Behavioral Counseling to Prevent Sexually Transmitted Infections: U.S. Preventive Services Task Force Recommendation Statement

U.S. Preventive Services Task Force*

Description: New U.S. Preventive Services Task Force (USPSTF) recommendations about behavioral counseling of adolescents and adults to prevent sexually transmitted infections (STIs).

Methods: The USPSTF reviewed the evidence on the benefits and harms of counseling. The review included studies evaluating behavioral counseling interventions conducted in primary settings, those judged feasible in primary care, and those to which patients might be referred from primary care.

Recommendations: The USPSTF recommends high-intensity behavioral counseling for all sexually active adolescents and for adults at increased risk for STIs. (B recommendation)

Current evidence is insufficient to assess the balance of benefits and harms of behavioral counseling to prevent STIs in non–sexually active adolescents and in adults not at increased risk for STIs. (I statement)

Ann Intern Med. 2008;149:491-496. www.annals.org

For author affiliation, see end of text.

* For a list of Task Force members, see the **Appendix,** available at www.annals.org.

The U.S. Preventive Services Task Force (USPSTF) makes recommendations about preventive care services for patients without recognized signs or symptoms of the target condition.

It bases its recommendations on a systematic review of the evidence of the benefits and harms and an assessment of the net benefit of the service.

The USPSTF recognizes that clinical or policy decisions involve more considerations than this body of evidence alone. Clinicians and policymakers should understand the evidence but individualize decision-making to the specific patient or situation.

Summary of Recommendation and Evidence

The USPSTF recommends high-intensity behavioral counseling to prevent sexually transmitted infections (STIs) for all sexually active adolescents and for adults at increased risk for STIs. This is a grade B recommendation.

The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of behavioral counseling to prevent STIs in non–sexually active adolescents and in adults not at increased risk for STIs. This is an I statement.

See the Clinical Considerations section for information on risk assessment and suggestions for practice regarding the I statement.

See the **Figure** for a summary of the recommendation and suggestions for clinical practice.

Table 1 describes the USPSTF grades, and **Table 2** describes the USPSTF classification of levels of certainty of net benefit. Both are also available at www.annals.org.

Rationale

Importance

Despite advances in the screening, diagnosis, and treatment of STIs, they remain an important cause of morbidity and mortality in the United States.

Recognition of Behavior

Primary care clinicians and teams can identify adolescents and adults who are at increased risk. (See the Clinical Considerations section below for information on risk assessment.)

Effectiveness of Counseling to Change Behavior

There is convincing evidence that high-intensity behavioral counseling interventions targeted to sexually active adolescents and adults at increased risk for STIs reduce the incidence of STIs. These results were found 6 and 12 months after counseling took place.

The USPSTF has identified the absence of studies and evidence on behavioral counseling interventions directed toward adults not at increased risk for STIs and non–sexually active adolescents as a critical gap in the literature.

See also:

Print
Related article 497
Summary for Patients I-36

Web-Only
Appendix
Conversion of graphics into slides
Downloadable recommendation summary

Harms of Counseling

No evidence of significant behavioral or biological harms resulting from behavioral counseling about risk reduction has been found. The USPSTF concluded that the potential harms of counseling are no greater than small.

USPSTF Assessment

The USPSTF concludes that there is moderate certainty that high-intensity behavioral counseling has a moderate net benefit for sexually active adolescents and for adults who are at increased risk for STIs.

The USPSTF concludes that the evidence is currently insufficient to assess the balance of benefits and harms of behavioral counseling for non–sexually active adolescents and for adults who are not at increased risk for STIs.

Clinical Considerations

Patient Population under Consideration

This recommendation applies to all sexually active adolescents and adults.

Assessment of Risk

All sexually active adolescents are at increased risk for STIs and should be offered counseling. Adults with current STIs or infections in the past year are at increased risk for future STIs. In addition, adults who have multiple current sexual partners should be considered at increased risk and offered counseling to prevent STIs. Married adolescents may be considered for counseling if they meet the criteria described for adults. Clinicians should also consider the communities they serve. If the practice's population has a high rate of STIs, all sexually active patients in nonmonogamous relationships may be considered to be at increased risk.

Effective Behavioral Counseling Interventions

Among the studies reviewed, successful high-intensity interventions were delivered through multiple sessions, most often in groups, with total durations from 3 to 9 hours. Little evidence suggests that single-session interventions or interventions lasting less than 30 minutes were effective in reducing STIs (1). Although 2 studies of moderate-intensity interventions did not demonstrate effect (2, 3), a third study (4) demonstrated that two 20-minute counseling sessions before and after HIV testing resulted in a clinically and statistically significant reduction in STIs. The USPSTF found no studies of abstinence-only counseling programs delivered in the clinical setting (1).

