

Opioids are used as the most powerful painkillers in the medicine. The mechanism of their effect is determined by binding to the opioids receptors located in the central nervous system and peripheral nervous system. The opioids have high potential to develop addiction. Significance of psychical addiction belongs to losing control above using and compulsive desire to obtain drug of abuse to achieve certain psychical state. The somatic part is increase tolerance demonstrating need of dose increasing to achieve required effect.

This thesis summarizes knowledge about particular regions of the central nervous system which participate on developing of addiction as ventral tegmental area, nucleus accumbens, locus coeruleus, ventral pallidum and amygdala. It seems that main role in developing of addiction acts the mesolimbic reward system which relates with increased release of dopamine resulting in stimulation of the brain reward system.