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