

Teen Pregnancy Prevention Programs for Youth Involved with the Juvenile Justice System

Introduction

Youth involved with the juvenile justice system face disproportionate challenges and risks to their sexual health and well-being. Justice-involved girls experience earlier sexual initiation, higher rates of sexual activity, higher numbers of lifetime partners, higher rates of sexually transmitted infections (STIs), and more unplanned pregnancies than girls not involved with the justice system (Tam et al., 2019). Both detained and non-detained justice-involved youth report earlier sexual initiation than the general population (Rosen et al., 2022) and exhibit high rates of sexual risk behaviors, even among first-time offenders (Toulo-Shams et al., 2019). A recent study of justice-involved youth (age 17, on average) indicated that more than 50 percent of youth had been or had gotten someone pregnant (Oman et al., 2018).

Currently, there is a lack of evidence about effective interventions for youth in juvenile justice settings. Just three programs (Power Through Choices, Sexual Health and Adolescent Risk Prevention [SHARP], and Vision of You) included in the list of evidence-based programs on the <u>Teen Pregnancy Prevention Evidence Review</u> (TPPER) website were specifically designed for justice-involved youth, one of which was just added to the TPPER list in 2023 (Vision of You).¹ Evaluating programs designed for justice-involved youth can be challenging due to high rates of mobility, dispersion of youth across settings, challenges with getting study consent from those authorized to provide it, and recruiting a large enough study sample. Therefore, many studies look only at short-term outcomes or are poorly powered.

The U.S. Department of Health and Human Services, through the Office of Population Affairs' (OPA) Teen Pregnancy Prevention (TPP) program, is working to identify effective programs that address sexual risk behaviors this population experiences. To identify additional programs that improve outcomes, OPA conducted a systematic review of evidence on TPP programs for justice-involved youth. The approach to this systematic review generally followed the TPPER procedures and standards; however, it addressed two gaps in the TPPER (see Box 1 at the end of the brief):

1. It included studies that measure impacts on sexual risk behaviors or impacts on antecedents or potential predictors of sexual risk behavior, the latter of which are not eligible outcomes in the TPPER. As it can be challenging to collect outcome data in the long term from this population, looking at a broader set of outcomes can identify programs that might impact behaviors over time.

¹ Vision of You was designed for youth in juvenile justice. TPPER found the program to be evidence-based; however, the program was evaluated with a sample where most of the youth were in a school setting. Therefore, Vision of You is not reflected in the set of evidence-based programs for justice-involved youth presented in the brief.



2. When determining evidence of effectiveness, in addition to looking at the statistical significance of outcomes, the review included findings that were substantively important. Substantively important was defined as effects that were large (|effect size| ≥ 0.25), even though they were nonsignificant, to identify findings that suggest *potentially favorable effects* of the program despite small sample sizes in the evaluation.

This brief highlights programs with evidence of effectiveness (using the adapted definition noted above) on either sexual risk behavior measures or potential predictors of sexual risk behaviors when evaluated with justice-involved youth. The brief presents the findings deemed to be credible and describes the programs with evidence of effectiveness. We identified 16 studies that examined program effectiveness for justice-involved youth. Among those, six studies of seven different programs met TPPER evidence standards for study quality.² All seven of the programs with credible findings showed evidence of effectiveness on either (or both of) (1) a sexual risk behavior, or (2) a predictor of sexual risk behaviors. Four programs had evidence of effectiveness on sexual risk behaviors or their consequences (Table 1), and six programs had evidence of effectiveness on potential predictors of sexual risk behaviors or their consequences (Table 2).³ The effective programs were Familias Unidas, Healthy Teens, Imara, Multidimensional Treatment Foster Care (MTFC) with added sexual health education, Power Through Choices (PTC), Sexual Health and Adolescent Risk Prevention (SHARP), and SHARP enhanced with motivational interviewing. For more information about these programs, see Table 3.

