriptive study by measuring the concentration of PM_{2,5} using personal sampling equipment such as Leland Legacy Pump and Sioutas Cascade Impactor during work hours on patrol reklamer, raw mill, firing, finish mill, and pack house work area. The result shown that the average personal exposure concentration of PM_{2,5} on patrol workers in PT X cement industry amounted to 1495,651 $\mu\text{g}/\text{m}^3$ with the highest area of exposure in the pack house work area. All of patrol workers experienced the subjective acute respiratory effects with the highest effect are sore throat and sneezing (64,7%).

Keywords: Particulate matter 2,5 (PM_{2,5}), subjective acute respiratory effect, production patrol workers at cement industry.