Abstract
Circadian system is an oscillating system with approximately 24 hour period. In humans, it consists of suprachiasmatic nuclei and peripheral oscillators. Suprachiasmatic nuclei by means of external stimuli synchronize its endogenous period about the time of day. It is controlled by clock genes. The circadian system affects hormone levels, and with the homeostatic system is the major regulator of sleep. In these cyclic systems in humans, there are some differences that define human chronotype. This thesis is focused on the changes in the circadian system that underlie human chronotype. It deals with polymorphisms of clock genes, periods of the rhythms in the production of hormones such as melatonin and cortisol and their differences in distinct chronotypes. At the circadian chronotypes, there were also found differences in REM and REM sleep cycles and their amplitudes. Chronotype and circadian system are dependent on age and gender.