Findings from Evaluations with Evidence of Effectiveness

Table 1. Programs with evaluations that met criteria for rigorous evidence and had favorable and potentially favorable effects on sexual risk behaviors or their consequences

| | Outcome domain | | | | | | | |
|--|-----------------|---|---------------------------------|-------------------|-----------|--|--|--|
| Program | Sexual activity | Use of birth control during sexual activity | Number of sexual partners | STI/HIV infection | Pregnancy | | | |
| Healthy Teens | | 0 | | ^ | | | | |
| Imara | | 0 | ^ | - | | | | |
| Multidimensional Treatment Foster Care (MTFC) with added sexual health education | | | | | ۸ | | | |
| Power Through Choices (PTC) | 0 | * | 0 | ^ | * | | | |

^{*} Indicates favorable and statistically significant outcomes; ^ indicates favorable and substantively important outcomes (large but did not reach statistical significance; also described as "potentially favorable"); 0 indicates null findings; - indicates unfavorable and substantively important outcomes (large but did not reach statistical significance; also described as "potentially unfavorable"); blank cell indicates outcome was not measured.

STI = sexually transmitted infection; HIV = human immunodeficiency virus.

² One study looks at the impacts of two programs, specifically two different versions of the Sexual Health and Adolescent Risk Prevention (SHARP) program.

³ Although SHARP is on the TPPER list as evidence-based, the analyses examining sexual risk behaviors and their consequences do not meet the current TPPER standards (version 7.0) used for this review, and therefore, those results do not inform this brief. The SHARP study was previously reviewed in 2010, under version 1.0 of the TPPER standards, which have changed substantially since this initial protocol. The analyses examining potential predictors of sexual behavior did meet the current TPPER standards and are included in this summary.



Four programs had favorable effects on sexual risk behaviors of their consequences.

Four of the seven programs had favorable or potentially favorable effects on at least one measure of a risky sexual behavior or its consequences (that is, pregnancy or STI/HIV infection). Despite limited reported effects on sexual behaviors, most programs had effects on STI/HIV infection rates or pregnancy. Across programs, most effects were not statistically significant, but they were large in magnitude.

The programs with effects on behavior were:

- Healthy Teens had potentially favorable effects on STI rates (chlamydia or gonorrhea). The program had no effects on using birth control during sexual activity, however.
- Imara had potentially favorable effects on the number of sexual partners. The program had no effects
 on using birth control during sexual activity and potentially *unfavorable* effects on STI rates
 (chlamydia) at one of the follow-up time points and no effects on STI rates at other time points.
- MFTC with added sexual health education had potentially favorable effects on pregnancy.
- PTC had favorable effects on using birth control during sexual activity and pregnancy and potentially
 favorable effects on being diagnosed with an STI. It had no effects on sexual activity and number of
 sexual partners.

Studies of six of the seven programs (all except MTFC with added sexual health education) also looked at the effects of the program on potential predictors of sexual behavior or its consequences (Table 2).

Table 2. Programs with evaluations that met criteria for rigorous evidence and had favorable and potentially favorable effects on potential predictors of sexual risk behaviors or their consequences

| | Outcome domain | | | | | | | | | |
|---|-------------------------------------|--|--------------------------------------|--|-----------------------|-----------------------|------------------|--|--|--|
| Program | Reproductive health knowledge | Attitudes toward protective methods | Intention to use birth control | Condom use norms, skills, or self- efficacy | Partner communication | Family functioning | Substance use | | | |
| Familias Unidas | | | | | | * | | | | |
| Healthy Teens | ٨ | 0 | | ۸ | ۸ | | 0 | | | |
| Imara | * | | | * | * | | | | | |
| Power Through Choices (PTC) | * | * | * | * | | | | | | |
| Sexual Health and Adolescent Risk Prevention (SHARP) | | 0 | 0 | ۸ | | | | | | |
| SHARP – enhanced with motivational interviewing | | ۸ | ۸ | ۸ | | | | | | |

^{*} Indicates favorable and statistically significant outcomes; ^ indicates favorable and substantively important outcomes (large but did not reach statistical significance; also described as "potentially favorable"); 0 indicates null findings; - indicates unfavorable and substantively important outcomes (large but did not reach statistical significance; also described as "potentially unfavorable"); blank cell indicates outcome not measured.



Six programs had favorable effects on potential predictors of future sexual risk behavior.

All the programs that examined potential predictors of future risky sexual behavior or its consequences showed favorable or potentially favorable effects on at least one outcome. Several programs had effects on multiple predictors.

