

Analisis Karakteristik Sumber Bising dan Gangguan Pendengaran Pada Pekerja yang Terpajan Bising di Area Produksi Perusahaan Daerah Air Minum PT. X

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Abstrak

Tingkat kebisingan di Instalasi Pengolahan Air (IPA) cukup tinggi. Meningkatnya kebutuhan air bersih seiring dengan bertambahnya populasi penduduk, membuat Perusahaan Daerah Air Minum (PDAM) dituntut untuk meningkatkan kapasitas produksi. Terdapat alat-alat dan proses produksi yang memiliki karakteristik berbeda dibanding jenis industri lain. Terdapat 306 PDAM di seluruh Indonesia, potensi jumlah pekerja yang terpajan bising sangat besar, maka perlu diteliti lebih lanjut mengenai hubungan karakteristik bising serta faktor-faktor determinannya terhadap gangguan pendengaran pada pekerja di PDAM untuk memperoleh bentuk pengendalian yang paling tepat. Penelitian ini menggunakan desain studi potong lintang. Tahapan penelitian ini yaitu mengukur tingkat kebisingan serta memberikan kuesioner sebagai data primer, menganalisis hasil audiometri pekerja sebagai data sekunder dan menggunakan uji statistika Chi Square dan analisis multi determinan untuk mengetahui hubungan di antara variabel independen dan dependen. Hasil penelitian diperoleh bahwa sumber bising di instalasi pengolahan air adalah pompa, exhaust fan, kompresor, blower, vacuum dan terjunan air. Sebanyak 84.4% pekerja di area produksi terpajan bising > 85 dBA. Sebanyak 15.6% pekerja mengalami gangguan pendengaran. Diperoleh kesimpulan bahwa pekerja yang terpajan bising di atas 85 dBA yang memiliki frekuensi bising dominan > 2000 Hz dapat menyebabkan terjadinya gangguan fungsi pendengaran dan diperparah apabila pekerja berusia > 40 tahun dan memiliki masa kerja > 14 tahun. Kata kunci: Kebisingan, PDAM, Gangguan pendengaran, Frekuensi bising

Noise level in Water Treatment Plant (WTP) is high enough. Increasing the need for clean water in line with the increasing population, making the Water Supply Company (PDAM) is required to increase production capacity. There are machines and production processes that have different characteristics than other types of industries. There are 306 PDAMs throughout Indonesia, the potential number of workers exposed to noise is very large, it is necessary to further investigate the relationship between noise characteristics and its determinants to hearing loss to PDAM workers to obtain the most appropriate form of control. This study used a cross sectional study design. The stages of this study are to measure the noise level and provide questionnaires as primary data, analyzing the worker audiometric results as secondary data and using Chi Square statistical test and multi determinant analysis to find out the relationship between independent and dependent variables. The results obtained that the source of noise in water treatment plants are pumps, exhaust fan, compressor, blower, vacuum and waterfall. About 84.4% of workers in the production area exposed to noise > 85 dBA. About 15.6% of workers have hearing loss. It is concluded that exposure workers over 85 dBA with dominant noise frequency > 2000 Hz can cause hearing impairment and aggravate if workers are > 40 years old and have a working life > 14 years.

Key words: Noise, Water supply company, Hearing loss, Noise frequency