Abstract

A lot of scientific articles were published about the indoor air quality during the last decade. It is proven that high concentrations of particulate matter and problems connected with poor ventilation conditions can cause health effects to people who are sensitive to them. Children are one of the groups at risk. They spend a lot of time at home and also at school, so the air quality at schools is an important issue.

This work contains a review of scientific papers concerning this issue. It discusses the factors influencing indoor air quality, mainly concentration of particulate matter and carbon dioxide. Other factors were also chosen: the age of the school building and its location, the seasonality, the number and level of activity of pupils, floor carpeting and the amount of air circulation in the classrooms.

The preliminary study tries to prove these theories. The concentration of PM$_{10}$ and CO$_2$, the temperature and the relative humidity were measured in three classrooms at one primary school in Prague. The results show that higher concentration of particulate matter is correlated with higher level of activity of pupils. Also poor ventilation leads to the higher concentration of carbon dioxide and poor air quality. It was proven that there is a minimal correlation between indoor and outdoor concentration of PM$_{10}$. For better understanding of this issue, other studies are needed.