- Three programs improved reproductive health knowledge. The programs improved knowledge of reproductive health and anatomy, contraception, and STIs/HIV.
- Two programs improved attitudes toward protective methods and intentions to use birth
 control. One of the programs, SHARP enhanced with motivational interviewing, improved attitudes
 toward condom use and intentions to practice safer sexual behavior. PTC improved youth attitudes of
 support toward various methods of protection and using protection, as well as behavioral intentions to
 use a condom and to use a method of birth control.
- Five programs improved condom use norms, skills, or self-efficacy. Two programs (Healthy
 Teens and Imara) had favorable effects on condom application skill as measured by an observer.
 Four programs had effects on self-reported condom use self-efficacy (Imara, PTC, and both versions
 of SHARP).
- Two programs improved communication with a partner. One program, Healthy Teens, had two
 independent raters assess communication during several role-play activities and found favorable
 effects on acknowledging another's viewpoint, refusal skills, and other desired communication skills.
 The Imara program had favorable effects on self-reported partner sexual communication self-efficacy.
- One program improved family functioning. Familias Unidas, a Hispanic-specific, HIV preventive intervention, improved participants' family functioning, which included parent-adolescent communication, positive parenting, and parental monitoring.
- One program examined substance use but did not find impacts. Healthy Teens examined impacts
 on sex under the influence of drugs or alcohol, but the program did not have effects on that outcome.

Characteristics of Programs with Evidence of Effectiveness

Below, and in Table 3, we provide a brief description of the programs with evidence of effectiveness.

Four programs were specifically designed to serve youth involved in the juvenile justice system.

Four programs (MTFC with added sexual health education, PTC, and both versions of SHARP) were designed to serve youth in juvenile justice settings. Healthy Teens and Imara are both adapted versions of other programs, Becoming a Responsible Teen (BART) and HORIZONS respectively, were adapted for girls in juvenile justice settings. Familias Unidas was not designed solely for youth involved in juvenile justice, though the study sample comprised youth involved with the county's justice system or deemed delinquent by the Miami-Dade County Public School System.



Three programs focused exclusively on female youth. The evaluations of Healthy Teens, Imara, and MTFC focused exclusively on female youth, and Imara was designed exclusively for female youth. The other programs included male and female youth together. More research is needed on the effectiveness of programs serving justice-involved male youth.

The programs served justice-involved youth in different settings. Healthy Teens, Imara, PTC and SHARP (both versions) were delivered to youth in juvenile justice and detention facilities. MTFC with added sexual health education was offered as a psychotherapeutic alternative to youth involved in juvenile justice who were mandated to out-of-home care. Familias Unidas was offered to parents of justice-involved youth in the community.

Programs differed in delivery structure and duration. Several of the programs required multiple sessions and implementation over a number of weeks or months, and others were just a few hours, typically delivered in a single session. Healthy Teens is a 19-session program with 18 group sessions and one individual session. PTC takes place over ten 90-minute curriculum-based sessions that include role-playing, group discussions, and activities. MTFC with added sexual health education involves specialized, six-month-long foster care placement of youth as well as family and individual therapy services. Familias Unidas includes eight 2-hour group sessions and four 1-hour parent-centered family visits over a three-month period. In contrast, Imara is roughly 4.5 hours of in-person counseling sessions reinforced by four 20-minute phone calls, and SHARP (both versions) is a 3- to 4-hour single-session program.



Table 3. Characteristics of programs with evidence of effectiveness

| Program, studies, and where to go for more information | Mode of delivery | Population and setting | Length | Type of facilitator | Program and evaluated sample description |
|--|----------------------|---|--|---|---|
| Healthy Teens [Robertson et al., 2011] Email: angela.robertson@ssrc.ms state.edu | Group and individual | Incarcerated girls ages 12–17 detained at state correctional facility | 19 sessions over unspecified amount of time | Trained facilitators | Healthy Teens aims to decrease HIV risk by increasing risk-reduction behaviors and improving skills in condom application. Healthy Teens was adapted from BART by adding information on problem-solving skills, education on STIs and reproductive health, information on the relationship between alcohol and drugs and increased risk, and additional time to practice skills. Healthy Teens also added one group and individual session based on motivational interviewing. The program includes eighteen 60-minute group and one individual goal-setting session. |
| Familias Unidas [Prado et al., 2012] www.familias-unidas.info | Group | Hispanic youth ages 12–17 who had been arrested or had a series behavior issue (e.g., weapons, assault, possession of substances) in the Miami-Dade County Public School System (MDCPS). All youth were enrolled in MDCPS, and services were provided in the community. | Eight 2-hour group sessions and four 1-hour family visits over three months | Trained facilitators who hold master's in social work | Familias Unidas aims to reduce HIV risk behaviors by improving family functioning. The program includes eight 2-hour group sessions for parents and four 1-hour family visits over a three-month period. The sessions focus on positive parenting, family communication, parental monitoring, and adolescent HIV risk behaviors. Group sessions were reserved for parents, and family visits included the teens. |



