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Background and Objective: The air quality index is a standardized indicator of the air quality in a given location. Aim of air quality indices is at expressing the concentration of individual pollutants on a common scale. The database of the research comes from the Szeged monitoring station and stands for the 30-minute mass concentrations of NO₂, SO₂ and PM₁₀ in the ten year period 1997-2006. The study aims at analysing air quality indices for Szeged using annual and diurnal air pollution and their characteristics.

Methods: ASI₁ for average air pollution stress and ASI₂ as the planning-related air stress index for short-term air pollution stress are applied. Modified categories for ASI₂ were used for the calculations.

Results: The mean annual air quality index (ASI₁) does not indicate significant trend. According to it, the best air quality occurred in 1999 and 2004, whereas the most polluted air was observed in 1997 and 1998. The short term (diurnal) air quality index (ASI₂) is higher on weekdays and lower at weekends. At weekends the improvement of air quality reaches 13%. The maximum of mean diurnal course does not reach the threshold value in any case of the three air pollutants. The mean values of the diurnal course of NO₂ and SO₂ are far below their health limit.

Conclusions: The short term (diurnal) air quality index (ASI₂) shows high frequency in the air pollution categories III and IV, which is due to the high frequency of the PM₁₀ exceedance days. Though levels of NO₂ and SO₂ are medium and low respectively; however, high diurnal concentrations of PM₁₀ are responsible for air quality degradation in Szeged.