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[Intervention Review]

Brief school-based interventions and behavioural outcomes for substance-using adolescents

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ABSTRACT

Background

Adolescent substance use is a major problem in and of itself, and because it acts as a risk factor for other problem behaviours. As substance use during adolescence can lead to adverse and often long-term health and social consequences, it is important to intervene early in order to prevent progression to more severe problems. Brief interventions have been shown to reduce problematic substance use among adolescents and are especially useful for individuals who have moderately risky patterns of substance use. Such interventions can be conducted in school settings. This review set out to evaluate the effectiveness of brief school-based interventions for adolescent substance use.

Objectives

To evaluate the effectiveness of brief school-based interventions in reducing substance use and other behavioural outcomes among adolescents compared to another intervention or assessment-only conditions.

Search methods

We conducted the original literature search in March 2013 and performed the search update to February 2015. For both review stages (original and update), we searched 10 electronic databases and six websites on evidence-based interventions, and the reference lists of included studies and reviews, from 1966 to February 2015. We also contacted authors and organisations to identify any additional studies.

Selection criteria

We included randomised controlled trials that evaluated the effects of brief school-based interventions for substance-using adolescents.

The primary outcomes were reduction or cessation of substance use. The secondary outcomes were engagement in criminal activity and engagement in delinquent or problem behaviours related to substance use.

Data collection and analysis

We used the standard methodological procedures outlined by The Cochrane Collaboration, including the GRADE approach for evaluating the quality of evidence.

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Main results

We included six trials with 1176 adolescents that measured outcomes at different follow-up periods in this review. Three studies with 732 adolescents compared brief interventions (Bls) with information provision only, and three studies with 444 adolescents compared Bls with assessment only. Reasons for downgrading the quality of evidence included risk of bias of the included studies, imprecision, and inconsistency. For outcomes that concern substance abuse, the retrieved studies only assessed alcohol and cannabis. We generally found moderate-quality evidence that, compared to information provision only, BIs did not have a significant effect on any of the substance use outcomes at short-, medium-, or long-term follow-up. They also did not have a significant effect on delinquent-type behaviour outcomes among adolescents. When compared to assessment-only controls, we found low- or very low-quality evidence that BIs reduced cannabis frequency at short-term follow-up in one study (standardised mean difference (SMD) -0.83; 95% confidence interval (CI) -1.14 to -0.53, n = 269). Bls also significantly reduced frequency of alcohol use (SMD -0.91; 95% CI -1.21 to -0.61, n = 242), alcohol abuse (SMD -0.38; 95% CI -0.7 to -0.07, n = 190) and dependence (SMD -0.58; 95% CI -0.9 to -0.26, n = 190), and cannabis abuse (SMD -0.34; 95% CI -0.65 to -0.02, n = 190) at medium-term follow-up in one study. At long-term follow-up, BIs also reduced alcohol abuse (SMD -0.72; 95% CI -1.05 to -0.40, n = 181), cannabis frequency (SMD -0.56; 95% CI -0.75 to -0.36, n = 181), abuse (SMD -0.62; 95% CI -0.95 to -0.29, n = 181), and dependence (SMD -0.96; 95% CI -1.30 to -0.63, n = 181) in one study. However, the evidence from studies that compared brief interventions to assessmentonly conditions was generally of low quality. Brief interventions also had mixed effects on adolescents' delinquent or problem behaviours, although the effect at long-term follow-up on these outcomes in the assessment-only comparison was significant (SMD -0.78; 95% CI -1.11 to -0.45).

Authors' conclusions

We found low- or very low-quality evidence that brief school-based interventions may be more effective in reducing alcohol and cannabis use than the assessment-only condition and that these reductions were sustained at long-term follow-up. We found moderate-quality evidence that, when compared to information provision, brief interventions probably did not have a significant effect on substance use outcomes. It is premature to make definitive statements about the effectiveness of brief school-based interventions for reducing adolescent substance use. Further high-quality studies examining the relative effectiveness of BIs for substance use and other problem behaviours need to be conducted, particularly in low- and middle-income countries.

PLAIN LANGUAGE SUMMARY

Can brief interventions delivered in schools reduce substance use among adolescents?

Review question: We reviewed evidence on the effects of brief school-based interventions for substance use and substance-related problem behaviours among adolescents. We found six studies.

Background: Adolescents worldwide are known to use both legal and illegal substances, which can lead to other problems. These high rates of substance use are concerning, as early initiation of substance use is a risk factor for substance use disorders in later life, and alcohol and illegal drugs have been associated with years lost due to disability among youth aged 10 to 24 years.

We wanted to learn whether brief school-based interventions had an effect on substance misuse in adolescents. Brief interventions are short programmes that aim to help reduce or stop substance use. This review updates a previous review published in 2014.

Search date: The evidence is current to February 2015.

Study characteristics: We included six studies in this review, with 1176 adolescents overall. The mean age of adolescents was 16.9 years. We were interested in studies with short-, medium-, and long-term follow-up periods to assess whether any effects were due to the brief intervention. The studies compared brief intervention programmes with two major kinds of comparison or control groups: 1) an information provision only (general health promotion materials and harm reduction information) group and 2) an assessment-only group, where adolescents received no intervention but were evaluated on substance use and other behaviour at follow-up appointments at different time periods following delivery of the intervention. Three studies with 732 adolescents compared brief interventions with information provision only, while the other three, with 444 adolescents, compared brief interventions with assessment only.

Trials were either conducted in the United States or the United Kingdom.

Delivery of the interventions was individual or group face-to-face feedback across high schools and further education colleges. All interventions were up to four sessions in length.

Our primary outcome was abstinence or reduction of substance use behaviour, and our secondary outcomes were engagement in criminal activity related to substance use and engagement in delinquent-type behaviours related to substance use.

Key results: For outcomes that concern substance use, the studies assessed use of alcohol and cannabis. When compared to information provision, brief interventions are probably not more efficacious in reducing substance use or delinquent behaviour. When compared to assessment-only controls, the interventions may have some significant effects on substance use and behaviours. At short-term follow-up, brief interventions significantly reduced cannabis frequency in one study. At medium-term follow-up, brief interventions significantly reduced frequency of alcohol use, alcohol abuse and dependence symptoms, and cannabis abuse symptoms in one study. At long-term



follow-up, brief interventions significantly reduced alcohol abuse, cannabis frequency, and cannabis abuse and dependence symptoms in one study.

The pattern of results indicates that adolescents who received a brief intervention generally did better in reducing their alcohol and cannabis use than adolescents who received no intervention at all. However, adolescents who received a brief intervention did not seem to do better in reducing their alcohol and cannabis use than adolescents who received information-only interventions. It is therefore premature to make definitive statements about the effectiveness of brief school-based interventions for reducing adolescent substance use.

Quality of evidence: Overall, the evidence was of moderate or low quality, with two outcomes found to have very low quality of evidence. There were three major issues across the studies: 1) there was no blinding of adolescents, 2) there was uncertainty as to whether participant allocation to study groups was concealed, and 3) a small total number of adolescents and number of events. None of the included studies reported information about funding source or conflicts of interest.