

## Kadar KL-6 serum pada pekerja semen di pabrik semen PT X, Indonesia = Serum KL-6 levels in cement workers at the PT X cement factory, Indonesia

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### Abstrak

**Latar Belakang :** Pneumokoniosis terjadi hampir diseluruh dunia dan merupakan masalah yang mengancam para pekerja semen. Beberapa kelainan serologis dapat ditemukan pada pasien pnemokoniosis. Kadar KL-6 serum meningkat pada pekerja yang terpajan silika sehingga dapat dijadikan penanda hayati untuk diagnosis awal penyakit paru kerja tetapi penelitian ini belum pernah dilakukan di Indonesia

**Metode :** Penelitian ini merupakan penelitian *cross sectional* dengan cara pemilihan sampel secara *consecutive sampling* pada bulan april – mei 2018. Jumlah total subjek sebanyak 77 subjek terdiri dari 60 subjek penelitian dan 17 subjek kontrol. Pemeriksaan kadar KL-6 serum menggunakan metode ELISA. Subjek penelitian merupakan pekerja semen pada area produksi dan bahan mentah.

**Hasil :** Pada penelitian ini didapatkan hasil dengan karakteristik total subjek laki-laki 100% dan rerata umur 42,5 tahun, subjek termuda 21 tahun dan subjek tertua 55 tahun. Riwayat merokok ditemukan terbanyak bukan perokok 38 subjek (63,3%), diikuti perokok sebanyak 15 subjek (25%), dan bekas perokok sebanyak 7 subjek (11,6%). Tingkat pendidikan sedang 47 subjek (78,3) pendidikan tinggi sebanyak 7 subjek (11,6%) dan pendidikan rendah sebanyak 6 subjek (10%). Lama pajanan < 10 tahun sebanyak 13 subjek (21,6%) dan lama pajanan > 10 tahun sebanyak 47 subjek (78,3%). Penggunaan alat pelindung diri kategori terbanyak kategori sedang sebanyak 50 subjek (83,3%), kategori baik sebanyak 7 subjek (11,6%) dan kategori buruk sebanyak 3 subjek (5%). Rerata kadar KL-6 serum pada kelompok subjek penelitian atau kelompok terpajan sebesar 473,13 U/ml dan rerata kadar KL-6 serum pada kelompok kontrol sebesar 344,13 U/ml. Perbedaan kadar KL-6 serum pada kelompok terpajan dan kelompok control tidak berbeda bermakna secara statistic dengan nilai  $p = 0,329$ .

**Kesimpulan :** Perbedaan antara kadar KL-6 serum kelompok terpajan disbanding kelompok kontrol tidak berbeda bermakna secara statisti

.....**Background :** Pneumoconiosis occurs almost all over the world and is a problem that threatens cement workers. Some serological abnormalities can be found in pneumonia patients. Serum KL-6 levels increase in workers exposed to silica so that it can be used as a biological marker for early diagnosis of occupational lung disease but this study has never been done in Indonesia

**Method:** This study was a cross-sectional study by consecutive sampling in April-May 2018. The total number of subjects was 77 subjects consisting of 60 research subjects and 17 control subjects. Examination of serum KL-6 levels using the ELISA method. Research subjects were cement workers in the production area and raw materials.

**Results:** In this study, the results were obtained with the characteristics of the total male subjects 100% and the average age of 42.5 years, the youngest subject was 21 years old and the oldest subject was 55 years old. History of smoking was found in the majority of nonsmokers 38 subjects (63.3%),

followed by smokers as many as 15 subjects (25%), and former smokers as many as 7 subjects (11.6%). Education level was 47 subjects (78.3) higher education as many as 7 subjects (11.6%) and low education as many as 6 subjects (10%). The duration of exposure <10 years was 13 subjects (21.6%) and the duration of exposure > 10 years was 47 subjects (78.3%). The use of personal protective equipment is the most moderate category as many as 50 subjects (83.3%), the good category is 7 subjects (11.6%) and the bad category is 3 subjects (5%). The mean serum KL-6 level in the research subject group or the exposed group was 473.13 U / ml and the average serum KL-6 level in the control group was 344.13 U / ml. The difference in serum KL-6 level in the exposed group and the control group no statistically significant difference with a value of  $p = 0.329$ .

**Conclusion**: The difference between serum KL-6 levels in the exposed group compared to the control group was not statistically significant