CRD summary
This review evaluated intervention programmes for alcohol education or counselling for college or university students. The authors concluded that limited evidence suggests there are elements that improve outcomes but, in general, further research is required. Despite various potential sources of bias in the review process, the overall conclusion that further research is required is likely to be reliable.

Authors' objectives
To review intervention programmes for mandatory alcohol education or counselling for college or university students.

Searching
MEDLINE, PsycINFO and ERIC were searched until 2004. The search terms were reported, although it was unclear whether any language restrictions were applied. The citation lists of studies were also checked.

Study selection
Study designs of evaluations included in the review
Studies that included some form of evaluation of an intervention were eligible for the review.

Specific interventions included in the review
Studies of any intervention for an alcohol-related infraction were eligible for inclusion. The interventions in the review included alcohol education classes, alcohol awareness workshops and counselling.

Participants included in the review
It appeared that studies with university or college students were eligible for inclusion. Participation was mandatory for the students in most studies. No further details of the participants included in the review were reported.

Outcomes assessed in the review
Studies that reported any post intervention outcomes were eligible. The included studies measured the opinions of the programmes, changes in knowledge and awareness, changes in alcohol consumption, and the tendency to relapse into prior behaviour patterns.

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The authors did not state that they formally assessed validity. Some features were reported; these included length of follow-up, completeness of follow-up, sample size, adherence to intervention and assessment of intervention integrity.

Data extraction
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction. The effect sizes were extracted as reported, or calculated where possible using the means and standard deviations or percentages reported.

Methods of synthesis
How were the studies combined?
The studies were grouped into three categories according to study design (single-group, post-test data only; single-group with follow-up; RCTs) and combined in a narrative.

How were differences between studies investigated?
Differences between the studies were described in the data tables and discussed in the text of the review.

Results of the review
Sixteen studies were identified: 3 randomised controlled trials (RCTs; n=213), 7 single-group studies with post-test data (n at least 466 at baseline) and 6 single-group studies with follow-up data (n=662 at baseline). The authors also stated that two dissertations were not included as the number of other studies was so low.

Single-group, post-test data only.
Most of the studies were group programmes lasting for a median of 6 hours. Half of them included additional sessions with counsellors. The evaluation of the interventions in the studies was generally minimal, although 2 studies reported that students stated that they had reduced their alcohol consumption, a third study reported no change in consumption rates, and three reported low rates of recidivism. The length of follow-up was often unclear and sample sizes were usually small (less than 45 participants).

Single-group with follow-up data.
Most of the studies used group programmes and typically lasted for 3 hours; the follow-up periods tended to be short (2 weeks to 3 months). Overall, the within-group effect sizes ranged from 0.09 to 1.59, although most were in the moderate range of 0.2 to 0.8. Two studies reported that consumption of alcohol was significantly reduced, but neither used validated measures of alcohol consumption. No other study suggested any statistically significant results in any of the outcomes.

RCTs.
Overall, the between-group effect sizes of the 3 trials were generally small to moderate for all outcomes reported. The exception was one study that found a large, statistically significant effect size, suggesting that the control group had a greater alcohol knowledge than the intervention group. However, this study was only based on 25 participants.

Authors’ conclusions
The findings suggested that targeted interventions designed to address the motivation of students, which are mandatory rather than voluntary, may be effective at reducing student drinking. Although, the authors concluded that overall there is a paucity of good research, the studies identified had a number of flaws. For example, not including a control or comparison group; small or selective sample size; lack of behavioural measures of alcohol consumption; no follow-up or low follow-up rates, or short follow-up intervals. Further research into interventions designed to reduce heavy drinking in college students is necessary.

CRD commentary
This review addressed a very broad question and some inclusion criteria were not explicitly defined. Electronic databases were searched using the search terms provided, although it was unclear whether any unpublished studies were sought and whether any language restrictions were applied; thus, it was not possible to assess whether any relevant studies might have been missed. The review authors also mentioned that two dissertations were not included in the review, and the reasons for this were not clear; this highlights a potential selection bias. The methods used to select studies and extract the data were not described, so it is not known whether any efforts were made to reduce reviewer errors and bias during these processes. The validity of the included studies was not formally assessed, although the authors did acknowledge the limitations of the studies in the text of the review and conclusion.

Given the diversity of the included studies, a narrative synthesis was appropriate. Various potential sources of bias in the review process meant it was difficult to assess the reliability of the authors’ conclusions. However, overall, the
conclusions appear reasonable and the need for further research seems appropriate.

**Implications of the review for practice and research**

Practice: The authors did not state any implications for practice.

Research: The authors stated that further research to evaluate different modes and types of interventions and sanctions (in particular mandatory, rather than voluntary interventions), long-term efficacy and the cost-effectiveness of interventions is required.

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