School effects on young people's drug use: a systematic review of intervention and observational studies

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CRD summary
The authors concluded that interventions that encourage a positive school ethos and reduce student disaffection may be an effective addition to drug prevention programmes, but further research is required. The review was generally well-conducted and reported. The authors' conclusion appears appropriately cautious given the limited evidence.

Authors' objectives
To determine if school institutional factors can influence drug use by young people.

Searching
Social Sciences Citation Index, PubMed, EMBASE, PsycINFO, ERIC, the Cochrane Library, C2-SPECTR, BiblioMap and DrugScope (DrugData) were searched to March 2006; the search strategy was described. In addition, the reference lists of included studies were screened and authors and key researchers were contacted for other reports, including those in the 'grey literature'. No language or publication restrictions were applied.

Study selection
High-quality intervention studies with a comparison group that evaluated 'whole-school' interventions aimed at reducing drug use in young people aged 11 to 16 years, and measured drug use at follow-up, were eligible for inclusion. Interventions had to involve changes to the schools' organisation, policies, working practices, culture or environment. High-quality longitudinal observational studies that measured the temporal relationship between exposure (reported as a measure of either school- or individual-level attitudes or behaviours) and outcome (measured drug use at follow-up) were also eligible for inclusion.

The primary review outcome was drug use. The other outcomes assessed included smoking, drinking and problem behaviours.

All of the intervention studies evaluated multicomponent interventions that included both school and individual-level elements. In three intervention studies, school action teams tackled overall school organisation and ethos with individual health education or social/emotional development components. In the other intervention study, new school rules about smoking, drinking and drug use were implemented. For intervention studies, students were aged 10 to 14 at baseline and the duration of follow-up was 2 or 4 years.

The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
Intervention studies were classified as high quality if they were randomised controlled trials (RCTs), or used restricted or matched treatment groups according to major confounders (age, gender, socioeconomic status) or adjusted for confounders in the analysis and had similar attrition rates between treatment groups. Observational studies were classified as high quality if they accounted for confounding factors through adjustment or restriction.

Two reviewers independently assessed validity.

Data extraction
Data for the longest follow-up period were extracted from high-quality studies onto a standardised form. Where possible, effect sizes and levels of statistical significance were extracted, and authors were contacted for additional information.

Two reviewers independently extracted the data, and any discrepancies were resolved with the help of a third reviewer.
Methods of synthesis
The studies were grouped by study design and combined in a narrative. Potential reasons for differences between the studies were discussed.

Results of the review
Four intervention studies (n=9,356) were included: three cluster RCTs (4, 8 and 12 intervention schools and 4, 8 and 14 control schools, respectively) and one quasi-experimental study with a matched control group (9 intervention schools and 3 control schools). The number of students per treatment group ranged from 366 to 2,221. Attrition rates ranged from 10 to 49%.

Two observational studies (7,164 students) measured school-level exposures using stratified random sampling. Seven observational studies (32,327 students) measured individual-level school-related exposures.

This abstract focuses on the intervention studies and studies assessing school-level associations.

Intervention studies.
Compared with the control group, one study reported a reduction in the rate of increase in a combined measure of alcohol, tobacco and cannabis use for boys exposed to the intervention; one study reported a significant reduction in the rate of increase in the use of drugs other than cannabis among boys, but not girls, exposed to the intervention; and one study reported a non significant reduction in cannabis use in the previous 6 months among young people exposed to the intervention. The study evaluating the implementation of new school rules reported no effect on the number of students using cannabis in intervention schools compared with control schools.

Observational studies reporting on school-level associations.
One study reported a significant association (after adjustment for confounders) between school-level rates of drug use at age 13 to 15 and reported disengagement and poor teacher-student relationships. The other study reported no association between policies about school uniform and drug use.

Observational studies reporting on individual-level associations.
Studies generally found associations between disengagement from school and poor teacher-student relationships and subsequent drug use.

Authors' conclusions
Interventions that encourage a positive school ethos and reduce student disaffection may be an effective addition to drug prevention programmes, but further research is required.

CRD commentary
The review question was stated clearly. Several relevant sources were searched and attempts were made to minimise publication and language bias. Validity was assessed and only high-quality studies were included in the review. Methods were used to minimise reviewer error and bias in the assessment of validity and extraction of data, but it is not clear whether similar methods were used at the study selection stage. The information on the included studies was adequate. The narrative synthesis was appropriate in view of the diversity of the studies, and potential reasons for differences between the studies and limitations of the evidence were discussed. The review was generally well-conducted and reported. The authors' conclusion appears appropriately cautious given the limited evidence.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors stated that the need for further research to evaluate the effect of whole school interventions in different settings on health outcomes. Studies must use cluster randomised designs that attempt to minimise sources of bias and confounding, and evaluate process outcomes to determine which elements of school organisation are involved. Studies could also measure students' views on the interaction between school and other relevant factors.
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