| Program, studies, and where to go for more information | Mode of delivery | Population and setting | Length | Type of facilitator | Program and evaluated sample description |
|---|------------------|---|--|--|--|
| Imara [DiClemente et al., 2014] https://coip.uic.edu/imara/a | Individual | African American adolescent girls ages 13–17 in a detention facility. Follow-up phone calls continued when girls were released. | Three 90-minute counseling sessions and four 20-minute reinforcement calls over three months | African American health educators | Imara's main goals included reducing incidence of STIs and sexual risky behaviors, as well as antecedents to these sexual behavior outcomes. Imara was adapted from an existing program called HORIZONS through the Centers for Disease Control and Prevention, which was tailored for the specific needs of African American girls. Imara added a layer of adaptation for adolescent girls currently in detention centers. Imara offered three 90-minute counseling sessions and four 20-minute reinforcement telephone sessions (that occurred between the second and third counseling sessions). The counseling sessions started before the adolescent was released, were conducted individually, and were designed to continue in the home. Individuals were also offered medical care as needed including Expedited Partner Therapy, which treats the partners of those diagnosed with chlamydia or gonorrhea without the need for a medical visit. |
| Multidimensional Treatment Foster Care (MTFC) with added sexual health education [Kerr et al., 2009] https://www.tfcoregon.com/ | Individual | Girls ages 13–17 girls with chronic delinquency mandated to community-based out-of-home care | Number of sessions not specified; six months | Foster care parents, therapists, and program staff | MTFC is a long-term placement program that serves as a psychotherapeutic alternative to placing youth in foster care. Youth, foster parents, birth families, and adoptive families receive services from therapists and program staff that focus on proactive prevention of risky behavior in youth. The multicomponent program teaches youth skills for behavior management, problem solving, and prosocial behavior. The added sexual health education component focuses on HIV risk behaviors and provides information on dating, sexual behavior norms, and specific behaviors that increase the risk of HIV. Participants also learn strategies and engage in role-playing exercises to practice decision making and refusal skills. |



| Program, studies, and where to go for more information | Mode of delivery | Population and setting | Length | Type of facilitator | Program and evaluated sample description |
|--|------------------|---|--|----------------------------------|--|
| Power Through Choices (PTC) [Covington et al., 2016; Oman et al., 2016, 2018; Green et al., 2017] Email: capacitybuilding@healthyteennetwork.org | Group | Youth ages 13–18 residing in out-of-home care | Ten 90-minute sessions over 5–10 weeks | Two or more trained facilitators | PTC's trauma-informed approach aims to prevent adolescent pregnancy, HIV, and STIs among youth in out-of-home care settings. PTC is a curriculum-based, comprehensive sexual education program that includes role-playing exercises, group discussions, and activities. The curriculum seeks to address the specific characteristics that motivate system-involved youth to become pregnant or engage in risky sexual behaviors. The curriculum is delivered over ten 90-minute sessions. |
| Sexual Health and Adolescent Risk Prevention (SHARP) [Schmiege et al., 2009] https://www.socio.com/products/pasha-sexual-health-and-adolescent-risk-prevention-sharp | Group | Youth ages 14–17 living in a detention facility | One 3- to 4- hour session | Trained facilitators | The group-based psychosocial intervention (GPI) is a single-session theory-based sexual education program designed for youth in short-term detention facilities. It emphasizes knowledge on HIV transmission and local resources for health services as well as developing self-efficacy, normative perceptions, and positive attitudes toward condoms. It is delivered to youth through group activities, videos, a movie, a video game, and demonstrations on condom use. |
| SHARP – enhanced with motivational interviewing [Schmiege et al., 2009] https://www.socio.com/products/pasha-sexual-health-and-adolescent-risk-prevention-sharp | Group | Youth ages 14-17 living in a detention facility | One 3- to 4- hour session | Trained facilitators | The GPI was paired with a motivational enhancement therapy (GMET) component focused on alcohol use behavior among youth. In the GPI+GMET condition, youth receive feedback sheets on their alcohol use from their pre-test responses, and facilitators conduct a motivational enhancement therapy—style group discussion to encourage youth to change alcohol consumption in the context of sexual activity. The GMET component uses a group discussion, a video, and a "buddy system" to bolster youth self-efficacy to reduce sexual risk in the context of alcohol. |

^a It is unclear if the version of Imara for incarcerated females, versus the community-based version, is currently being distributed.



