A decade in review: building on the experiences of past adolescent STI/HIV interventions to optimise future prevention efforts

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CRD summary
This review, which assessed the effectiveness of sexually transmitted infection (STI) prevention interventions for adolescents in different settings, concluded that certain components, such as condom use, appear to successfully reduce risk behaviours, but targeting of populations is needed to optimise future interventions. The authors appear to have considered the limitations of the included studies and their conclusions are likely to be reliable.

Authors' objectives
To assess the effectiveness of sexually transmitted infection (STI) prevention interventions, using the evidence to optimise future programme development.

Searching
EBSCO, AltHealthWatch, MEDLINE, ERIC, Health Source, PsycARTICLES, Professional Development Collection, Ovid and PsycINFO were searched from 1994 to 2004; the search terms were reported. In addition, manual searches using references of review articles were undertaken.

Study selection
Study designs of evaluations included in the review
No criteria were specified in relation to the study design. The majority of the included studies were randomised controlled trials (RCTs) or quasi-randomised controlled trials.

Specific interventions included in the review
Studies involving STI risk reduction interventions based in schools, communities, clinics or special populations were eligible for inclusion. All four settings were identified in the included studies. The interventions incorporated a wide range of contents (e.g. skills-building, problem-solving), behaviour change techniques and theoretical frameworks, and were delivered through different means, including students, parents and trained health educators.

Participants included in the review
Studies involving adolescents aged 11 to 22 years were eligible for inclusion; however, studies conducted solely among university students were excluded. The included studies involved adolescents with a wide range of patient characteristics, such as populations from different ethnic and cultural backgrounds, and ‘high-risk’ populations.

Outcomes assessed in the review
The primary outcome was the effect of interventions to prevent STI or the human immunodeficiency virus (HIV), and studies reporting behavioural or biomedical outcomes were eligible for inclusion. The majority of included studies used self-report measures to identify behavioural outcomes, including incidences of sexual intercourse or abstinence, frequency of condom use or other form of birth control, number of sexual partners, and substance use frequency. In addition, 5 studies reported on pregnancy or STI. The duration of follow-up ranged from immediate post-intervention (1 week) to more than 10 years.

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
Validity was assessed using 13 evaluation criteria, which included clear descriptions of study characteristics, intervention and control treatments, quality assessment, methodology and data analysis. Further details were reported in the review.
Data extraction
The authors did not state how many reviewers performed the data extraction. Data were extracted on theoretical framework, programme implementation, intervention content, behaviour change technique, comparison group content and outcomes.

Methods of synthesis
How were the studies combined?
The studies were described in a narrative and grouped by intervention setting.

How were differences between studies investigated?
Tables were used to present summary study characteristics, grouped by intervention setting.

Results of the review
Thirty-nine studies (n=40,488) were included in the review: 27 RCTs (one longitudinal and six blocked), 2 experimental studies, 5 quasi-experimental studies, one non-randomised controlled trial and 2 pre-test post-test studies, one study with no comparator and one secondary data analysis. Thirteen studies included school-based interventions, twelve were clinically-based, five were community-based, and nine were of interventions for special population (one was also clinic-based).

Some form of behavioural change, predominantly decreased rates of unprotected sexual intercourse, was reported in 75% of school-based interventions. However, 3 studies reported no significant differences between intervention and control groups, and one reported an increase in risk behaviours post-intervention.

No significant differences were reported between groups for behavioural outcomes in one third of the clinic-based studies. Increases in condom use were the most commonly cited changes.

Six of the 10 special population studies indicated reduced incidences of unprotected sexual intercourse, and several studies reported a reduction in some other risk behaviour. However, 2 studies reported no changes, while another indicated behavioural change but no differences between the intervention and control groups.

Behavioural changes were observed in all community-based interventions, with decreased incidences of unprotected sexual intercourse reported most frequently (3 of the 5 studies).

In addition to setting, tailored approaches and the inclusion of theoretical and psychological components were factors reported to be most effective in reducing risk behaviours.

Authors’ conclusions
Promising HIV/STI prevention interventions have been developed, but require further improvement in terms of rigorously designed research specially tailored to the ethnic/cultural, gender and sociodemographic characteristics of the target population.

CRD commentary
The review question was clear and inclusion criteria were reported for the participants, interventions and outcomes. A relevant literature search was undertaken using electronic databases and other appropriate sources. However, there was no apparent search for unpublished material, which means that potentially relevant studies might have been missed. No details were provided of the methods used to select studies or extract the data, thus the potential for reviewer error and bias cannot be ruled out. Validity was assessed according to defined criteria, although no details were provided of any steps taken to minimise error and bias. The authors’ decision to present the findings narratively was appropriate given the differences between the studies and varied methods of reporting. The authors appear to have considered such limitations and their conclusions are likely to be reliable.

Implications of the review for practice and research
Practice: The authors stated that single STI/HIV prevention interventions are less likely to be effective compared with
interventions specially tailored to the ethnic/cultural, gender and sociodemographic characteristics of adolescents in the USA, owing to the heterogeneity of this population.

Research: The authors stated that future STI/HIV interventions should be innovative, theory-based and tailored to specific populations. The development of future interventions should also consider focusing on aspects of behaviour most effectively changed; incorporate a multi-level framework including strategies to address other influential factors such as relationships; involve parents; and include strategies to improve long-term behavioural change. Consideration should also be given to biological markers to measure intervention efficacy and to cost–effectiveness; the relationship between intervention duration and efficacy should be investigated further; and the quality and rigour of methodology and reporting should be improved.

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