Gambaran kualitas udara dalam Ruangan Lantai Ground Lantai 1 dan Lantai 2a di Pusat Perbelanjaan X Kota Depok Jawa Barat tahun 2014 = description of indoor air quality at ground floor first floor and 2a floor in Mall X Depok West Java 2014

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Abstrak

Manusia hampir 90% menghabiskan waktunya atau berada dalam ruangan, dan polusi dalam ruang secara konsisten 2 sampai 5 kali lebih besar daripada polusi luar ruangan (EPA, 1989). Efek kesehatan dari kualitas udara dalam ruang yang buruk dapat berupa allergen, karsinogenik, iritan, dan mengganggu sistem respon imun (Hess-Kosa, 2002). Penelitian ini bertujuan untuk mengetahui gambaran konsentrasi kontaminan kimia (CO, CO2, HCHO, NH3, NO2, PM 2,5, PM10, dan SO2) dan tingkat pajanan parameter fisik (cahaya, suhu, dan kelembaban) kualitas udara dalam ruangan di Pusat Perbelanjaan X Kota Depok, Jawa Barat tahun 2014. Penelitian kuantitatif dan kualitatif ini bersifat deskriptif observasional dengan pendekatan cross-sectional. Penelitian kuantitatif dilakukan melalui pengkajian konsentrasi kontaminan kimia dan tingkat pajanan parameter fisik kualitas udara dalam ruangan serta penelitian kualitatif dilakukan melalui data pendukung keluhan subjektif sick building syndrome dalam wawancara terstruktur. Hasil pengukuran terburuk dari semua parameter yaitu, suhu (29,4oC), kelembaban (69%), cahaya (240 lux), CO (32,5 ppm), CO2 (2345,7 ppm), HCHO (0,05 ppm), NH3 (0,3 ppm), NO2 (2,5 ppm), SO2 (2,4 ppm), PM2,5 (0,646 mg/m3), PM10 (0,654 mg/m3). Kesimpulan dari penelitian ini, beberapa parameter kualitas udara dalam ruangan melampaui Nilai Ambang Batas yang ditetapkan yakni CO, SO2, PM2,5, PM10, suhu, dan kelembaban.

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Humans almost 90% spend time in their room, and indoor pollution is consistently 2 to 5 times greater than outdoor pollution (EPA, 1989). The health effects of indoor air quality can be poor allergens, carcinogens, irritants, and interfere with the immune response system (Hess-Kosa, 2002). This study aims to describe the concentration of chemical contaminants (CO, CO2, HCHO, NH3, NO2, PM 2.5, PM10, and SO2) and level of exposure to physical parameters (light, temperature, and humidity) indoor air quality in Mall X Depok, West Java in 2014. The quantitative and qualitative research is descriptive, observational cross-sectional approach. Quantitative research conducted by reviewing the concentration of chemical contaminants and exposure levels of physical parameters of indoor air quality as well as qualitative research carried out by the data supporting the subjective complaints of sick building syndrome in a structured interview. Results worst measurement of all parameters, namely, temperature (29,4oC), humidity (69%), light (240 lux), CO (32.5 ppm), CO2 (2345.7 ppm), HCHO (0.05 ppm) , NH 3 (0.3 ppm), NO2 (2.5 ppm), SO2 (2.4 ppm), PM2,5 (0.646 mg / m3), PM10 (0.654 mg / m3). The conclusion of this study, several indoor air quality parameters exceed the Threshold Limit Values set the CO, SO2, PM2,5, PM10, temperature, and humidity.