

Brief interventions for substance use in adolescents: still promising, still unproven

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See related research article by Haller and colleagues on page E263 and at www.cmaj.ca/lookup/doi/10.1503/cmaj.131301

Spurred by an imperative to reduce the enormous and preventable morbidity and mortality associated with substance use in adolescents, a policy-level mandate now exists in the US to deliver screening, a brief intervention and referral to treatment to all adolescents in primary care.^{1,2} Despite this mandate, there is a lack of evidence to support the effectiveness of such an approach with adolescents; in 2013, the US Preventive Services Task Force reported that the evidence base is insufficient to make a recommendation for or against the use of screening and a brief intervention in this age group.³ Over the past several years, the US National Institutes of Health and the Canadian Institutes of Health Research⁴ have shifted their research paradigms toward pragmatic trials that ask whether an intervention works under real-life conditions and provides efficient guidance for clinical practice and policy. When such studies show positive results for an intervention being studied, the intervention can move immediately to implementation. This avoids the multitude of intermediary steps between traditional explanatory research, which is undertaken in highly controlled settings and under ideal conditions, and the translation into practice. Negative results are always challenging to interpret, especially in pragmatic trials where the intermediary steps are not specifically observed or tested. Even when results are negative, we need to look closer.

In a related *CMAJ* article, Haller and colleagues report the results of a trial in which family physicians were trained to deliver a brief intervention, in primary care, to address substance use among young people.⁵ The target of this intervention was to try to reduce excessive use of alcohol and cannabis. The trial used a pragmatic design: instead of providing trained study assistants, the researchers recruited practising physicians and randomly allocated half of them to receive five hours of training on a semi-structured, brief motivational intervention within the framework of the 5 As.⁶ All adolescents and

young adults who presented for routine health care were eligible for the study; the experimental group comprised patients seen by a physician who received the training, and the control group comprised patients seen by a physician who did not receive this training. The primary outcome measure was self-reported excessive substance use (one or more episodes of binge drinking, or one or more joints of cannabis per week, or both) in the past 30 days. At first glance, the results are disappointing: the extent of excessive substance use did not differ significantly between patients in the experimental arm and those in the control group. However, a closer inspection of the results suggests that there is reason for optimism.

Haller and colleagues hypothesized that they would find decreases in excessive alcohol and cannabis use reported by patients in the experimental group and expected no reduction in the control group based on drug use typically increasing during adolescence. Unexpectedly, they observed decreases in excessive substance use in both groups: a 28% decrease overall, without statistically significant differences between the two groups. Why did this happen? First, not every “excessive substance user” in the experimental group received a full intervention. As per the study protocol, physicians were not given a screening tool to use; instead, they relied on clinical impressions to identify excessive substance use. Similar to findings in previous studies,⁷ the sensitivity for identifying excessive cannabis use

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KEY POINTS

- Brief interventions delivered in primary care are recommended for reducing excessive substance use by youth, although evidence to support this practice has been lacking.
- In a randomized controlled trial in which primary care physicians were trained to deliver a brief intervention to address alcohol and cannabis use, no differences in excessive substance use were found between youth whose physician received the training and those whose physician provided usual care; substance use was reduced in both groups.
- More work is needed to optimize interventions in primary care aimed at reducing substance use by youth.

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and binge drinking was low: 60% and 33%, respectively. Physicians in the intervention arm spent more time on the intervention and completed more steps when they had identified excessive use, although the low levels of sensitivity suggest that many opportunities were missed — a factor that would be expected to move the experimental and control groups closer together. Indeed, if screening tools had been used, the physicians may have spent less time with patients who did not need a motivational intervention and directed more resources toward the group of interest.

In more than 90% of the encounters, the interventions lasted less than 10 minutes. This is a manageable time allotment for most primary care settings, but one could hypothesize that such a brief intervention might result in relatively small changes in substance use. Any reduction in substance use by the high-risk target group would be expected to have a big impact on public health, because morbidity is more common at high levels of consumption. Therefore, interventions that result in even modest reductions in substance use are worth doing. However, the signal of an effective intervention can be hard for researchers to pick up. Motivational interventions, such as the 5 As, encourage patients to work toward goals that they set for themselves. Even reductions that are clinically meaningful (e.g., from eight drinks per night to five drinks per night, or from smoking daily to smoking every other day) could be missed.

Perhaps the result that is the most intriguing in the trial by Haller and colleagues is the decrease in substance use by patients in the control group. This may represent a response to assessments, or a secular trend in Switzerland, where the study took place. It is also possible that patients in both groups were responding to an interaction with their physician. The relatively brief training may have had only a modest influence on the physician's ability to carry out a successful intervention; most of the participating physicians reported some experience in adolescent health and were used to addressing excessive alcohol use in adults before the study. If this were the case, differences in practice between the physicians in the intervention group and those in the control group may have been small. A plausible interpretation of the data may be that discussing substance use with a physician during

a routine visit for health care does reduce substance use in adolescents.

Despite the negative findings, there are important lessons found in this study. Screening and the delivery of a brief intervention need to be implemented at the practice rather than the physician level. Physicians need objective results from validated screening tools to ensure that all high-risk patients receive an intervention for substance use. Training physicians on how to deliver brief interventions may not result in substantial changes in practice. Enhanced training with decision support at the point of care could have more influence on practice than just training on its own. The availability of electronic medical records and software “apps” make this approach feasible. A tiered approach when brief interventions given by physicians are augmented with longer follow-up interventions given by allied staff may further improve outcomes. In terms of research, the measurement of outcomes must be carefully selected to allow the detection of small, yet clinically relevant, changes in substance use.

Brief interventions given by physicians during primary care can be a practical and promising approach to addressing excessive substance use by youth, but more work needs to be done. Hopefully, the findings from the trial by Haller and colleagues will act as a guide for the adaptation of the intervention and for the designs of future research in this area.

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