Suggestions for Practice Regarding the I Statement

Because of the lower incidence of STIs among adults who are not at increased risk, the potential net benefit of behavioral counseling is likely to be smaller for this population than for those at increased risk. Given the current lack of evidence of effectiveness; the substantial costs in time and money for clinicians, patients, and the health system; and the potential missed opportunity for the provision of higher-priority, evidence-based preventive services, primary care clinicians should consider not routinely offering behavioral counseling to prevent STIs to adults who are not at increased risk for infection. The USPSTF found limited evidence on the counseling of non–sexually active adolescents, with no effect or harms from brief counseling in 1 small study. Although clinicians may not be able to identify all adolescents who are sexually active, intensive counseling for all adolescents to reach those who are not appropriately identified as at risk is not supported by current evidence and would require significant resources. The effectiveness of less intensive counseling has not been established, and the benefits of intensive counseling for adolescents who are identified as at risk may not be generalizable to those who deny sexual activity.

Other Considerations

Implementation

High-intensity behavioral counseling may be delivered in primary care settings or in other sectors of the health system after referral from the primary care clinician or system. In addition, risk-reduction counseling may be offered by community organizations. Strong linkages between the primary care setting and the community may greatly improve the delivery of this service.

Research Needs and Future Directions

Effective moderate- and low-intensity interventions are greatly needed to make the delivery of behavioral counseling more widely feasible. Future research on behavioral counseling interventions should use biologically confirmed outcomes to assess effectiveness. Given that individuals may be at increased risk for acquiring STIs for many reasons, additional work is needed to develop and evaluate counseling interventions for particular populations, including individuals with mental illness and individuals in relationships with partners who have other partners. Additional research is also needed on the effectiveness of behavioral counseling among men and adolescent boys. Improved methods are needed to identify sexually active adolescents in primary care. Future research should evaluate interventions targeted to adults who are not currently at increased risk. Finally, continuity of care may be an important understudied research variable as well as an underutilized practical tool for reducing STIs and increasing the effectiveness of STI counseling.

Discussion

Burden of Disease

Each year, an estimated 19 million new STIs occur in the United States, almost half of them among people from 15 to 24 years of age. Sexually transmitted infections common in the United States include *Chlamydia trachomatis*, hepatitis B, hepatitis C, herpes simplex, HIV, human papillomavirus, *Neisseria gonorrhoeae*, syphilis, and *Trichomo-*

nas vaginalis. Their direct medical costs are estimated at $15 billion annually (1).

Scope of Review

The USPSTF reviewed the evidence on the benefits and harms of counseling to prevent STIs. This review included studies evaluating behavioral counseling interventions that were actually conducted in primary care settings, those judged feasible to be conducted in primary care, and those to which patients might be referred to from primary care. The USPSTF defined behavioral counseling interventions as any intervention provided to patients that included some provision of education, skill training, or support for changes in sexual behavior that promote risk reduction or risk avoidance. The review included studies targeting both adults and adolescents.

Effectiveness of Counseling to Change Behavior

Most of the evidence found by the review concerns high-intensity interventions given to sexually active adolescents and adults who were at increased risk for STIs. Five of 6 trials demonstrated statistically significant reductions in biologically confirmed STIs at 6 and 12 months after the interventions. The absolute risk reduction rate ranged from 2.6% to 11.1%, with generally higher rates of reduction among adolescents. As noted, the interventions in this group were considered "high-intensity"; they included a single 4-hour session, three 1-hour sessions over 3 consecutive weeks, four 4-hour sessions, and a 10-session intervention. One fair-quality study found that HIV testing in combination with two 20-minute individual counseling sessions (a less intensive intervention than the others reviewed) led to a significant reduction in new STIs, including chlamydia, gonorrhea, syphilis, and HIV, at both 6 and 12 months after the intervention. Another study found that a single, 20-minute, one-to-one skills counseling session delivered in a primary care office may reduce STIs 12 months thereafter among women who are at increased risk for STIs (5). Because the reported results combined women who received this low-intensity intervention with a group of women who received 200 minutes of group counseling, additional research is needed to determine whether lower-intensity interventions can be effective. The review did not identify any trials evaluating behavioral counseling interventions directed at adults or adolescents who are not at increased risk for STIs.

Potential Harms of Counseling

The review identified no evidence of significant behavioral or biological harms as a result of risk-reduction counseling. Multiple trials showed no evidence of increases in unprotected sex or number of sexual partners. Among adolescents, 1 trial noted a transitory increase in vaginal intercourse at 3 months without any associated increase in self-reported pregnancy. This effect on vaginal intercourse was not observed at the 9-month follow-up. Another study found that risk reduction counseling did not lead to earlier sexual debut among boys.

