

Analisis Gangguan Non-Auditori pada Operator Ruang Kendali Pabrik NPK Granulasi dan Phonska PT X Tahun 2025

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Abstrak

Bising merupakan salah satu bahaya yang memajan pekerja di aktivitas pekerjaan. Salah satu dampak dari pajanan bising yang melebihi standar (> 85 dBA) di tempat kerja adalah dampak yang tidak berhubungan dengan fungsi pendengaran (non-auditori). Tiga sub-gangguan non-auditori, seperti gangguan fisiologi, psikologi, dan komunikasi berpengaruh terhadap kinerja dan ketidaknyamanan pekerja dalam bekerja. Berbeda dengan gangguan auditori, gangguan non-auditori dapat diobservasi meskipun tingkat bising di area kerja berada di bawah 85 dBA. Batas pajanan bising di dalam ruangan adalah 55 hingga 65 dBA menurut Peraturan Menteri Kesehatan Nomor 48 Tahun 2016. PT X sebagai perusahaan manufaktur yang bergerak di sektor agroindustri berisiko terpajan bising, termasuk pekerja di ruang kendali. Hasil pengukuran bising di ruang kendali Pabrik NPK Granulasi dan Phonska PT X berada pada rentang 58,8 hingga 71,5 dBA. Tingkat bising tersebut berisiko menimbulkan gangguan non-auditori pada pekerja di ruangan, yakni operator. Oleh sebab itu, dilakukan penelitian untuk mengetahui gangguan non-auditori dan faktor yang mempengaruhinya pada operator di ruang kendali. Penelitian ini dilakukan dengan metode cross-sectional pada 66 operator yang bekerja di ruang kendali Pabrik NPK Granulasi dan Phonska PT X pada bulan April hingga Mei 2025. Variabel dependen dan independen yang diteliti adalah gangguan non-auditori, faktor tingkat pajanan bising (tingkat bising dan durasi pajanan), faktor individu (usia, masa kerja, perilaku merokok, dan riwayat penyakit), serta faktor perilaku (penggunaan APT dan pajanan bising di luar pekerjaan). Hasil penelitian menunjukkan 92,4% responden mengalami gangguan non-auditori dengan rincian 45,5% mengalami gangguan fisiologi, 86,4% psikologi, dan 83,3% komunikasi. Hasil analisis dengan metode Mann-Whitney dan Kruskal-Wallis memperlihatkan perbedaan yang signifikan terhadap skor gangguan non-auditori berdasarkan kelompok masa kerja ($p = 0,047$) dan riwayat penyakit ($p = 0,009$); skor gangguan fisiologi berdasarkan kelompok usia ($p = 0,031$), masa kerja ($p = 0,012$), dan riwayat penyakit ($p = 0,014$); skor gangguan psikologi berdasarkan kelompok masa kerja ($p = 0,024$), riwayat penyakit ($p = 0,021$), dan pajanan bising di luar aktivitas pekerjaan ($p = 0,047$); serta skor gangguan komunikasi berdasarkan kelompok riwayat penyakit ($p = 0,011$). Hasil penelitian ini sejalan dengan penelitian sebelumnya, dimana gangguan non-auditori tetap dapat dialami oleh responden meski bising di bawah 85 dBA. Oleh karena itu, perlu dilakukan pengendalian, seperti memastikan tingkat pajanan bising di ruang kendali memenuhi persyaratan perundangan dan menambah bahan peredam bising di dalam desain ruang kendali.

Noise is recognized as one of the occupational hazards to which workers are frequently exposed. When noise exposure goes above the standard limit (> 85 dBA), it can lead to effects that are not related to hearing, known as non-auditory effects. These effects are usually divided into three types: physiological, psychological, and communication-related. Non-auditory effects can impair work performance and contribute to discomfort in the workplace. Unlike auditory effects, non-auditory effects can be observed even when the noise level in the work area is below the health threshold. According to Peraturan Menteri

Kesehatan Nomor 48 Tahun 2016, the indoor noise exposure limit ranges from 55 to 65 dBA. PT X is a manufacturing company in the agroindustry sector which is at risk of noise exposure. Its workers, including those in the control rooms, are potentially exposed to indoor noise. The noise levels in the control room of the NPK Granulation and Phonska Plant at PT X are in the range from 58,8 to 71,5 dBA. Control room operators may be at risk of non-auditory effects due to indoor noise exposure that exceeds the standard. Therefore, this study aimed to examine the non-auditory effects, noise exposure levels, individual factors, and behavioral factors among control room operators at the NPK Granulation and Phonska Plant of PT X in 2025. This study was conducted using a cross-sectional method on 66 operators working in the control room of NPK Granulation and Phonska Plant at PT X from April to May 2025. Data collection was conducted from April to May 2025. The dependent and independent variables studied were non-auditory effects, noise-exposure levels (noise intensity and duration), individual factors (age, length of employment, smoking habits, medical history), and behavioral factors (use of HPD and noise exposure outside work). The results showed 92,4% of respondents experienced non-auditory effects, with 45,5% reporting physiological effects, 86,4% psychological effects, and 83,3% communication effects. The Mann-Whitney and Kruskal-Wallis tests showed significant differences in non-auditory effect scores based on length of employment ($p = 0,047$) and medical history ($p = 0,009$); in physiology effect scores based on age ($p = 0,031$), length of employment ($p = 0,012$), and medical history ($p = 0,014$); in psychological effect scores based on length of employment ($p = 0,024$), medical history ($p = 0,021$), and noise exposure outside of work ($p = 0,047$); in communication effect scores based on medical history ($p = 0,011$). Therefore, it is necessary to implement control measures, such as ensuring that the level of noise exposure in the control room within the regulatory limits and incorporating both sound-absorbing as well as sound-insulating materials into the control room design.