Recent evaluations of the peer-led approach in adolescent sexual health education: a systematic review

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CRD summary
This review concluded that, despite promising results in some trials, overall findings did not provide convincing evidence that peer-led educational interventions improved sexual outcomes among adolescents. A degree of caution is required in interpreting these conclusions, given the limited quality of most of the included studies and other concerns in the review methods.

Authors' objectives
To assess the effectiveness of peer-led sex educational interventions for adolescents.

Searching
EMBASE, ERIC, PubMed, PsycINFO, DoPHER, IBSS, specialised bibliographic registers and Cochrane Central Register of Controlled Trials (CENTRAL) were searched for published English-language studies between 1998 and 2005. Search terms were reported. Reference lists of relevant publications were screened. The journals of Health Education and Behaviour and Health Education Research were handsearched between 1998 and 2005. Relevant researchers were contacted for additional studies.

Study selection
Randomised controlled trials (RCTs) and quasi-randomised controlled trials that compared any peer-led intervention to promote sexual health with controls in any setting in high-, middle- and low-income countries for adolescents (aged 10 to 19 years) were eligible for inclusion. Eligible studies had to include a control group with social and demographic characteristics similar to the intervention group. Primary outcomes were occurrences of pregnancy and sexually transmitted diseases, age at first sex, number and types of sexual partnerships, condom use and contraceptive use. Secondary outcomes included measures of knowledge of sexual health and contraceptive services, and behavioural intentions related to sex or contraceptive use.

The number and length of educational sessions varied between studies. Where reported, educational interventions comprised one to seven sessions. Most studies were conducted in school settings; others were community-based. Most studies were conducted in developed countries, mostly UK and USA. The age of included participants ranged from 13 to 18 years. The age of peer educators ranged from 14 to 26 years.

The authors did not state how many reviewers assessed studies for inclusion.

Assessment of study quality
Study quality was assessed using criteria developed by Evidence for Policy and Practice Information and Coordinating Centre and criteria based on Cochrane review guidelines. Criteria included: a clear definition of aims; a sufficient description of the study design and intervention to allow replication; random allocation; losses to follow-up; a clear description of the number of participants per condition; and a clear description of pre-intervention and post-intervention data. The quality of RCTs was assessed using criteria of randomisation, allocation concealment and blinding of outcome assessors. For cluster RCTs, the authors also assessed whether adjustment for clustering effects was performed in analysis. The evaluation of peer-led interventions was conducted using Harden and colleagues’ recommendations.

The authors did not state how many reviewers performed validity assessment.

Data extraction
Data were extracted on the number of participants who experienced an event to enable calculation of odds ratios (ORs)
with 95% confidence intervals (CIs). Study authors were contacted for additional information where necessary.

One reviewer performed data extraction.

**Methods of synthesis**
The studies were combined in a meta-analysis using a random-effects model. Pooled odds ratios with 95% CIs were calculated. Results were adjusted for clustering. Statistical heterogeneity was assessed using the $I^2$ statistic. Subgroup analyses were performed to assess the impact of study quality, setting, session lengths and peer responsibilities on heterogeneity. Publication bias was assessed using a funnel plot.

**Results of the review**
Thirteen studies were included in the review (n=24,756): four RCTs and nine quasi-randomised controlled trials. Only three studies met all quality criteria. All studies used clustering sampling. Only two RCTs had adequate allocation sequence and concealment. Blinding of outcome assessors was not reported in any RCT. No study met all Harden and colleagues' recommendations for the evaluation of peer-led interventions.

There was no significant difference in condom use at last sex for groups who received peer-led interventions compared with controls (adjusted OR 1.04, 95% CI 0.85 to 1.28; seven studies). Significant heterogeneity was found for this outcome ($I^2=77\%$).

Three studies reported a non-significant benefit on consistent condom use for the intervention groups compared with controls. One study reported that peer-led interventions significantly reduced the risk of chlamydia (OR 0.17, 95% CI 0.03 to 0.92), but another study found no significant impact on the incidence of sexually transmitted diseases. One study reported a significant increase in the odds that female adolescents had never had sex (OR1.88, 95% CI 1.02 to 3.47), but no effect among males.

There was no evidence of publication bias. Results for other outcomes and subgroup analyses were reported.

**Authors' conclusions**
Although there were promising results in some trials, overall findings did not provide convincing evidence that peer-led educational interventions improved sexual outcomes for adolescents.

**CRD commentary**
This review's inclusion criteria were clear. Relevant databases were searched. The decision to restrict the review to published English-language studies increased risks of publication and language biases. Publication bias was assessed using a funnel plot and little evidence of it was found; the method used to assess publication bias in a small number of studies may not have been appropriate. Only one reviewer performed data extraction, so reviewer biases and errors could not be ruled out. It was unclear whether sufficient attempts were made to minimise errors and biases in the processes of study selection and validity assessment. Relevant criteria were used to assess study quality. Statistical heterogeneity was assessed. Appropriate methods were used to pool the results.

The authors' conclusions reflected the evidence presented. However, the limited quality of most of the included studies and methodological concerns suggest caution when interpreting the conclusions.

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

**Practice:** The authors stated that peer-led educational interventions should not be abandoned but fine-tuned, although the findings from this review did not find unambiguous support for peer-led educational interventions.

**Research:** The authors stated that further high-quality trials were required to investigate the effectiveness of peer-led sex educational interventions for adolescents. Cluster sampling calculation should be used in future trials and analyses should show similarity among the groups being assessed. Future studies should fulfil Harden's and colleagues' recommendations on development of peer-led sexual health educational interventions. Process and outcome evaluations should be implemented in all evaluations in order to gain a full overview of the impact of peer-led educational
programmes.

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