Abstract

The alternation of light and darkness on planet Earth has led to the development of endogenous systems that operate with a period of roughly 24 hours. We refer to these systems as circadian. For optimal functioning of the human circadian system, regular synchronization by an external stimulus is required. Light is a strong stimulus for synchronization for humans, but it should be noted that the outcome of this light synchronization depends critically on a number of factors. These factors include the timing and duration of the light pulse, as well as light parameters like spectrum and intensity. Commonly used interior lighting is often not optimal for the human endogenous circadian system, which is why the alternative of so-called biodynamic lighting (lighting that adequately stimulates the human organism) is being used more lately. As part of the experiment, we verified the effect of the newly created biodynamic lighting on the parameters of the circadian rhythm of healthy volunteers. Using methods of melatonin profile analysis, analysis of temperature records and actigraphy, we confirmed the influence of our experimental lighting.