

# Gambaran Gejala Awal Gangguan Saluran Pernapasan Pada Pekerja Pabrik Beton Terkait Implementasi SMK3 dan Faktor Faktor Lain (Suatu Studi di PT. X Lampung yang Baru Beroperasi 3 Tahun) = Early Symptoms of Respiratory Disorders Among Concrete Factory Workers Related to Occupational Safety and Health Management System Implementation and Other Factors (A Study at PT. X Lampung A 3-Year Operating Company)

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## Abstrak

Latar Belakang : Banyaknya pembangunan sarana prasana serta infrastruktur di Indonesia meningkatkan kebutuhan akan bahan bangunan termasuk beton, sehingga produksi beton terus berjalan. Debu hasil proses produksi beton terdiri dari debu semen, pasir, dan batu kerikil, yang sebagian mengandung silika yang telah terbukti dapat menimbulkan masalah kesehatan terutama di saluran pernapasan. Pada pabrik beton yang baru beroperasi selama 3 tahun seharusnya belum ada masalah gangguan saluran pernapasan bila SMK3 diimplementasikan dengan baik. Penelitian ini bertujuan untuk mengetahui apakah sudah ada masalah gangguan awal saluran pernapasan dan mengaitkannya dengan implementasi SMK3 dan faktor-faktor lainnya. sehingga bisa di upayakan program promotif – preventif bagi pekerja sehubungan dengan pajanan tersebut.

Metode : Desain cross-sectional dengan sampel berjumlah 70 responden yang diambil secara total sampling. Data penelitian diperoleh dari wawancara keluhan saluran pernapasan dengan menggunakan kuesioner Pneumobile Project dan pemeriksaan spirometri, pengukuran kadar debu, serta pengisian formulir audit SMK3.

Hasil : Didapatkan 8 pekerja (11,40%) memiliki gejala awal gangguan saluran pernapasan. Pengukuran debu lingkungan kerja melebihi nilai ambang batas pada plant 1 (16.5 mg/m<sup>3</sup>) dan plant 2 (12.1 mg/m<sup>3</sup>). Tidak terdapat hubungan bermakna antara, usia, tingkat pendidikan, IMT, kebiasaan merokok, masa kerja, dan lama kerja terhadap gejala awal gangguan saluran pernapasan. Tingkat pelaksanaan SMK3 pada PT. X masih kurang (15,06%). Telah ada kebijakan K3, namun belum ada kegiatan perencanaan, pemantauan, evaluasi maupun usaha peningkatan kinerja K3 yang terdokumentasi dan sistematis.

Kesimpulan : Didapatkan pekerja dengan gejala awal gangguan saluran pernapasan sebanyak 8 (11,4%) orang. Hasil pemeriksaan kadar debu melebihi NAB. Tidak didapatkan faktor risiko yang berhubungan secara statistik dengan gejala awal gangguan saluran pernapasan, akan tetapi tingkat pelaksanaan SMK3 masih kurang sehingga harus ditingkatkan.

.....Background : The large number of infrastructure development in Indonesia increased the need of concrete. Therefore, the concrete factory production continues to run and produce. The residue of the concrete production process derived from the dust of the

cement, sand, and gravel which partially contained silica, that had been proven to caused health problems especially in the respiratory tract. The new concrete plant which had only been operating for 3 years should have no cases of early symptoms of respiratory disorders when the OSH management system is successfully implemented. This study aimed to determine whether there are respondents with early symptoms of respiratory disorders in association of the implementation of OSH management system and the other factors, so that promotive-preventive programs in connection with the exposures able to be planned regarding the conditions.

Method : Cross-sectional study with a total sampling of 70 respondents. Data were obtained from interview using the Pneumobile Project questionnaire, spirometry examination, measurement of dust levels, and OSH management system audit form filling.

Results : There were 8 (11.40%) workers with early symptoms of respiratory disorders. Dust measurement exceeds the threshold value, 16.5 mg/m<sup>3</sup> on Plant 1 and 12.1 mg/m<sup>3</sup> on Plant 2. There was no significant association between age, level of education, BMI, smoking habits, working period and working time to early symptoms of respiratory tract disorder. The implementation of OSH management system at PT. X was poor (15,06%). There was already an OHS policy, but the planning, monitoring, evaluation or effort of improvement of OSH were not documented systematically.

Conclusion : The prevalence of early symptoms of respiratory disorders is 11,40%. The dust levels exceed the threshold level. No risk factors are found to be statistically associate with early symptoms of respiratory disorders but the level of implementation of OSH is below the expected results thus must be improved