Neuro-development, mental illness and drug involvement: Intersections on the adolescent highway

Ken C Winters
University of Minnesota, USA

New scientific discoveries based on neuroimaging data have refined our understanding of adolescent behavior. Research now suggests that the human brain is still maturing in significant ways during the adolescent years; it is the last major organ in the body to reach full maturity (Giedd, 2004). Experts believe this neuro-development may influence the way teenagers make decisions and have implications for health. On a general level, the way the teen brain develops may contribute to drug involvement and the effects that lead to addiction. Brain maturation during adolescence can give rise to take risks, under-appreciate negative consequences when risks are taken, seek novelty, and to be easily influenced by peer pressures. Also, there are indications that the developing brain's dopamine system may be particularly vulnerable to the effects of drugs. Moreover, adolescence is a vulnerable period for the onset of mental illness. There is growing scientific evidence that the developing brain may be particularly vulnerable to toxic environmental factors, including exposure to drug involvement, and such negative experiences may increase the likelihood of behavioral or mental illnesses. The proposed presentation will summarize this emerging science and discuss implications for programs and practices. Participants will gain an understanding of adolescent normal brain development, how youth are particularly vulnerable to the effects of drugs (including marijuana) and the onset of mental illness and gain insights regarding how to capitalize on this new science for drug prevention and treatment.