Conclusions

This brief highlighted seven programs that address the sexual and reproductive health needs of youth involved with the juvenile justice system. The programs are designed for youth and their families in different settings and different levels of involvement with the justice system. We identified 16 studies (comprising 20 manuscripts) that examined the effectiveness of TPP programs among justice-involved youth. Among those, six studies of seven programs met the U.S. Department of Health and Human Services' TPPER standards for study quality. Although four of those programs showed impacts on sexual risk behaviors or their consequences using our adapted rules for evidence of effectiveness, only one of those programs had statistically significant results. The challenges of dispersed populations, the additional research protocols required to study youth in juvenile justice settings, and high mobility rates of this population make achieving a well-powered rigorous study of justice-involved youth a challenge. Adapting the TPPER rules to focus on (1) the magnitude of the effects and (2) outcomes aside from sexual behavior and its consequences allowed us to identify three additional programs that may have favorable effects for justice-involved youth on sexual behavior outcomes, as well as three additional programs that appear to have favorable effects on potential predictors of sexual behavior outcomes. In doing so, this brief helps address a key need: It has identified several additional promising programs (beyond those already highlighted by TPPER) for youth involved in the juvenile justice system that have evidence of effectiveness improving outcomes important to the TPP field.



Box 1. Systematic review methods

The findings in this brief are based on a systematic review of Teen Pregnancy Prevention (TPP) programs for youth in foster care settings. The review was designed to capture results from impact evaluations. The literature search included studies published from 2008 to 2023.

The search yielded 633 references. A team of trained reviewers used Covidence to screen the references against a set of eligibility criteria. Articles that were eligible for the review had the following characteristics: (1) published in 2008 or later; (2) based in the United States; (3) used a randomized controlled trial (RCT) or quasi-experimental design (QED); (4) served youth in foster care settings; (5) had a sample in which the majority were younger than age 20 at entry into the review program; (6) reported on how effective a program was at reducing risky sexual behaviors through educational, skill-building, and/or psychosocial intervention; (7) assessed program impacts on at least one measure of pregnancy, birth, sexually transmitted infections (STIs), or sexual risk behaviors (sexual initiation, recent sex, risky sex such as without contraception, frequency of sex, and number of sexual partners) and/or at least one measure of knowledge, attitudes, or intentions about pregnancy, birth, STIs, or sexual risk behaviors (condom self-efficacy and attitudes toward delaying sexual activity); (8) was publicly available; and (9) provided a detailed description of the intervention, target population, study design, analysis methods, and findings.

The team identified 20 manuscripts by screening titles, abstracts, and full text. The manuscripts reported on 16 studies of 16 programs. We then examined the studies using the TPP Evidence Review (TPPER) standards; however, we examined the full set of outcomes presented by the authors if the study met the eligibility criteria noted above. We used the standards to systematically examine features of the study design and evaluation, such as sample attrition (study participants who did not respond) and equivalence of study groups at baseline. We considered programs to have rigorous evidence if they had evidence from one of two types of studies: (1) RCTs with low levels of sample attrition, or (2) RCTs with high attrition or QEDs with study groups that were similar at baseline on demographic characteristics and on a measure of the outcome. Unlike TPPER, we did not query authors if more information was needed to determine if a study met standards.

