

Pajanan NO₂ bulan pertama dan kedua kehamilan terhadap bayi dengan berat badan lahir rendah./ Bunga Oktora, Dewi Susanna

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Abstrak

Pajanan pencemar udara selama kehamilan berhubungan dengan bayi berat badan lahir rendah (BBLR). Untuk menghubungkan konsentrasi NO₂

dalam udara ambien, telah dilakukan studi ekologi di Jakarta. Konsentrasi

NO₂ didapat dari data monitoring BPLHD DKI Jakarta 2009 ? 2011, sedangkan kasus-kasus bayi BBLR diperoleh dari Dinas Kesehatan Provinsi DKI

Jakarta. Data dianalisis dengan Anova, uji korelasi, dan regresi linier dan

berganda. Hasil analisis menunjukkan bahwa konsentrasi NO₂ dalam

bulan pertama dan kedua kehamilan berhubungan bermakna dengan

BBLR (masing-masing dengan $R = 0,464$, nilai $p = 0,0001$ dan $R = 0,243$,

nilai $p = 0,013$). Regresi linier berganda menunjukkan bahwa konsentrasi

NO₂ dapat meramalkan 25% kasus BBLR ($R = 0,5$; $R^2 = 0,25$; nilai $p =$

$0,0001$). Variabel yang paling memengaruhi BBLR adalah pajanan terhadap NO₂ pada bulan pertama gestasi ($B = 259$). Disimpulkan, pajanan

NO₂ pada bulan pertama dan kedua kehamilan dan tempat wilayah tinggal

berhubungan dengan BBLR, dengan pajanan NO₂ pada bulan pertama

kehamilan merupakan faktor utama BBLR.

It has been known that exposure to air pollutant during pregnancy was associated with low birth weight. To correlate NO₂ concentration in ambient air

with baby with low birth weight (LBW), an ecological study has been carried

in Jakarta. NO₂ concentration was obtained from 2009 ? 2011 monitoring data (Jakarta BPLHD), while low birth weight data were obtained from Jakarta Provincial Health Office. Anova, correlation, linear and multiple linear regressions were employed to analyze NO₂ concentration with LBW. It showed that NO₂ concentrations during first and second month of pregnancy were significantly correlated with the LBW ($R = 0.464$, $p \text{ value} = 0.0001$ and $R = 0.243$, $p \text{ value} = 0.013$). Multiple linear regression showed that the concentration of NO₂ in the first and second month of pregnancy can predict 25% of LBW cases ($R = 0.5$, $R^2 = 0.25$; $p \text{ value} = 0.0001$). The most influence variable on LBW is exposure to NO₂ in the first month of gestation ($B = 259$). It is concluded that exposure to NO₂ in the first and second month of pregnancy and city of residence correlated with the LBW, with NO₂ exposure in the first month of pregnancy was the most influencing factor of the LBW.