



Systems Neuroscience in Children and Adolescent Depression

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Abstract

Depression is one of the most common psychological disorders in children and adolescents often presenting as a severe, chronic and recurring condition with a high risk of self-harm and suicide. Normal brain development during adolescence is necessary to put into context when investigating biology of adolescent depression. There is an uneven timeline for development going from 'bottom up' with the subcortical limbic areas developing first, followed by the prefrontal cortical (PFC) areas, which does not reach full functional maturity until the mid-20s. Amygdala and striatum have been reported to be reduced in depressed youth compared to controls. Functional brain changes have been identified in adults but less consistently in adolescent depression.

Keywords: Depression; Children; Adolescent; MRI, Genetics; Systems neuroscience

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