The effectiveness of social marketing in reduction of teenage pregnancies: a review of studies in developed countries
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CRD summary
The authors concluded that social marketing appeared to be an effective approach in reducing teenage pregnancies and influencing sexual behaviour change, but the evidence was limited to particular outcomes and context and therefore was inconclusive. The authors' cautious conclusions reflect the evidence presented and are likely to be reliable, but the potential for language bias should be considered.

Authors' objectives
To evaluate the effectiveness of a social marketing approach in reducing unintended teenage pregnancies.

Searching
PubMed, Science Direct, The Cochrane Library, EMBASE, SCOPUS, CRD, Centres for Disease and Prevention Control, TRIP and Teenage Pregnancy Unit research databases were searched from 1990 to 2008 for articles in English. Reference lists of selected articles were scanned. Experts in teenage pregnancy and social marketing were contacted. Search terms were reported.

Study selection
Controlled trials or before-and-after studies that evaluated the effectiveness of unintended teenage pregnancy social marketing interventions aimed at 11 to 19 year olds in USA, Western Europe, Canada, New Zealand and Australia were eligible for inclusion. Interventions had to meet the social marketing benchmark criteria (consumer research, specific behaviour change goal, segmentation and targeting, marketing mix, exchange and competition). Studies also had to report at least one of the outcomes: change in number of unintended pregnancies, delay in sexual initiation/abstinence among participants, contraceptive use, knowledge of contraception and reproductive health, and self-efficacy to refuse unwanted sexual intercourse.

The interventions in the included studies included behaviour change goals and consumer research, targeting and segmentation, product, promotion modules. Some interventions included partnership, exchange and competition modules (details reported in the review). More than half of the studies were based in schools, some were community based and some were a mixture of both. Most of the studies had a long-term follow up of two to three years and the rest had less than two years follow-up. The intensity of the interventions ranged from low (less than 10 sessions), medium (10 to 20 sessions) and high (more than 20 sessions). Control groups were led by teachers or health professionals with fewer activities and less contact time than for intervention groups. Comparison groups in the before-and-after studies had unrelated intervention programmes. Most of the studies were from USA and the rest were from UK. Most of the studies included a high percentage of Hispanic, African American, Asian and black participants.

Two reviewers independently selected studies for inclusion. Disagreements were resolved by discussion or with reference to a social marketing specialist.

Assessment of study quality
Study quality was assessed using the Effective Public Health Practice Project tool with criteria of study design, appropriateness of randomisation, participant selection and allocation, control of confounders, blinding, validity and reliability of data collection methods, withdrawals and drop-outs, intervention integrity, appropriateness of analysis and intention-to-treat analysis. Studies were graded strong/high, moderate or weak.

Two reviewers independently assessed quality. Disagreements were resolved by consensus.

Data extraction
Data on the relevant outcomes were extracted independently by two reviewers. Disagreements were resolved by consensus.
Methods of synthesis
Data were combined in a narrative synthesis with additional information provided in tables.

Results of the review
Twelve studies (31,921 participants) were included in the review: nine randomised controlled trials (RCTs) and three before-and-after studies. One RCT was rated as high quality, nine studies were rated as moderate and two studies were rated as weak quality.

Unintended pregnancy (seven studies): Four studies (two RCTs) found that female participants in intervention groups were less likely to report having experienced unintended pregnancy at final follow-up in comparison with control group. No studies reported significant differences between intervention and control groups for male participants causing a pregnancy.

Delayed sexual initiation (10 studies): Five studies (four RCTs) reported significant delays in sexual initiation for intervention groups compared with control groups. Two reported a significant reduction in sexual activity for male participants in intervention groups compared to control groups.

Contraceptive use at last sexual intercourse (nine studies): Four studies (three RCTs) reported significant long-term effects for intervention groups. One short-term RCT found that control groups had better outcomes than intervention groups.

Knowledge of reproductive health and contraception (eight RCTs): Seven studies reported significant impacts for intervention groups.

Self-efficacy to refuse unwanted sex (five RCTs): One study reported significantly more female participants in the intervention group (75%) choosing not to have sex when pressured compared with the control group (36%). No studies reported significant effects on males.

Authors’ conclusions
Social marketing appeared to be an effective approach in reducing teenage pregnancies and influencing sexual behaviour change, but the evidence was limited to particular outcomes and context and therefore inconclusive.

CRD commentary
The review question was clear with defined inclusion criteria. Several relevant sources were searched and efforts were made to reduce the risk of publication bias. The limitation to studies in English meant that some studies may have been missed. Quality was assessed using appropriate criteria and some details of the assessment were reported. Appropriate methods were used to reduce reviewer error and bias throughout the review process.

The authors decision not to use a meta-analysis was appropriate given the variation in the studies. The authors highlighted limitations in the included studies such as anomalies in randomisation or analysis, high attrition rates (>20% in most RCTs), baseline differences between intervention and control groups and differences in outcome measures. All the studies were conducted in either USA or UK with a high percentage of minority ethnic groups and so the results may not be generalisable to other populations.

The authors’ cautious conclusions reflect the evidence presented and are likely to be reliable, but the potential for language bias should be considered.

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

Research: The authors stated a need for further robust evaluations in primary studies designed specifically around social marketing principles. The minimal impact on male behaviour required further investigation.

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