Estimate of Magnitude of Net Benefit

The USPSTF concluded that there is at least moderate certainty that high-intensity behavioral counseling interventions can lead to moderate net benefits for sexually active adolescents and adults who are at increased risk for STIs. Evidence was insufficient to estimate the balance of benefits and harms for nonsexually active adolescents and adults who are not at increased risk for STIs.

Recommendations of Others

The American Academy of Family Physicians recommends counseling adolescents and adults on the risks for sexually transmitted diseases and how to prevent them (6). The American Academy of Pediatrics does not have a specific recommendation regarding behavioral counseling to prevent STIs; however, in related recommendation statements, they recommend counseling for adolescents regarding abstinence and the importance of barrier contraceptives (7). The American College of Obstetricians and Gynecologists recommends counseling all women regarding partner selection and use of barrier contraception to prevent STIs (8). In addition, they recommend counseling female adolescents about what constitutes responsible, consensual sexual behavior and that abstinence from sexual intercourse is the only definitive way to prevent pregnancy and STIs (9). The American Medical Association encourages all physicians to educate their patients about sexually transmitted diseases and proper condom use (10, 11).

From the U.S. Preventive Services Task Force, Agency for Healthcare Research and Quality, Rockville, Maryland.

Financial Support: The USPSTF is an independent, voluntary body. The U.S. Congress mandates that the Agency for Healthcare Research and Quality support the operations of the USPSTF.

Potential Financial Conflicts of Interest: None disclosed.

Requests for Single Reprints: Reprints are available from the USPSTF Web site (www.preventiveservices.ahrq.gov).

References

1. **Lin JS, Whitlock E, O'Connor E, Bauer V.** Behavioral counseling to prevent sexually transmitted infections: a systematic review for the U.S. Preventive Services Task Force. Ann Intern Med. 2008;149:495-506.
2. **Danielson R, Marcy S, Plunkett A, Wiest W, Greenlick MR.** Reproductive health counseling for young men: what does it do? Fam Plann Perspect. 1990; 22:115-21. [PMID: 2379568]
3. **Wenger NS, Greenberg JM, Hilborne LH, Kusseling F, Mangotich M, Shapiro MF.** Effect of HIV antibody testing and AIDS education on communication about HIV risk and sexual behavior. A randomized, controlled trial in college students. Ann Intern Med. 1992;117:905-11. [PMID: 1443951]
4. **Kamb ML, Fishbein M, Douglas JM Jr, Rhodes F, Rogers J, Bolan G, et al.**

Efficacy of risk-reduction counseling to prevent human immunodeficiency virus and sexually transmitted diseases: a randomized controlled trial. Project RESPECT Study Group. JAMA. 1998;280:1161-7. [PMID: 9777816]

5. **Jemmott JB 3rd, Jemmott LS, Braverman PK, Fong GT.** HIV/STD risk reduction interventions for African American and Latino adolescent girls at an adolescent medicine clinic: a randomized controlled trial. Arch Pediatr Adolesc Med. 2005;159:440-9. [PMID: 15867118]

6. **American Academy of Family Physicians.** Recommendations for Clinical Preventive Services. Leawood, KS: American Academy of Family Physicians; 2007. Accessed at www.aafp.org/online/en/home/clinical/exam/p-t.html on 17 June 2008.

7. **Pickering LK, Long SS, McMillan JA, eds.** Red Book: 2006 Report of the Committee on Infectious Diseases. 27th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2006.

8. **ACOG Committee on Gynecologic Practice.** ACOG Committee Opinion No. 357: Primary and preventive care: periodic assessments. Obstet Gynecol. 2006;108:1615-22. [PMID: 17138804]

9. **American College of Obstetricians and Gynecologists Committee on Adolescent Health Care.** ACOG Committee Opinion 301: Sexually transmitted diseases in adolescents. Obstet Gynecol. 2004;104:891-8. [PMID: 15458917]

10. **American Medical Association.** Guidelines for Adolescent Preventive Services (GAPS). GAPS Monograph, Recommendation 16, page 5. Chicago: American Medical Association, 1997. Accessed at www.ama-assn.org/ama/upload/mm/39/gapsmono.pdf on 22 May 2008.

11. **American Medical Association.** Education on Condom Use. Policy H-170.965. Chicago: American Medical Association; 2007. Accessed at www.ama-assn.org/apps/pf_new/pf_online?f_n=browse&doc=policyfiles/HnE/H-170.965.HTM on 22 May 2008.

