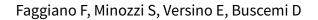


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# Universal school-based prevention for illicit drug use (Review)



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## [Intervention Review]

# Universal school-based prevention for illicit drug use

Fabrizio Faggiano<sup>1</sup>, Silvia Minozzi<sup>2</sup>, Elisabetta Versino<sup>3</sup>, Daria Buscemi<sup>1</sup>

<sup>1</sup>Department of Translational Medicine, Università del Piemonte Orientale, Novara, Italy. <sup>2</sup>Department of Epidemiology, Lazio Regional Health Service, Rome, Italy. <sup>3</sup>Clinical and Biological Sciences, San Luigi Gonzaga Medical School, University of Turin, Orbassano, Italy

**Contact:** Fabrizio Faggiano, Department of Translational Medicine, Università del Piemonte Orientale, Via Solaroli 17, Novara, NO, 28100, Italy. fabrizio.faggiano@med.unipmn.it.

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## **ABSTRACT**

### **Background**

Drug addiction is a chronic, relapsing disease. Primary interventions should aim to reduce first use or to prevent the transition from experimental use to addiction. School is the appropriate setting for preventive interventions.

## **Objectives**

To evaluate the effectiveness of universal school-based interventions in reducing drug use compared to usual curricular activities or no intervention.

## Search methods

We searched the Cochrane Drugs and Alcohol Group's Trials Register (September 2013), the Cochrane Central Register of Controlled Trials (2013, Issue 9), PubMed (1966 to September 2013), EMBASE (1988 to September 2013) and other databases. We also contacted researchers in the field and checked reference lists of articles.

### **Selection criteria**

Randomised controlled trials (RCT) evaluating school-based interventions designed to prevent illicit drugs use.

## **Data collection and analysis**

We used the standard methodological procedures expected by The Cochrane Collaboration.

## Main results

We included 51 studies, with 127,146 participants. Programmes were mainly delivered in sixth and seventh grade pupils. Most of the trials were conducted in the USA.

Social competence approach versus usual curricula or no intervention

Marijuana use at < 12 months follow-up: the results favoured the social competence intervention (risk ratio (RR) 0.90; 95% confidence interval (CI) 0.81 to 1.01, four studies, 9456 participants, moderate quality evidence). Seven studies assessed this outcome (no data for meta-analysis): two showed a positive significant effect of intervention, three showed a non-significant effect, one found a significant effect in favour of the control group and one found a trend in favour of the control group.

Marijuana use at 12+ months: the results favoured the social competence intervention (RR 0.86; 95% CI 0.74 to 1.00, one study, 2678 participants, high quality evidence). Seven studies assessed this outcome (no data for meta-analysis): two showed a significant positive



effect of intervention, three showed a non-significant effect, one found a significant effect in favour of the control group and one a trend in favour of the control group.

Hard drug use at < 12 months: we found no difference (RR 0.69; 95% CI 0.40 to 1.18, one study, 2090 participants, moderate quality evidence). Two studies assessed this outcome (no data for meta-analysis): one showed comparable results for the intervention and control group; one found a statistically non-significant trend in favour of the social competence approach.

Hard drug use at 12+ months: we found no difference (mean difference (MD) -0.01; 95% CI -0.06 to 0.04), one study, 1075 participants, high quality evidence). One study with no data for meta-analysis showed comparable results for the intervention and control group.

Any drug use at < 12 months: the results favoured social competence interventions (RR 0.27; 95% CI 0.14 to 0.51, two studies, 2512 participants, moderate quality evidence). One study with 1566 participants provided continuous data showing no difference (MD 0.02; 95% CI -0.05 to 0.09, moderate quality evidence).

## Social influence approach versus usual curricula or no intervention

Marijuana use at < 12 months: we found a nearly statistically significant effect in favour of the social influence approach (RR 0.88; 95% CI 0.72 to 1.07, three studies, 10,716 participants, moderate quality evidence). One study with 764 participants provided continuous data showing results that favoured the social influence intervention (MD -0.26; 95% CI -0.48 to -0.04).

Marijuana use at 12+ months: we found no difference (RR 0.95; 95% CI 0.81 to 1.13, one study, 5862 participants, moderate quality evidence). One study with 764 participants provided continuous data and showed nearly statistically significant results in favour of the social influence intervention (MD -0.22; 95% CI -0.46 to 0.02). Of the four studies not providing data for meta-analysis a statistically significant protective effect was only found by one study.

Hard drug use at 12+ months: one study not providing data for meta-analysis found a significant protective effect of the social influence approach.

Any drug use: no studies assessed this outcome.

## Combined approach versus usual curricula or no intervention

Marijuana use at < 12 months: there was a trend in favour of intervention (RR 0.79; 95% CI 0.59 to 1.05, three studies, 8701 participants, moderate quality evidence). One study with 693 participants provided continuous data and showed no difference (MD -1.90; 95% CI -5.83 to 2.03).

