

ABSTRACT

Air Pb Level, Blood Pb Level and Its Effects on the Health Disorders of Street Vendors in Dharmawangsa Street, Surabaya

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Plumbum (Pb) air pollution can cause community health effects, Pb in the air may be absorbed through the main respiratory tract particularly the pulmonary blood vessels. Street vendors, especially those who vend on pavement rims, are part of the community potentially have a high risk of abnormal blood Pb level and street vendors health disorders due to Pb pollution in the air.

The objective of this research was to analyze air Pb level, blood Pb level, and its effects on the street vendors health disorders.

This was an analytic observational research, conducted between December 2003 till August 2004, applying cross sectional observation on street vendors who vend on pavement rims. Respondents were divided into two groups, street vendors who vend at high traffic location that is Dharmawangsa street and those who vend at low traffic site that is Dharmahusada Indah Timur street. Analysis was done on the ambient air Pb level, blood Pb level in street vendors, and street vendors health disorders, i.e blood Hb levels, blood pressures, headaches, memory deterioration, concentration difficulties, bone and muscle pains, tremors, appetite, gastric pains, and constipation.

Results of the study revealed that the average ambient air Pb level at Dharmahusada Indah Timur street was below Environmental Quality Standard (EQS), whereas the average ambient air Pb level at Dharmawangsa street was slightly above EQS. Either blood Pb level at Dharmawangsa street or at Dharmahusada Indah Timur street were still within normal level. The ambient air Pb level on research location has an influence on street vendors' blood Pb level ($p = 0.002$). The average blood Hb level of street vendors at Dharmahusada Indah Timur street and at Dharmawangsa street were still within normal level. The average systolic and diastolic blood pressure of street vendors at Dharmahusada Indah Timur street as well as Dharmawangsa street were still within normal level. The blood Pb level had no influence on the street vendors' health disorders (constant, $p = 0.000$).

Key words: air pollution, Pb, street vendors, health disorders.