

Recommendations for Group-Based Behavioral Interventions to Prevent Adolescent Pregnancy, Human Immunodeficiency Virus, and Other Sexually Transmitted Infections

Comprehensive Risk Reduction and Abstinence Education

Community Preventive Services Task Force

Summary

The Community Preventive Services Task Force (Task Force) recommends group-based comprehensive risk reduction delivered to adolescents to promote behaviors that prevent or reduce the risk of pregnancy, HIV, and other sexually transmitted infections (STIs). The recommendation is based on sufficient evidence of effectiveness in:

- reducing a number of self-reported risk behaviors, including engagement in any sexual activity, frequency of sexual activity, number of sex partners, and frequency of unprotected sexual activity;
- increasing the self-reported use of protection against pregnancy and STIs; and
- reducing the incidence of self-reported or clinically documented STIs.

Direct evidence of effectiveness for reducing pregnancy and HIV is, however, limited. The Task Force finds insufficient evidence to determine the effectiveness of group-based abstinence education delivered to adolescents to prevent pregnancy, HIV, and other STIs. Evidence was considered insufficient because of inconsistent results across studies.

Introduction

Adolescent pregnancy, HIV, and other sexually transmitted diseases are major public health problems in the U.S. This paper presents the findings of the Task Force

on the effectiveness of two interventions to prevent pregnancy and reduce the spread of HIV and other STIs among adolescents. The findings are based on two systematic reviews¹ of group-based behavioral interventions for adolescents: (1) comprehensive risk reduction and (2) abstinence education. These reviews evaluated the effects of the interventions on changes in sexual behavior (e.g., delayed initiation of intercourse, or use of condoms among sexually active adolescents) and biologic outcomes (incidence of pregnancy and STIs).

Guide to Community Preventive Services

The systematic reviews¹ that accompany this paper represent the work of the independent, nonfederal Task Force. The Task Force is developing the *Guide to Community Preventive Services (Community Guide)* with the support of DHHS in collaboration with public and private partners. CDC provides staff support to the Task Force for development of the *Community Guide*. Previous topics reviewed, as well as background information on methods and development of the *Community Guide*, have been published elsewhere,^{2–28} and are available at www.thecommunityguide.org.

Healthy People 2020 Goals and Objectives

The recommendations in this paper may be useful for meeting objectives in *Healthy People 2020*.²⁹ Table 1 shows objectives with the goal of adopting behaviors that reduce risk for adolescent pregnancy, sexually transmitted HIV, and other STIs. The recommendations are of particular importance in light of a recent study³⁰ indicating that the rates for many of the objectives from *Healthy People 2010* related to adolescent reproductive health remained unchanged or worsened between 1991 and 2009.

Names and affiliations of the Task Force members can be found at www.thecommunityguide.org/about/task-force-members.html.

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Table 1. *Healthy People 2020*²⁹ goals relevant to reducing the risk for adolescent pregnancy, sexually transmitted HIV, and other STIs

Objective no.	Objective
HIV-1	Reduce the number of new HIV diagnoses among adolescents and adults (developmental)
HIV-3	Reduce the rate of HIV transmission among adults and adolescents
HIV-4	Reduce the number of new AIDS cases among adolescents and adults
FP-8	Reduce pregnancy rates among adolescent females
FP-11	Increase the proportion of sexually active persons aged 15 to 19 years who use condoms and hormonal or intrauterine contraception to both effectively prevent pregnancy and provide barrier protection against disease

FP, family planning; STI, sexually transmitted infection

Intervention Recommendations

Comprehensive Risk Reduction

Comprehensive risk-reduction interventions promote behaviors that prevent or reduce the risk of pregnancy, HIV, and other STIs. These interventions (1) suggest a hierarchy of recommended behaviors, identifying abstinence as the “best” or “preferred” method, but also provide information about sexual risk-reduction strategies; (2) promote abstinence and sexual risk reduction without placing one strategy above the other; or (3) primarily or solely promote sexual risk-reduction strategies. These reviews evaluated comprehensive risk-reduction interventions delivered in school or community settings to groups of adolescents. Some comprehensive risk-reduction interventions in these reviews also included additional components that ranged from condom distribution to STI screening, and others used a more comprehensive youth development approach.

Recommendation. The Task Force recommends group-based comprehensive risk reduction delivered to adolescents to promote behaviors that prevent or reduce the risk of pregnancy, HIV, and other STIs. The recommendation is based on sufficient evidence of effectiveness in the following: reducing a number of self-reported risk behaviors, including (1) engagement in any sexual activity, (2) frequency of sexual activity, (3) number of sex partners, and (4) frequency of unprotected sexual activity; (5) increasing the self-reported use of protection against pregnancy and STIs; and (6) reducing the incidence of self-reported or clinically documented STIs. Direct evi-

dence of effectiveness for reducing pregnancy and HIV is, however, limited.

