

Mini Review

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Reward System Components in Addictive Disorders

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There are some important components in the reward system include insular, prefrontal and orbitofrontal cortexes, ventral pallidum, nucleus accumbens, amygdala and ventral tegmental area. The origin of the dopaminergic reward system is the ventral tegmental area which is the dopaminergic neurons location and can activate the ventral striatum by sending the dopaminergic neurons axons to that. Ventral tegmental area influences the behavior and actions which would lead to 'better than expected' result and will be repeated in the future more frequently. Such result causes the 'positive prediction error' [1-5].

Feelings of 'wanting' and 'liking' occur by the neurons in the ventral striatum and nucleus accumbens which contain neurons that are under opioid neurotransmission influence and cause affective pleasure -liking feeling -and neurons which are activated by the ventral tegmental dopaminergic stimulation and lead to specific actions motivation - wanting feeling. Similar to the ventral striatum, ventral pallidum is involved in such affective and motivational processes. Emotional evaluation of the related stimulations and consequently survival and preservation of the species and silence attribution to stimulations which would be important, is the role which amygdala plays in this regard same as the axons of the prefrontal cortex neurons which would activate the ventral tegmental area. The insular and orbitofrontal cortexes play the important role in stimulus reward value stimulation. Long-term motivations and aims development are the prefrontal cortex role. Ventral striatum and ventral tegmental area's tonic baseline activity are induced by a positive evaluation of the real situation regarding long-term aims. Reduced craving for alcohol and cocaine achieved by direct current stimulation and transcranial magnetic stimulation of the prefrontal cortex of the alcohol and cocaine addicted patients [6-10].

The key system for all addictive disorders which is the dopaminergic reward system leads to subjective experience and

behavioral alterations. Patient's motivations and cognitions would be dominated almost completely by the addictive activities. It is necessary to understand the basic mechanisms involved in the reward system so that dealing with addictive disorders during clinical practice can be done more precisely and with achieving better clinical results [11-13].

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Conflict of Interest

No conflict of Interest.

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