After reviewing the studies under adapted TPPER standards, six of the studies had a high quality of evidence, seven studies were rated low, and three studies were rated ineligible (due to ineligible study designs). Following the TPPER guidelines, we did not summarize the findings from the studies that were rated low or ineligible. Among studies that met TPPER standards, we categorized effects that were statistically significant (p < 0.05) and/or substantively important (leffect sizel ≥ 0.25) as favorable or unfavorable, based on the direction of the observed effect. TPPER does not use the substantively important designation, but for this work we wanted to call out large effects because studies of this population often have too small a sample to detect statistically significant differences. We therefore also highlighted substantively important effects (and described them as "potentially" favorable or unfavorable, to differentiate them from results that are statistically significant). The final set of outcome domains (or categories) presented were sexual activity; use of birth control; number of sexual partners; STI/HIV testing or infection; pregnancy; sexual and reproductive health knowledge; attitudes toward protective methods; intention to use birth control; condom use norms, skills, or self-efficacy; partner communication; family functioning; and substance use.



Studies Reviewed to Assess Quality of Evidence

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⁴ Although this study met version 1.0 of the TPPER standards and showed a favorable effect on pregnancy, it does not meet the version 7.0 standards. Therefore, we used only the Schmiege et al. (2009) study results to determine the effectiveness of SHARP.



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Appendix A: Characteristics of Studies with Rigorous Evidence on TPP for Justice-Involved Youth

Table A.1. Study design, sample, and findings

| Study | Study design | Analytic sample size | Mean age | Outcomes reported |
|-----------------------------|-----------------|--|-------------|---|
| Familias Un | idas | | | |
| Prado et al. (2012) | RCT | N = 223 (n = 110 treatment; n = 113 control) | 14.7 years | The following outcomes were reported at six months post-baseline: • STI. Incidence of STI ^a • Family functioning. Parent-adolescent communication, positive parenting, and parental monitoring* |
| Healthy Tee | ns | · | | 1 1 3/ 1 3/ |
| Robertson et al. (2011) | Cluster RCT | N = 243 (n = 113 treatment; n = 130 control) | 15.1 years | The following outcomes were reported at nine months post-baseline: ^b • Contraceptive use. Unprotected sex • STI. Incidence of STI^ • Attitudes. Barriers to condom use • Knowledge. Reproductive health knowledge^ • Skills. Condom application skills^ • Communication. Overall communication skills around avoiding risky sexual behavior during role-play^ • Substance use. Sex under the influence of alcohol or drugs |
| Imara | | | <u> </u> | Oubstance use. Sex under the influence of alcohol of drugs |
| DiClemente et al. (2014) | RCT | N = 188 (n = 95 treatment; n = 93 control) | 15.3 years | The following outcomes were reported at three and six months post-baseline: • Contraceptive use. Unprotected sex • Number of sexual partners. Number of vaginal sex partners in the past 30^ or 90 days • STI. Incidence of chlamydia ⁻ ; incidence of gonorrhea • Knowledge. STI/HIV knowledge [*] • Skills. Condom application skills [*] • Self-efficacy. Condom use self-efficacy [^] • Communication. Partner communication self-efficacy [*] |
| Multidimens | sional Tre | atment Foster | Care with a | added sexual health education |
| Kerr et al. (2009) | RCT | N = 85 (n = 44 treatment; n = 41 control) | 15.3 years | The following outcome was reported at six, 12, 18, and 24 months post-baseline: • Pregnancy. Been or gotten someone pregnant since baseline [^] |



| Study | Study design | Analytic sample size | Mean age | Outcomes reported |
|-------------------------|-----------------|--|--|--|
| Power Thro | ugh Choi | ces (PTC)3 | | |
| Covington et al. (2016) | Cluster | N = 885 (n = 436 treatment; n = 449 control) | Mean age not reported; ages ranged from 13 to 18 | The following outcomes were reported at 12 months post-baseline: Sexual activity. Sexual activity in the past three months Use of birth control. Unprotected sex in the past three months STIs or HIV. Tested for an STI in the past 12 months; diagnosed with an STI in the past 12 months^ Pregnancy. Ever been pregnant or gotten someone pregnant* Number of sexual partners. Multiple sexual partners in the past three months Knowledge. Reproductive anatomy and fertility,* HIV and STIs,* and methods of protection* Attitudes. On where to get methods of protection,* condoms, and birth control; support for methods of protection Intentions. To plan for and avoid unprotected sex* Self-efficacy. Perceived ability to communicate with a partner* |
| Oman et al. (2016) | Cluster RCT | N = 1,036 (n = 517 treatment; n = 519 control) | 16.2 years | The following outcomes were reported at six weeks post-baseline: • Knowledge. Reproductive anatomy and fertility,* HIV and STIs,* and methods of protection* • Attitudes. Support for methods of protection,* barriers to methods of protection • Self-efficacy. To communicate with a partner,* plan for protected sex and avoid unprotected sex,* and where to get birth control* • Intentions. To have sex in the next year, to use a condom in the next year,* to use birth control in the next year* |
| Green et al. (2017) | Cluster | N = 1,036 (n = 517 treatment; n = 519 control) | 16.1 years | The following outcomes were reported at six months post-baseline: Knowledge. Reproductive anatomy and fertility,* HIV and STIs,* and methods of protection* Attitudes. Support for methods of protection,* barriers to methods of protection Intentions. To not have sexual intercourse, to not have oral sex, condom use, birth control use* Self-efficacy. To communicate with a partner,* plan for protected sex and avoid unprotected sex,* and where to get birth control* The following outcomes were reported at 12 months post-baseline: Knowledge. Reproductive anatomy and fertility,* HIV and STIs,* and methods of protection* |



