

# Pajanan PM10 terhadap kejadian gangguan saluran pernapasan non infeksi: studi kasus pada tenaga kerja bongkar muat di Pelabuhan Boom Baru Palembang tahun 2008 = PM10 exposure to occurrence of non infection bronchi trouble (case study for loading and unloading worker at Port of Boom Baru in Palembang)

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## Abstrak

Loading and unloading activity at port of Boom Baru in Palembang reached mean number 8264.892 ton each year. This caused happening of particulate contamination which can cause of the occurrence of non infection bronchi trouble. This study aim is to know PM10 exposure to occurrence of non infection bronchi trouble for loading and unloading worker at Port of Boom Baru in Palembang.

In this study, variables of temperature, dampness and wind velocity are studied and their effect for PM10 concentration, while variables of PM10 concentration, age, work time, nutrition status, smoking habit and usage of self protective device (APD) are checked and their effect for the occurrence of non infection bronchi trouble. PM10 concentration is used for analyzing effect of particulate contamination for the occurrence of non infection bronchi trouble.

This study used a retrospective cohort study design for calculating Relative Risk (RR) to occurrence of non infection bronchi trouble as result of PM10 exposure and also another factors. Data analysis which has been done consisting of univariate analysis (descriptive), bivariate (kai square test and t-test) and multivariate (multiple linear regression and multiple logistic regression).

Data analysis result indicated the existence of PM10 concentration related to temperature variable ( $p = 0,022$ ), dampness ( $p = 0,002$ ) and wind velocity ( $p = 0,006$ ). While data analysis for the occurrence of non infection bronchi trouble with PM10 concentration variable ( $p = 0,001$ ), age ( $p = 0,011$ ), work time ( $p = 0,044$ ) and smoking habit ( $p = 0,000$ ). From all factors which related significantly, smoking habit is a dominant factor which affecting for the occurrence of non infection bronchi trouble. Therefore, factors which affected for occurrence of non infection bronchi trouble must be lessened, especially for smoking habit.