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; R2 = 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 value = 0.0001 and R = 0.243, p 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, R2 = 0.25; p 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.