| Study | Study design | Analytic sample size | Mean age | Outcomes reported |
|-----------------------|---------------------|-----------------------|---|---|
| | | | | Attitudes. Support for methods of protection,* barriers to methods of protection |
| | | | | Intentions. To not have sexual intercourse, to not have oral sex, condom use, birth control use |
| | | | | Self-efficacy. To communicate with a partner,* plan for protected sex and avoid unprotected sex,* and where to get birth control* |
| Oman et al. (2018) | Cluster RCT | N = 1,036 (n = 517 | 16.1 years | The following outcomes were reported at six months post-baseline: |
| | | treatment; | | Pregnancy. Ever been or gotten someone pregnant |
| | n = 519 control) | | Use of birth control. Had sex in the past three months without birth control* | |
| | | | | The following outcomes were reported at 12 months post- baseline: |
| | | | | Pregnancy. Ever been or gotten someone pregnant* |
| | | | | Use of birth control. Had sex in the past three months without birth control |
| Sexual Heal | th and Ac | lolescent Risk | Prevention | (SHARP) |
| Schmiege et al. | RCT | N = 304 (n = 154 | 15.8 years | The following outcomes were reported at the immediate post-program: |
| (2009) ^c | | treatment; | nt; | Attitudes. Attitudes toward condom use |
| | | n = 150 | | Norms. Perceived norms for condom use |
| | | control) | | Intentions. Intentions to practice safer sex |
| | | | | Self-efficacy. Self-efficacy for condom use [^] |
| SHARP enh | anced wit | th motivationa | l interviewir | ng |
| Schmiege | RCT | N = 313 | 15.8 years | The following outcomes were reported at the immediate post- |
| et al. | | (n = 163 | | program: |
| (2009) ^d | | treatment; | | Attitudes. Attitudes toward condom use [^] |
| | | n = 150 control) | | Norms. Perceived norms for condom use |
| | | | | Intentions. Intentions to practice safer sex^ |
| | | | | Self-efficacy. Self-efficacy for condom use [^] |

Note: Outcomes are noted as statistically significant or substantively important if they were statistically significant or substantively important in at least one the follow-up timepoints. There may be additional timepoints in which the findings were null, which are not reflected in this table.

Effects that do not have a *, ^, or – indicator were null.

RCT = randomized controlled trial; STI = sexually transmitted infection.

^{*} Effects that were statistically significant (p < 0.05).

[^] Effects that were substantively important (|effect size| ≥ 0.25).

⁻ indicates unfavorable and substantively important outcomes.

^a We did not calculate a magnitude-of-effect statistic given the small sample size (only five individuals reporting STIs contributing to this contrast).

^b Robertson et al. (2011) assigned clusters of youth to the program but did not adjust for clustering when calculating standard errors. Therefore, we did not use estimates of statistical significance in this study; we only looked at the magnitude of the effects.

^c All four PTC manuscripts were from the same evaluation; however, the analytic samples were different. Covington et al. (2016) excluded participants with missing data. The other manuscripts used analytic approaches (full information maximum likelihood models) that did not exclude any participants from the analytic sample. Therefore, results differed across manuscripts. We reported the best result for a given outcome.

^d Schmiege et al. (2009) did not assess the statistical significance of each set of between-group differences. Therefore, we only looked at the magnitude of the effects between the groups.