ABSTRACT

Factors Influencing Heat Strain Incidences in Workers Exposed to Heat in PT. Aneka Boga Makmur

Hot work environment is additional workload for workers. PT. Aneka Boga Makmur whose part of the production process requires heating process causes heat strain. This study aims to see the changes in body temperature, pulse rate and blood pressure (systole and diastole) before and after heat exposure.

This study was observational. The design of this study was one of cross-sectional studies. The sample was 33 people and had met inclusion criteria. Data was collected by measuring working climate, pulse rate and blood pressure before and during working with heat exposure, workload, as well as measuring weight and height to obtain BMI (Body Mass Index). An illustration of workload was calculated based on calorie needs according to energy expenditure.

The results of working climate measurement shows that average ISBB of work environment is above the threshold value established by PER.13/MEN/X/2011 and influences the increase of body temperatures, pulse rates and blood pressures of respondents.

Based on data analysis using Paired t test statistical test, significance value is 0.000 (p < 0.05), meaning that there was difference in the results of body temperature, pulse rate and blood pressure measurements before and during working with heat exposure. Based on working climate NAB provision by ACGIH (2006) in which heat strain incidence increased body temperature > 38 °C, it is found in 9 (27.2 %) employers who experiences heat strain. Based on the analysis, it was discovered that factors influencing heat strain incidence was workers’ workload.

Keywords : working climate, body temperature, pulse rate, blood pressure, workload