ABSTRACT

Industry PT X have the tools or production machines that cause noise in the work area. Every day there are workers at PT X that workers exposed to noise, especially in the production area. Then the researchers conducted a study aimed to analyze the differences in blood pressure and pulse rate before and during work breaks to workers exposed to noise at PT X. Exposure to noise can cause health problems include hearing and non hearing such as changes in blood pressure (systolic and diastolic) and changes in pulse rate.

This study is observational cohort study design. The study population was taken in accordance with the terms of inclusion that has been determined, in order to obtain the population is 36 people. Samples were taken using stratified random sampling technique, so that the sample was obtained by 25 people.

The research result shows that the noise intensity in an area of 94,95 dBA STMC (southern area) and 94,5 dBA (northern area). Results of the analysis of changes in systolic blood pressure before and after work indicate that the value of $p = 0,001 < \alpha = 0,05$. Results of the analysis of changes in diastolic blood pressure before and after work indicate that the value of $p = 0,014 < \alpha = 0,05$. Results of the analysis of changes in pulse rate before and during work breaks indicate that the value of $p = 0,001 < \alpha = 0,05$.

The conclusion was that there are differences in systolic and diastolic blood pressure before and after work in workers exposed to noise. In addition, there are also differences in pulse rate before and after work in workers exposed to noise. It is recomended for companies to install the dynamic dampers in engine production and reduce the exposure time of workers who work in noisy areas.

Keywords: intensity of noise, blood pressure, pulse

ABSTRAK

Industri PT X memiliki alat atau mesin produksi yang menimbulkan bising di area kerja. Setiap hari terdapat pekerja di PT X yang terpapar bising terutama pekerja di area produksi. Kemudian peneliti melakukan penelitian yang bertujuan untuk menganalisis perbedaan tekanan darah dan denyut nadi sebelum dan saat istirahat kerja pada pekerja yang terpapar bising di PT X. Paparan bising dapat mengakibatkan gangguan kesehatan antara lain gangguan pendengaran dan non pendengaran seperti perubahan tekanan darah (*sistole* dan *diastole*) dan perubahan denyut nadi.

Penelitian ini merupakan penelitian observasional dengan desain penelitian *kohort*. Populasi penelitian ini diambil sesuai dengan syarat inklusi yang telah ditentukan, sehingga diperoleh populasinya 36 orang. Sampel diambil dengan menggunakan teknik *stratified random sampling*, sehingga sampel di peroleh sebesar 25 orang.

Hasil penelitian terlihat bahwa intensitas kebisingan di area STMC sebesar 94,95 dBA (area selatan) dan 94,5 dBA (area utara). Hasil analisis perubahan tekanan darah *sistole* sebelum dan setelah bekerja menunjukkan bahwa nilai $p = 0{,}001 < \alpha = 0{,}05$. Hasil analisis perubahan tekanan darah *diastole* sebelum dan setelah bekerja menunjukkan bahwa nilai $p = 0{,}014 < \alpha = 0{,}05$. Hasil analisis perubahan denyut nadi sebelum dan setelah bekerja menunjukkan bahwa nilai $p = 0{,}001 < \alpha = 0{,}05$.

Kesimpulannya adalah terdapat perbedaan tekanan darah *sistole* dan *diastole* sebelum dan setelah bekerja pada pekerja yang terpapar bising. Selain itu, juga terdapat perbedaan denyut nadi sebelum dan setelah bekerja pada pekerja yang terpapar bising. Disarankan untuk perusahaan agar memasang *dynamic dampers* pada mesin produksi dan mengurangi waktu paparan pekerja yang bekerja di area bising.

Kata kunci : Intensitas kebisingan, tekanan darah, denyut nadi