

Time to address stimulant abuse on our campuses

Universities and colleges need to do more to protect our young adults from and educate them about the dangers of illicit stimulant use. Abuse of prescription medications such as methylphenidate and atomoxetine has been estimated at an alarming rate ranging from 5% to 35%.¹ Without action, some of our best and brightest minds are at risk.

Students use stimulants for a perceived boost to academic performance through enhanced attention and alertness. However, these benefits are not reality-based but rather a pervasive myth. Indeed, the vast majority of the evidence shows no cognitive improvements with the use of stimulants when compared with placebo in healthy individuals.² In short, students who think simply popping a pill will improve their grades or give them new-found academic abilities are sorely mistaken.

To make matters worse, most students seem unaware of potential side effects and harms associated with use of stimulants.³ When stimulants are used without medical supervision, used for the wrong purpose or administered inappropriately (i.e., snorting or injecting), known adverse effects are not just likely but inevitable. Data on harms in healthy participants is sparse; however, extrapolating from data on patients with attention-deficit/hyperactivity disorder, the drug has serious health implications. Harms include death, life-threatening hypertension and arrhythmias, serious overdoses, dependence and depression.¹ An overdose results in effects comparable to those seen in use of amphetamines and cocaine, including severe hypertension, hyperpyrexia, tachycardia, severe agitation and psychosis. Serious side effects have generated a “black box” warning by the Food and Drug Administration and Health Canada when used as prescribed. When stimulants are administered using unapproved or poorly studied routes such as nasal absorption (snorting) or injection of dissolved and crushed tablets, consequences may occur with greater frequency and severity.

Overdoses are rare and potentially lethal. What is more worrisome is the addictive potential of these prescription medications. A recent review stated that the “reinforcing effects of methylphenidate were generally similar to those of cocaine and D-amphetamine [speed].”⁴

Universities and colleges are ground zero for “grade-boosting” stimulant abuse. Therefore, focused attention and resources should be earmarked for stimulant abuse. But first, it must be recognized by universities as a life-threatening issue and then denormalized.

As a start, universities need to engage in focused health education campaigns that debunk myths and expose risks, just like antismoking campaigns.

Universities should also try to identify and address the root cause of stimulant abuse. It is plausible that unhealthy competition or play hard, work hard attitudes prevail. Clear expecta-

tions, peer mentorship, additional resources and a more structured environment may encourage proper study habits. Programs that assist with integration of very young students living away from home for the first time and easy access to tutoring and other resources will all help. We must remember that the majority of students who inappropriately use these medications have good intentions but may simply need reliable information or resources to make good choices.

University administrators should be vigilant, because, like in instances of binge and underage drinking, they could be held responsible for the consequences of stimulant abuse within their walls. In addition to providing programs designed to minimize abuse, universities should gather their own data on substance abuse, including stimulant abuse, to ensure that this important issue is addressed.

Care providers at university health clinics should be sensitized to students who have not been diagnosed with symptoms of attention-deficit/hyperactivity disorder and appropriately prescribe them medications to prevent students from self-medicating for an undiagnosed attention-deficit disorder.⁵ More importantly, health professionals working with youth and young adults should warn patients about selling or distributing their “excess” supply of medications.

Finally, the Canadian Alcohol and Drug Use Monitoring Survey needs to dedicate a subsection to youth attending post-secondary institutions to assist in national surveillance.

Like doping in sports, abuse of stimulants by our best and brightest students should be denormalized by being viewed as cheating or substance abuse, pure and simple.

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References

1. Wilens TE, Adler LA, Adams J. Misuse and diversion of stimulants prescribed for ADHD: a systematic review of the literature. *J Am Acad Child Adolesc Psychiatry* 2008;41:21-31.
2. Normann C, Berger M. Neuroenhancement: status quo and perspectives. *Eur Arch Psychiatry Clin Neurosci* 2008;258(Suppl 5):110-14.
3. Weyandt LI, Janusis G, Wilson KG, et al. Nonmedical prescription stimulant use among a sample of college students. *J Atten Disord* 2009;13:284-96.
4. Kollins SH, MacDonald EK, Rush CR. Assessing the abuse potential of methylphenidate in nonhuman and human subjects: a review. *Pharmacol Biochem Behav* 2001;68:611-27.
5. Barrett SP, Darredeau C, Bordy LE, et al. Characteristics of methylphenidate misuse in a university student sample. *Can J Psychiatry* 2005;50:457-61.

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