A systematic review of reviews on interventions to improve the sexual and reproductive health of young people

Bowring AL[1], Hider K[2], Douglass C[1,3], Wright C[1,3], Jones J[2], Kopel N[2], Lim M[1,3]
[1] Burnet Institute, [2] Family Planning Victoria, [3] Monash University

Introduction

- Young people experience disproportionately high rates of sexual and reproductive health (SRH) problems and are an important population group to target through health promotion initiatives.
- We conducted a systematic review of reviews to assess the effectiveness of health promotion interventions in improving SRH of young people.

Methods

We included published systematic reviews published from 2005–2015 which met the following criteria:

1. Focused on young people (10–24 years);
2. Reported on SRH outcomes (pregnancy, sexually transmissible infections (STIs), condoms/contraceptive use, risky sexual behaviour, sexual healthcare access or intimate partner violence); and
3. Included primary studies predominantly conducted in high-income countries.

The strength of evidence was classified based on the *consistency* of primary findings and *quality of systematic review* , assessed by AMSTAR score. These were scored for available outcomes in each review and categorised into four levels:

- evidence of effectiveness (green);
- emerging evidence (yellow);
- inconsistent evidence (orange); and
- evidence of ineffectiveness/harm (red).

The strength of evidence was assessed by SRH *outcome, domain* (knowledge/skills, attitudes, behaviour, clinical outcomes) and *defining characteristics* (e.g. comprehensive education, condom demonstration, mass media). See **figure 1**.

Table 1: Summary of the evidence of effectiveness by intervention type and defining characteristics

Intervention characteristics	Overview of evidence
Education interventions	
Abstinence-only education	Demonstrates ineffective or inconsistent results for nearly all SRH outcomes, including sexual initiation.
Abstinence-plus education	Some evidence and emerging evidence of effectiveness for improving knowledge and use of contraception, but results still largely inconsistent.
Comprehensive education	Some evidence of effectiveness for behavioural outcomes, particularly among higher quality studies.
Education (general, group, curriculum based)	Reviews demonstrating a protective effect of educational interventions included studies based in multiple settings.
Peer education	Appears effective for improving knowledge and attitudes, but ineffective at reducing risky behaviour or preventing STIs and pregnancy.
Family/parent programs	Although largely inconsistent, some reviews including family or parent programs reported favourable SRH outcomes. However, when limiting results to evidence specific to such programs, the effect does not remain.
Educational components	
Motivational interviewing/ components	Evidence of effectiveness for decreasing behavioural risk, but mixed evidence for other domains.
Skills-building	Evidence of effectiveness for improving knowledge and attitudes and reducing risk behaviour.
Condom demonstration	Strong evidence of effectiveness for improving behavioural and knowledge outcomes, as well as reducing STI prevalence.
Communication skills	There is evidence of effectiveness for improvements in knowledge, attitudes and behavioural outcomes from reviews reporting on interventions including communication skills, but the evidence is mixed for behavioural and clinical outcomes.
Personal development	Predominantly inconsistent or evidence of ineffectiveness for behavioural outcomes, but two reviews provided evidence of effectiveness for reducing unplanned pregnancy.
Multicomponent	Predominantly mixed evidence for reviews describing a priori 'multicomponent' interventions. However, interventions involving multiple components were identified as a key factor increasing effectiveness in multiple reviews.
Clinical-type interventions	
School-based health services	With the exception of one review, the evidence for school-based healthcare demonstrates ineffectiveness or equivocal results.
Community-based testing/Outreach SRH services	Evidence of effectiveness for improving health care access though interventions incorporating outreach or community-based SRH services.
Youth-friendly services	Inconsistent evidence of youth-friendly health services for improving knowledge, healthcare access, and evidence of ineffectiveness for reducing pregnancy. It is possible that our search strategy missed systematic reviews focusing on youth-friendly health services, as this was not identified in the original search terms.
Communication, promotion and technology	
Digital media	Emerging evidence to support interventions based on digital media platforms for knowledge, attitudes and behavioural domains.
Mass media/social marketing	Limited evidence available on mass media interventions, and reviews incorporating mass media demonstrate largely inconsistent results.
Distribution of condoms/ contraception	Almost consistent evidence of effectiveness across all reviews.
Structural interventions	
Policy change	Evidence of effectiveness from one review only. Individual and group-level interventions are more effective when combined with a structural-level intervention.

