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## Neurocognitive reward circuitry system in addiction

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Addiction is a chronic, relapsing disorder in which addict people mostly go through sustained habit-based drug use and periods of abstinence. It is supposed to externalizing psychopathologies including disruptive disorders and antisocial personality disorder precedes or co-occurs with substance use disorder in at least noticeable percentage of them. Interestingly, all externalizing psychopathologies are observed from adolescence which is accompanied by risky behaviors like substance use. It is believed that three fundamental structure of neurocognitive function in children which are impaired, make them predispose to take risky behaviors and drug use. Impulsivity, decision making and working memory impairment taken together, play the main role in future brain's reward neurocircuitry changes. Under limited inhibitory control in one hand and an overactive reward system on other hand, prone adolescences try and sustain using substance. Due to repeated intense drug rewards and neuroplasticity occurred in reward system, a compensatory anti-reward process reduces pleasurable feeling and at neuroanatomical view, a neurocircuitry migration from ventral to dorsal striatum happens. Disregarding its adverse effects and consequences, a significant percentage of addict people keep using substance. It is suggested to screen risky behavior characteristics in childhood and early adolescent in order to detect and invest on pharmacological and neurocognitive rehabilitation as a preventive program. Considering this sort of intervention from early life, it is supposed that reward system should keep unchanged until early adulthood which inhibitory system develops.

### Biography

Mohammad Ghadirivasfi was graduated in psychiatry from Iran University of Medical Sciences (IUMS), Iran. He was the head of Iran Mental Hospital for 13 years and achieved years of experience in research, teaching and administration in hospital and during this period, his effort was highly effective to establish Iranian DNA Bank for Genetic and Epigenetic Studies in Psychiatric Disorders. He is interested in improving education of medical student and residency in psychiatry. He has academic publications and is one of the authors of the Iranian curriculum of general psychiatry, addiction and risky behavior fellowship and the sleep textbook (in Persian) sponsored by IUMS (Iran University of Medical Sciences). He was the secretary of 5th Basic and clinical Neuroscience Congress in 2016 Tehran, Iran. Currently, he is the head of neurocognitive center in Iran Mental Hospital.

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