Marijuana use at 12+ months: the results favoured combined intervention (RR 0.83; 95% CI 0.69 to 0.99, six studies, 26,910 participants, moderate quality evidence). One study with 690 participants provided continuous data and showed no difference (MD -0.80; 95% CI -4.39 to 2.79). Two studies not providing data for meta-analysis did not find a significant effect.

Hard drug use at < 12 months: one study with 693 participants provided both dichotomous and continuous data and showed conflicting results: no difference for dichotomous outcomes (RR 0.85; 95% CI 0.63 to 1.14), but results in favour of the combined intervention for the continuous outcome (MD -3.10; 95% CI -5.90 to -0.30). The quality of evidence was high.

Hard drug use at 12+ months: we found no difference (RR 0.86; 95% CI 0.39 to 1.90, two studies, 1066 participants, high quality evidence). One study with 690 participants provided continuous data and showed no difference (MD 0.30; 95% CI -1.36 to 1.96). Two studies not providing data for meta-analysis showed a significant effect of treatment.

Any drug use at < 12 months: the results favoured combined intervention (RR 0.76; 95% CI 0.64 to 0.89, one study, 6362 participants).

Only one study assessed the effect of a knowledge-focused intervention on drug use and found no effect. The types of comparisons and the programmes assessed in the other two groups of studies were very heterogeneous and difficult to synthesise.

## **Authors' conclusions**

School programmes based on a combination of social competence and social influence approaches showed, on average, small but consistent protective effects in preventing drug use, even if some outcomes did not show statistical significance. Some programmes based on the social competence approach also showed protective effects for some outcomes.

Since the effects of school-based programmes are small, they should form part of more comprehensive strategies for drug use prevention in order to achieve a population-level impact.

### PLAIN LANGUAGE SUMMARY

## School-based prevention for illicit drug use



## **Background**

Drug addiction is a long-term problem caused by an uncontrollable compulsion to seek drugs. It is a serious and growing problem. This makes it important to reduce the number of young people first using drugs, and to prevent the transition from experimental use to addiction. Schools offer the most systematic and efficient way of reaching them.

School programmes are categorised into four main groups:

- 1. Knowledge-focused curricula(courses of study) give information about drugs, assuming that information alone will lead to changes in behaviour.
- 2. Social competence curricula are based on the belief that children learn drug use by modelling, imitation and reinforcement, influenced by the child's pro-drug cognitions (perceptions), attitudes and skills. These programmes use instruction, demonstration, rehearsal, feedback and reinforcement, etc. They teach generic self management personal and social skills, such as goal-setting, problem-solving and decision-making, as well as cognitive skills to resist media and interpersonal influences, to enhance self esteem, to cope with stress and anxiety, to increase assertiveness and to interact with others.
- 3. Social norms approaches use normative education methods and anti-drugs resistance skills training. These include correcting adolescents' overestimates of the drug use rates of adults and adolescents, recognising high-risk situations, increasing awareness of media, peer and family influences, and teaching and practising refusal skills.
- 4. Combined methods draw on knowledge-focused, social competence and social influence approaches together.

### **Review question**

We reviewed the evidence about the effect of school-based prevention interventions on reducing the use and intention to use drugsand increasing knowledge about the harms of drugs in primary or secondary school pupils.

### **Study characteristics**

We found a total of 51 studies (73 reports) with 127,146 participants involved. Twenty-seven studies compared 28 programmes adopting a social competence approach versus usual curricula, eight studies compared a social influence approach versus usual curricula, seven studies compared a combined approach versus usual curricula, two studies compared a programme based on knowledge only versus usual curricula, four studies compared other approaches versus usual curricula, seven studies assessed 11 different comparisons. They were mainly delivered in sixth and seven grade pupils (12 to 13 years). Most of the trials were conducted in the USA. The interventions were mainly interactive and five of them lasted one school year, 18 more than one school year and 29 less than one school year. In all other cases the duration was not clearly specified. Follow-up ranged from immediately after the end of the intervention up to 10 years.

## **Key results**

Programmes based on social competence were mostly represented and showed a similar tendency to reduce the use of substances and the intention to use, and to improve knowledge about drugs, compared to usual curricula, but the effects were seldom statistically significant. Programmes based on social influence showed weak effects that were rarely significant. Programmes based on a combination of social competence and social influence approaches seemed to have better results than the other categories, with effective results in preventing marijuana use at longer follow-up, and in preventing any drug use. Knowledge-based interventions showed no differences in outcomes, apart from knowledge, which was improved among participants involved in the programme.

### Quality of the evidence

The quality of evidence was moderate for some outcomes and comparisons, and was high for others. Most of the studies did not report adequately the way in which the study was conducted. Moreover, many studies did not report their results in a way that allowed them to be combined in a statistical summary.

The evidence is current to September 2013.