Figure. **Behavioral counseling to prevent sexually transmitted infections (*STIs*): clinical summary of a U.S. Preventive Services Task Force recommendation.**

Annals of Internal Medicine

AHRQ Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov
USPSTF

BEHAVIORAL COUNSELING TO PREVENT SEXUALLY TRANSMITTED INFECTIONS
Clinical Summary of U.S. Preventive Services Task Force Recommendation

Population	All Sexually Active Adolescents	Adults at Increased Risk for STIs	Non–Sexually Active Adolescents and Adults Not at Increased Risk for STIs
Recommendation	Offer high-intensity counseling Grade: B	Offer high-intensity counseling Grade: B	No recommendation Grade: I (insufficient evidence)

Risk assessment	All sexually active adolescents are at increased risk for STIs and should be offered counseling. Adults should be considered at increased risk and offered counseling if they have: • Current STIs or have had an STI in the past year • Multiple sexual partners In communities or populations with high rates of STIs, all sexually active patients in nonmonogamous relationships may be considered at increased risk.	
Interventions	Characteristics of successful high-intensity counseling interventions: • Multiple sessions of counseling • Frequently delivered in group settings	
Suggestions for practice	High-intensity counseling may be delivered in primary care settings or in other sectors of the health system and community settings after referral. Delivery of this service may be greatly improved by strong linkages between the primary care setting and community.	Evidence is limited regarding counseling for adolescents who are not sexually active. Intensive counseling for all adolescents to reach those who are at risk but have not been appropriately identified is not supported by current evidence. Evidence is lacking regarding the effectiveness of counseling for adults not at increased risk for STIs.
Other relevant recommendations from the USPSTF	USPSTF recommendations on screening for chlamydial infection, gonorrhea, genital herpes, hepatitis B, hepatitis C, HIV, and syphilis, and on counseling for HIV, can be found at http://www.preventiveservices.ahrq.gov.	

For a summary of the evidence systematically reviewed in making these recommendations, the full recommendation statement, and supporting documents, please go to http://www.preventiveservices.ahrq.gov.

Table 1. **What the U.S. Preventive Services Task Force (*USPSTF*) Grades Mean and Suggestions for Practice**

Grade	Definition	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer/provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer/provide this service.
C	The USPSTF recommends against routinely providing the service. There may be considerations that support providing the service in an individual patient. There is moderate or high certainty that the net benefit is small.	Offer/provide this service only if other considerations support offering or providing the service in an individual patient.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.	Read clinical considerations section of USPSTF Recommendation Statement. If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

Table 2. **U.S. Preventive Services Task Force (*USPSTF*) Levels of Certainty Regarding Net Benefit**

Level of Certainty*	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by such factors as: the number, size, or quality of individual studies inconsistency of findings across individual studies limited generalizability of findings to routine primary care practice lack of coherence in the chain of evidence. As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.
Low	The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of: the limited number or size of studies important flaws in study design or methods inconsistency of findings across individual studies gaps in the chain of evidence findings that are not generalizable to routine primary care practice a lack of information on important health outcomes. More information may allow an estimation of effects on health outcomes.

* The USPSTF defines *certainty* as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.

Appendix: U.S. Preventive Services Task Force

Members of the U.S. Preventive Services Task Force† are Ned Calonge, MD, MPH, *Chair*, USPSTF (Colorado Department of Public Health and Environment, Denver, Colorado); Diana B. Petitti, MD, MPH, *Vice-chair*, USPSTF (Keck School of Medicine, University of Southern California, Sierra Madre, California); Thomas G. DeWitt, MD (Children's Hospital Medical Center, Cincinnati, Ohio); Allen J. Dietrich, MD (Dartmouth Medical School, Hanover, New Hampshire); Leon Gordis, MD, MPH, DrPH (Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland); Kimberly D. Gregory, MD, MPH (Cedars–Sinai Medical Center, Los Angeles, California); Russell Harris, MD, MPH (University of North Carolina School of Medicine, Chapel Hill, North Carolina); George Isham, MD, MS (HealthPartners, Inc., Minneapolis, Minnesota); Rosanne Leipzig, MD, PhD (Mount Sinai School of Medicine, New York, New York); Michael L. LeFevre, MD, MSPH (University of Missouri School of Medicine, Columbia, Missouri); Carol Loveland-Cherry, PhD, RN (University of Michigan School of Nursing, Ann Arbor, Michigan); Lucy N. Marion, PhD, RN (Medical College of Georgia, Augusta, Georgia); Virginia A. Moyer, MD, MPH (University of Texas Health Science Center, Houston, Texas); Judith K. Ockene, PhD (University of Massachusetts Medical School, Worcester, Massachusetts); George F. Sawaya, MD (University of California, San Francisco, California); and Barbara P. Yawn, MD, MSPH, MSc (Olmsted Medical Center, Rochester, Minnesota).

† Members of the Task Force at the time this recommendation was finalized. For a list of current Task Force members, go to www.ahrq.gov/clinic/uspstfab.htm.