

# Pengaruh pekerjaan dengan pajanan debu silika terhadap risiko tuberkulosis paru (tinjauan pada puskesmas di kawasan Industri Tangerang) = Effect of occupation with silica dust exposure on pulmonary tuberculosis (study at community health centres in Industrial area of Tangerang District)

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## Abstrak

Latar Belakang: Pajanan debu silika telah diketahui sebagai salah satu faktor risiko infeksi TB paru.

Diketuinya besar risiko pajanan debu silika terhadap timbulnya TB paru dapat menjadi suatu aset dalam upaya advokasi program pemberantasan TB baik di pusat pelayanan kesehatan, maupun di tempat kerja, terutama terhadap sektor industri yang terkait pajanan debu silika seperti keramik, gelas, konstruksi, etc.

Metode: Penelitian ini menggunakan desain kasus kontrol dengan kasus 129 orang, dan kontrol 129 orang yang dipadankan menurut usia dan jenis kelamin. Wawancara riwayat pajanan debu silika dilalukan dengan kuesioner yang telah diujicoba sebelumnya. Diagnosis TB paru diambil dari data sekunder hasil pemeriksaan basil tahan asam (BTA) sputum 3x dan foto toraks di awal diagnosis. Pengaruh pajanan debu silika terhadap TB paru dianalisis regresi logistik, disesuaikan terhadap sejumlah faktor risiko lainnya.

Hasil: Dari analisis bivariat ditemukan bahwa faktor pajanan debu silika sedang-tinggi memiliki OR kasar = 11.05 (95% CI = 1.39-87.69, p = 0.023). Namun; analisis multivariat tidak menunjukkan kemaknaannya terhadap TB paru. Faktor risiko yang bermakna adalah pendidikan tamat SMP (OR disesuaikan = 2.26, 95% CI = 0.97-5.27), tamat SD hingga tidak sekolah (OR disesuaikan = 2.16, 95% CI = 0.95-4.92), penghasilan rendah (OR disesuaikan = 2.64, 95% CI = 1.21-5.84), Indeks massa tubuh (IMT) kurang (OR disesuaikan = 15.76, CI = 6.95-3546), riwayat minum alkohol sedang-berat (OR disesuaikan = 6.77, 95% CI = 2.27-19.78).

Simpulan dan saran: Tidak terdapat perbedaan dalam risiko TB paru antara riwayat pekerjaan terkait pajanan debu silika dengan pekerjaan lainnya. Keterbatasan populasi penelitian di puskesmas tempat penelitian diperkirakan mempunyai andil terhadap hasil yang diamati. Penelitian selanjutnya perlu dilakukan pada populasi yang lebih spesifik yaitu pada pekerja industri dengan pajanan debu silika.

.....Silica dust exposure has long been known as risk factor for tuberculosis. Therefore, the risk on silica dust exposure can be an asset for health promotion to eradicate tuberculosis in the industrial setting, especially in silica-related industries such as ceramic, pottery, glass, construction, etc.

Methods: The study design is case-control with cases (129 persons) and control (129 persons) selected and matched by age with 5-year interval, and gender. History of occupation with silica dust exposure was taken by interview using questionnaire which had been tested its validity and reliability. Diagnosis of tuberculosis which are acid-fast bacilli, sputum smear and thorax photo interpretation were taken. Secondary available. The relationship between pulmonary TB and silica dust exposure was evaluated by logistic regression analysis adjusted for other confounding factors.

Result: Bivariate analysis shows that moderate to high silica dust exposure has crude OR=11.05 (95% CI = 1.39-87.69, p=0.023). Meanwhile, multivariate analysis does not show its effect towards pulmonary TB. Factors that increases risk are junior high-school graduates (adjusted OR = 2.26, 95% CI = 0.97-5.27), illiterate up to elementary graduate (adjusted OR = 2.16, 95% CI = 0.95-4.92), low income (adjusted OR =

2.64, 95% CI = 1.21-5.54), new body mass index (BMI) (adjusted OR = 15.76, 95% CI = 6.95-35.46), and moderate-heavy drinking (adjusted OR = 6.77, 95% CI = 2.27-19.78).

**Conclusion and Recommendation:** Effect of occupation with silica dust exposure on pulmonary TB is not shown in this study. Limitation of the study population was assumed as the cause. Further research is needed to be done in more specific population such as community of worker in industry with silica dust.