

عنوان مقاله:

Lead Exposure Effect on Peripheral Blood Parameters among People around Bus Terminal in Yogyakarta

محل انتشار:

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خلاصه مقاله:

Background: Lead is a dangerous substance that can impact the blood components. Lead toxicity can cause imbalance in the homeostasis process of blood peripheral. The aim of this study is to search impact of lead exposure on peripheral blood parameter alterations among people around bus terminals in Yogyakarta. Methods: This study is a cross sectional research design with convenience sampling method. According to calculation of sample size, 72 respondents had fulfilled the inclusion criteria. The independent variable was lead exposure and dependent variables were peripheral blood parameters including leucocytes, erythrocytes, hemoglobin, and platelets. Lead exposure was measured by atomic absorption spectrophotometer (AAS) and peripheral blood parameters were measured by automatic hematology analyzer. Those variables were analyzed by linear regression. Results: Based on Independent T Test was found aged > 40 yo correlated with leukocyte (P =0.029), male workers correlated with leukocyte, erythrocyte, hemoglobin, and platelet (P =0.025, 0.006, 0.000, and 0.031, respectively), smoking 1 packed per week associated with hemoglobin (P =0.006) and settlement 500 meter around terminal associated with leukocyte, erythrocyte, hemoglobin and platelet (P =0.025, 0.006, 0.000, and 0.031, respectively). Linear regression can predict level of leukocyte ($\beta=0.32$; CI 95= -0.207 to 0.643, P =0.006), erythrocyte ($\beta=0.3$; CI 95=-0.269 to 0.29; P =0.009), hemoglobin ($\beta=0.33$; CI 95=0.042 to 0.211; P =0.004), and platelet ($\beta=0.25$; CI 95=-0.548 to 0.73; P =0.029). Conclusion: Age > 40 years old associated with leukocyte; male gender associated with leukocyte, erythrocyte, hemoglobin, and platelet level, respectively; smoking 1 packed per week correlated with hemoglobin level; settlement 500 m around terminal associated with level leukocyte, erythrocyte, hemoglobin, and platelet level, respectively. Finally, level of lead can predict positively leukocyte, erythrocyte, hemoglobin, and platelet level respectively

کلمات کلیدی:

Bus Terminal, Lead exposure, Peripheral Blood Parameters

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