Culturally sensitive interventions and substance use: a meta-analytic review of outcomes among minority youths
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CRD summary
This review found small beneficial effects of culturally sensitive interventions, on substance use, in young people from ethnic minority groups, in the USA. Some methodological flaws mean that the authors' conclusions may not be reliable.

Authors' objectives
To assess the effectiveness of culturally sensitive interventions for substance use in young people from ethnic minority groups.

Searching
Sixty-three databases, indexed by CSA Illumina, in social and natural sciences, including PsycINFO, Social Services Abstracts, and MEDLINE, were searched to October 2009, for relevant studies; search terms were reported. The reference lists of retrieved studies and narrative reviews were checked to identify additional studies. The authors searched for unpublished studies in Dissertation Abstracts, by contacting the lead authors of the included studies, and by contacting other researchers studying culturally sensitive interventions.

Study selection
Prospective studies, conducted in the USA, that evaluated culturally sensitive interventions in young people from ethnic minorities (African-American, Latino, or Native American) were eligible for inclusion, if the baseline and follow-up measurements of substance use were reported. Eligible trials had to have most participants under 18 years old, and the interventions had to incorporate surface or deep structural strategies. Retrospective studies, and studies that had standard interventions, or qualitative findings, or examined attitudes and intentions towards substance use, were excluded.

In the included studies, the participants were of African American, Latin American, Native Indian, or Mexican descent; some participants were juvenile offenders. The interventions were skills based or community based; some interventions were conducted in schools. Outcomes were alcohol use, and cigarette and marijuana use. The interventions ranged in duration from two weeks to four years. Measurements after intervention were most commonly at 30 days. Comparator treatments were waiting list, standard treatment, or no treatment.

The authors did not state how many reviewers selected the studies.

Assessment of study quality
Methodological quality of the included studies was assessed, by two independent reviewers, using criteria developed by the American Psychological Association, for randomisation, use of comparators, definition of population, use of treatment manual or curriculum, sample size, and the use of reliable and validated outcome measures. Single-item self-report measures of substance abuse were judged to be reliable and validated outcome measures. The maximum quality score was 6 points; higher scores indicated higher quality. Any discrepancies between the reviewers were resolved by discussion.

Data extraction
Data were extracted to calculate effect sizes and 95% confidence intervals for the effectiveness of culturally sensitive interventions. The authors did not state how many reviewers extracted the data.

Methods of synthesis
Standardised mean effect sizes, represented as Hedges' g, with 95% confidence intervals, were calculated using a random-effects model. The presence of statistical heterogeneity was assessed using Cochran Q or I². The potential for publication bias was evaluated by visual appraisal of funnel plots and using the Begg and Egger tests.
Results of the review
Ten studies, with 11,331 patients, were included in the review. Five were randomised controlled trials, one was a non-randomised comparative study, and four were single-group before-and-after studies. Four trials were randomised by school. The randomised trials had quality scores of 6 points. Quality scores for the non-randomised studies ranged from 2 to 5 points.

Statistically significant, but small effects were observed with culturally sensitive interventions, across measurements and time frames (Hedges’ g 0.118, 95% CI 0.004 to 0.232). There was a small significant effect for recent alcohol use (Hedges’ g 0.225, 95% CI 0.015 to 0.435, six studies), but not for recent marijuana use (three studies).

There was no evidence of publication bias in the visual appraisal of the funnel plots, nor in the Egger and Begg tests.

Authors' conclusions
The small beneficial results, observed in the review, indicated that culturally sensitive interventions might reduce substance use, in young people from minority groups, in the USA.

CRD commentary
A range of appropriate databases was searched for relevant studies. Attempts were made to identify unpublished studies. The studies ranged in methodological quality from good to poor, based on their scores. The detailed results of the quality assessment were not presented, and the assessment did not cover allocation concealment and follow-up. There was significant heterogeneity across the studies, in their design, interventions, durations, outcomes, and times of assessment after intervention.

The authors stated they would use a random-effects model, but the results were presented for fixed-effect models. Pooling the results in this way might not have been justified given the clinical heterogeneity across the studies. The authors stated that there were wide confidence intervals around the point estimates, for some of the included studies, but no data were presented for statistical heterogeneity across the studies. The authors acknowledged the limitations of the lack of control groups in some studies, the clinical heterogeneity across the included studies, and the small number of included studies. The results may not be generalisable to minority populations outside the USA.

Some methodological flaws mean that the authors' conclusions may not be reliable.

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

Research: The authors stated that continued development, testing and implementation of culturally sensitive interventions was required, to reduce substance use and abuse among young people from ethnic minorities.

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