Rationale. The systematic review identified 62 studies and 83 study arms that used a comprehensive risk-reduction strategy,¹ and found effect estimates of sufficient magnitude to support a conclusion that comprehensive risk-reduction interventions can have a beneficial effect on public health. Although the review contains enough studies of adequate quality to support a recommendation based on strong evidence of effectiveness, the Task Force concluded that evidence is sufficient, rather than strong, owing to variations across studies in intervention effect estimates.

The evidence supports a conclusion that comprehensive risk-reduction interventions are applicable across a range of populations and settings. Studies included representation from a range of ages ($M=10-18$ years); male only, female only, and coed groups; majority African-American, majority Caucasian, majority Hispanic, and mixed race/ethnicity samples; both baseline virgin and nonvirgin samples; and school and community settings. Although the effects were generally similar for age, race/ethnicity, baseline virginity status, and school and community settings, the results suggest that these interventions may be somewhat more effective for boys than for girls. And although the overall results for STIs demonstrate similar beneficial effects in school and community settings, some caution is warranted in generalizing these STI results to low-risk populations in school settings because most of the evidence on this outcome comes from samples of adolescents at high risk for STIs who were recruited in clinical settings.

The implementation of the interventions varied in several potentially important ways, such as deliverer (peer or adult); whether interventions were targeted to group characteristics; focus (HIV, pregnancy, or both); or the inclusion of other interventions (e.g., condom distribution). No consistent evidence was found regarding the effects of any of these variables on the outcomes evaluated. However, the inability to detect such effects does not suggest that they are unimportant, and additional research to clarify the characteristics that maximize the effectiveness of comprehensive risk-reduction programs would be valuable.

All included studies were RCTs or controlled before-after (CBA) designs and nearly all of the outcomes were self-reported. Effects were generally similar for RCTs and CBA studies. With regard to harms, no evidence was found in this review to support concerns about the potential for comprehensive risk-reduction interventions to result in an increase in sexual activity. To the contrary, the evidence indicated that comprehensive risk-reduction in-

terventions reduce both prevalence and frequency of sexual activity.

Abstinence Education

Abstinence education interventions promote abstinence from sexual activity (either delayed initiation or abstinence until marriage) and mention condoms or other birth control methods only to highlight their failure rates, if at all. These interventions generally include messages about the psychological and health benefits of abstinence as well as the harms of sexual activity. Most of the interventions adhered to the eight federal guidelines required to obtain Title V federal funding.³¹ This review evaluated abstinence education interventions delivered in school or community settings to groups of adolescents. These interventions could include other components also, such as media campaigns to community service events, and others used a more comprehensive youth development approach.

Finding. The Task Force finds insufficient evidence to determine the effectiveness of group-based abstinence education delivered to adolescents to prevent pregnancy, HIV, and other STIs. Evidence was considered insufficient because of inconsistent results across studies.

Rationale. The systematic review¹ identified 21 studies and 23 study arms that used an abstinence education strategy. The effect estimates differed substantially by study design. For the self-reported sexual activity outcome, which was the only one with a sufficient number of controlled before–after (CBA) studies to compare RCTs directly to CBA studies, the effect estimate was 0.94 (95% CI=0.81, 1.10) for RCTs, and 0.66 for CBAs (95% CI=0.54, 0.81); this difference was significant ($p=0.007$). For the remaining outcomes of interest, the body of evidence was primarily from RCTs and showed no clear evidence of benefits or harms. Because RCTs and CBAs systematically differed in several respects beyond study design (e.g., follow-up time, multiple studies conducted by same researchers), determining the explanation for the observed differences by study design is difficult. As a result, ascertaining the public health benefits or harms of abstinence education is also difficult.

Using the Recommendation

The Task Force found sufficient evidence of effectiveness for comprehensive risk-reduction interventions and insufficient evidence to determine effectiveness of abstinence education interventions. When feasible, decision makers can implement comprehensive risk-reduction interventions for adolescents to prevent pregnancy, HIV, and other STIs, based on the recommendation by the Task Force. Although it is beyond the scope of the *Com-*

munity Guide review to provide detailed information on how to effectively select, implement, and maintain a particular comprehensive risk-reduction intervention, guidance exists³² on important issues to take into consideration when selecting an effective program and can be used with the recommendation provided. The finding of insufficient evidence for abstinence education means that the Task Force could not determine, from the body of evidence identified in the systematic review, whether these interventions are effective or not.

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