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CONCENTRATION / BLOOD-LEAD LEVELS / SMOKING

WIPAPORN SILSAWANG : THE RELATIONSHIP BETWEEN SELECTED
FACTORS AND BLOOD LEAD LEVELS AMONG LEAD EXPOSED WORKERS AT
THAI NAVY-YARD DEPARTMENT. THESIS ADVISOR : VARATTAMA
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The objective of this study was to determine the blood-lead levels and associated risk factors in workers exposed to high levels of lead. The subjects of the study were one hundred and twenty-eight workers from 4 factories under the Thai Navy-Yard Department in which the air-lead concentrations were assumed to be high. Questionnaires were used to collect workers' personal data, working history and health behaviors. Air and blood samples were also collected. The t-test, ANOVA, Pearson product moment correlation and stepwise multiple regression were used for the analysis to test for the existence of a relationship between the variables.

The results of this study showed that the workers had a mean blood-lead level concentration of $15.79 \pm 7.86 \mu\text{g/dl}$. The mean air-lead concentration level in the 4 factories was $10.47 \mu\text{g/m}^3$ (TLV = $200 \mu\text{g/m}^3$). Statistical treatment of the data found that the blood-lead levels were significantly correlated ($\alpha = 0.05$) to air-lead concentration level, job, respiratory protection and amount of alcohol drinking. Smoking was also found to be significantly correlated with blood-lead levels. Blood-lead levels were found to be predictable by the air-lead concentration level of exposure and the period of smoking at a rate of 42.56 percent. This study provides information on factors affecting lead levels in workers' bodies and therefore supports further planning for health promotion, prevention and surveillance with regard to lead poisoning.