Deconstructing Externalizing Disorders: ADHD, Addiction, and Beyond

Anthony M. Ocana, MD, MSc
Read on for news and research highlights on ADHD, conduct disorder, substance use disorder, and behavioral addictions, including compulsive social networking.
• Of adults who present with a substance use disorder (SUD), 1 out of 4 have concurrent ADHD.

• Of adults who present with a history of ADHD, 1 of 3 have a history of SUD.

Molecular genetic studies have identified several genes that may mediate susceptibility to ADHD. A consensus of the literature suggests that when there is a dysfunction in the regulation of the “reward cascade”—especially in the dopamine system, causing a low or hypo-dopaminergic trait—the brain may require dopamine for individuals to avoid unpleasant feelings. This high-risk genetic trait may lead to multiple drug-seeking behaviors because the drugs activate release of dopamine, which can diminish abnormal cravings.

• **Inattentive** subtype of ADHD is more closely correlated with nicotine use. A number of studies have shown that individuals with ADHD who initiate tobacco use earlier have a harder time quitting, and smoke more than their non-ADHD counterparts.

• The **impulsive/hyperactive** subtype of ADHD is more likely to be associated with abuse of cocaine, sedatives, stimulants, and opiates.

• Some patients who received dopamine-boosting treatment for Parkinson disease have demonstrated a pattern of excessive behaviors—such as overeating and compulsive shopping, sex, and gambling, which suggests that a biological link may be driving all of them.

• **Reward dysregulation** is a common feature of oppositional defiant disorder (ODD) and impulse control disorder (ICD). The list of ICDs includes compulsive shopping, gambling, social networking, as well as addiction to Internet gaming and pornography.

• **Social networking** is potentially addictive. Disordered online social networking use seems to arise as part of a cluster of symptoms of poor emotion regulation skills and heightened susceptibility to both substance and nonsubstance addiction.

• This is consistent with literature that supports a bidirectional interaction between addiction and reward dysregulation.

Hormes JM. Addiction. 2014.
• ADHD and ODD are familial disorders. However, ADHD is more closely linked to cognitive and executive dysfunction and ODD is more closely linked genetically to addiction.

• ADHD plus ODD may mark a familial subtype of ADHD.

• Conduct disorder (CD) and ODD are often assumed to be linked. However, ODD and CD confer different familial risks, providing further support for the hypothesis that ODD and CD are separate disorders.

Anthony M. Ocana, MSc, MD, CCFP, ABAM is an addiction specialist with the NorthShore ADHD and Addiction Clinic in North Vancouver, BC. He reports that he has received honoraria from Shire, Purdue, Janssen, and Lundbeck Pharmaceuticals.