

# Hubungan Penyakit Diabetes Melitus dan Hipertensi dengan Gangguan Pendengaran pada Pekerja yang Terpajan Bising di PT. Pertamina (Persero) UP IV Cilacap Tahun 2002-2007 = The Relation of Diabetes Mellitus and Hypertension to hearing loss on Workers exposed by noise at PT Pertamina (Persero) UP IV Cilacap in 2002-2007

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## Abstrak

Pekelja di kilang minyak tcrtama di lokasi bising mempunyai risiko tinggi menderita gangguan pendengaran sebagai penyakit akibat kelja. Pajanan kombinasi (bising, penyakit DM, hipertensi, DM dan hipertensi) dapat terjadi secara bersamaan pada seorang pekerja. Penelitian bertujuan untuk mengetahui hubungau dan kontribusi pajanan kombinasi terhadap teljadinya gangguan pendengaran. Dengan metode historikal kohor, data pekelja dari tahun 2002-2007, pcfnetapan kriteria gangguan pendengaran berdasarkan hasil audiogram pada frekuensi  $4000 \text{ Hz} > 25 \text{ dBA}$ , status DM berdasarkan kriteria diagnostik PERKENI 2006 GDP 2126 mg/dL, status hipertensi herdasarkan JNC7 S 2140 mmHg dan D 290 mm!-Ig. Analisis statistik dengan univariat dan bivariat.

Diperoleh hasil, insiden gangguan pendengaran berkisar antara 25.0% - 50.0% pada pekelja yang terpzgan bising, dengan distribusi responden menurut masing- masing pajanan kombinasi dan karakteristik responden (variabcl pcrancu: Lunur; rmasa kerja; merokok; dan pemakaian APT). Kesimpulan yang diperoleh dari uji statistik, baik variabel independen maupun vadabel perancu mempunyai p value  $> 0.05$ , perbedaan tidak bermal-ma. Sehingga gambaran dan kontribusi faktor risiko penyakit DM dan hipertensi bclum dapat diketahui dengan jelas. Hal ini disebabkan beberapa keterbatasan penelitian diantaranya sampel yang mcmenuhi kriteria inklusi (140 responden) tidak memenuhi besar sampel minimal (287 responden}, informasi data yang diperoleh dari perusahaan tidak lengkap.

Oleh karenanya saran bagi pemsahaan agar lebih memperhatikan sistem pencatatan, pelaporan, dan penyimpanan data., pemeriksaan audiometri, kesehatan berkala, pengukuran dosis pajanan, secara rutin dan berkcsinarnbungan sesuai kebutuhan, terulama bagi pekerja yang terpajan bising  $> 85 \text{ dBA}$ , penertiban sertifikasi operator, kalibrasi alat oleh institusi yang bezwenang.

.....Workers of refinery in noisy area have high risk to get hearing loss as occupation disease. Combined exposure (noise, DM, hypertension) can happen simultaneously on a worker. The purpose of this study is to find the relation and contribution of combined exposure on hearing loss. The study was using historical cohort, worker's data from 2002 to 2007, hearing loss criteria definition based on audiograrn result with frequency  $4000 \text{ Hz} > 25 \text{ dBA}$ ; DM status based on PERKENPS diagnosis in 2006 GDP 2 126 mg/dL, hypertension status based on JNC7 S 2 |20 mml-Ig and D 2 90 mml-Ig. Statistical analysis was using univariat and bivariat.

The result is hearing loss incident on workers exposed by noise around 25.0% - 50.0%, with respondent's distribution based on each combined exposure and respondent's characteristic (confounding variable : age, working period, smokind and the using of APT) We conclude by statiscal test, both independent variable and cofounding variable with P value  $> 0.05$  that there is insignificant dillerencetherefore, the illustration and contribution of DM and hypertension risk factor cannot be found clearly. It was caused by some limitations

in the study such as inclusive criteria sample (140 respondents) didn't fill the quota of sample (287 respondents), incompletely completed company's clatas.

Therefore, we suggest that the company should pay more attention to data entry, data report and data saving, audiometric check-up, periodic medical check-up, exposure dosage measurement, regularly and continually based on needs, especially for workers exposed by noise > 85 dBA, regulation of operator certification, calibrated equipment by authorized institution.