

Hospitals and healthcare facilities are very specific times of microenvironments, which requiring monitoring air quality. People who use healthcare facilities are due to a weakened immune system very sensitive to air quality. Acceptable indoor air quality in healthcare facilities may have adverse effects on job performance at the personnel and their errors may have very serious consequences.

The aim of this paper is to evaluate the main components of the inner microclimate (temperature and relative air humidity) and concentrations of carbon dioxide in the environment of selected healthcare facilities in the Czech Republic and to compare the results with the related legislation. The measurements were carried out in two hospitals and nine private medical offices from December 2011 to March 2013.

The results showed that the values of microclimate factors and the concentration of carbon dioxide in the environment of patient rooms were different in cold and warm part of the year. In the patient rooms the levels of relative humidity diverged from the legal requirements mostly in winter – while those of temperature in summer. The concentration of carbon dioxide was affected by the occupancy rate and the size of the rooms. Air quality in the operating theater was primarily characterized by very low relative humidity. Low values of relative humidity were also recorded in the environment of private medical offices.

According to the conclusions of the paper it is clear that even in healthcare facilities there are areas where the values of indoor micro climate do not match the prescribed levels that are given by the relevant legislation. For a better verification it is recommended to carry out more measurements and to set a correct algorithm of data acquisition. The author suggests several proposals to improve the quality if indoor climate of healthcare facilities. The conditions of the micro climate should be one of the main points of interest of the healthcare authorities when inspecting the microbial environment.