

## ABSTRACT

### **The Effect Of Noise Exposure Toward Blood Cortisol Levels In Workers PT. Iskandar Indah Textile Surakarta**

Noise is a hazard that can not be avoided in the textile company. Some research show that noise can cause health problems, one of them is stress. Several research show that cortisol can be used as one of the parameters to help diagnose stress. This research was conduct at PT. Iskandar Indah Textile, Surakarta. The objective of this study is to know the effect of noise exposure to toward cortisol levels improvement in the blood of workers at PT. Iskandar Indah Textile Surakarta.

The study was designed as an observational study and conducted by cross sectional method. Samples were obtained by using the technique of mean difference that 15 responden from weaving departement and 15 responden from office departement. The dependent variable in this study is cortisol in the blood which was measured by ELISA, and the independent variables are the characteristics of workers (age, year, type of personality, level of education, the hearing threshold, marital status, drug consumption, the perception of noisy, menstruation), and environmental factors (noise).

This reaserch shown that the intensity of the noise from the work environment weaving section 94.6 dBA, 97.2 dBA, 97.7 dBA, 98.2 dBA higher than the threshold value (NAV), 80 dBA and 66.2 dBA office section, 67.4 dBA, 71.2 dBA. Based on linear regression analysis showed that the determination coefficient (adjusted R-square) is 0.468, which means that the independent variable that could explain the levels of cortisol in the blood of 46.8% and 53.2% influenced by other factors with significant 0.017. Significant independent variable is noisy, tenure, and personality type. The conclusion is noisy effect on cortisol levels in the blood. However, the major contributing variable is the type of personality A.

Recommendations for PT. Iskandar Indah Textile is the engine maintenance, especially potentially emit noise, should be performed routinely, and make hearing conservation program. Recommendations for workers are reducing soft drinks and coffee, drinking enough water, listening to music, and consumption of sea fish such as salmon, mackerel, and sardines.

**Keywords: noise exposure, cortisol in the blood, a textile factory, stress**