Results

- We identified 66 systematic reviews meeting our criteria.
- No single intervention type had evidence for improving all domains.
- An example of grading of evidence for peer education-type interventions is displayed in **figure 1**.
  →*There is some evidence of effectiveness of* peer education *for improving knowledge and attitudes, but there is evidence of ineffectiveness in changing young people's behaviours or preventing STIs and unintended pregnancy.*
- An overview of evidence by intervention type is summarised in **table 1.**
- Reviews reporting on successful interventions commonly outlined the following features of effective interventions:
  - Longer-term or repeated implementation;
  - Multi-setting and multi-component;
  - Parental involvement;
  - Culturally/gender/age appropriate; and
  - Inclusion of skills-building.

Figure1: Example of strength of evidence for common intervention types – peer education

			Knowledge and skills						Attitudes						Behavioural									Clinical	
Study	Settings	Intervention summary	Any	HIV/ STIs	Pregnancy	Condoms/contraception	IPV	Risky behaviour	Any	HIV/ STIs	Pregnancy	Condoms/contraception	IPV	Risky behaviour	Any	Condom	Contraception	Condoms/contraception use	Sexual intiation/ activity	Number of sex partners	Gen risky behaviour	IPV	Health service access	HIV/ STIs	Pregnancy
Peer education																									
Dean (2014)	S, C, HC	Comprehensive education; Community service; Vocational training; Conditional cash transfers; Digital media (education/reminders); Peer counselling; Supply																							
Garrity (2011)	U	Group education; Peer education																							
Katz (2013)	U	Peer education																							
Kim (2008)	S+, C	Peer education																							
Lazarus (2010)	S+, C, HC	Education; peer education																							
Lundgren (2015)	S+, C, H	Family/parent programs; Group education; Peer education; Skills-building; Economic empowerment interventions; Marketing; Media campaigns																							
Robinson (2014)	S, C, HC	Group education; skills-building; Peer outreach; Mass media; Small media																							
Tolli (2012)	S	Peer education										*							*	*				*	*

Settings: S, school; U, university/college; C, community; HC, healthcare clinical setting; H, home-based.

+Indicates majority of studies set in given setting; * based on one study only; Where underlined, results specific to intervention type. Elsewhere results may not be attributed to that intervention because results are aggregated

LIMITATIONS OF THE REVIEW

- Individual studies may be included in more than one review, and thus may give the false appearance of more evidence than is actually available.
- The magnitude of effect is not conveyed in summary results.
- Systematic reviews and included studies were highly heterogeneous. Reviews often did not stratify results by intervention type, and results cannot necessarily be attributed to that intervention type. Where possible stratified results were extracted.
- Systematic reviews were dominated by US-based literature which may limit applicability of findings to other high-income countries.

Conclusion and recommendations

- There is a large body of literature reviewing the effectiveness of interventions to improve the SRH of young people.
- Programs should ensure access to comprehensive education on SRH and sexuality at schools. Education delivered through multiple sessions and long-term is more effective.
- SRH education should include practical components for skills-building, including condom demonstration and negotiation skills.
- Interventions providing free or low-cost condoms/contraception should be included in multicomponent interventions.
- Interventions involving counselling should utilise motivational interviewing.
- Multifactorial interventions implemented in more than one setting and involving a variety of approaches are likely to be more effective.
- Further research is needed to evaluate and compile evidence on interventions utilising digital media.
- This evidence provides useful guidance for health promotion practitioners and funders when developing and supporting future interventions to improve the SRH of young people in Australia and other high-income countries.

This review received funding through the Victorian Department of Health and Human Services Integrated Health Promotion Program.
FPV wishes to acknowledge the significant contribution of the Advisory Group Members and external stakeholders for their guidance and support of this project.
For more information contact Anna Bowring, Burnet Institute, at anna.bowring@burnet.edu.au, contact Family Planning Victoria on T: +61 3 9257 0100 or visit www.fpv.org.au