

SMOKING CESSATION: WHAT WORKS IN PRIMARY CARE SETTINGS

Linda L. Pederson, PhD, MA; Daniel Blumenthal, MD, MPH

BACKGROUND

Healthcare professionals are optimally positioned to assist patients who smoke.¹ While nearly 70% of American smokers make at least one outpatient visit per year, several surveys from the early 1990s report that approximately 50% are advised to stop smoking by their physicians.² This figure has not changed for ten years, as evidenced by the 52.4% who reported receiving such advice from their physician in 2000.³ Similarly, 50% of American smokers visit the dentist each year, but <20% receive advice about smoking cessation from their dentist.⁴ Considerable evidence indicates that such minimal interventions can make a difference to smokers.¹

The five A's described in the US Public Health Service Clinical Guideline provide an outline for a brief intervention that can readily be incorporated into clinical practice.^{5,6} Clinicians are encouraged to: "1) *ask* patients about smoking; 2) *advise* all patients to quit; 3) *assess* willingness to make a quit attempt; 4) *assist* those who want to quit; and 5) *arrange* follow-up visits with those trying to quit."¹ The Guideline recommends that clinicians determine smokers' readiness to quit, and those who are ready should be provided with up-to-date treatment options, including pharmacotherapy. The Guideline's five R's can be employed with clients or patients who indicate that they are not ready to quit. The five R's include: 1) *Relevance*: in discussions, the patient should be encouraged to determine why quitting smoking is personally relevant. 2) *Risks*: the patient should be encouraged to acknowledge the risks of smoking both to him/herself and to others. 3) *Rewards*: patients should be encouraged to list personally

relevant rewards resulting from cessation. 4) *Roadblocks*: Potential impediments to success can be listed and discussed. 5) *Repetition*: Consistency and repetitiveness of the message are essential.

INTERNET RESOURCE: WWW.TREATOBACCO.NET

The Society for Research on Nicotine and Tobacco, in association with the World Bank, the World Health Organization, and the Centers for Disease Control and Prevention, collaborated to produce this resource for individuals treating tobacco dependence.⁷ The material, which is updated regularly and is readily accessible as slide kits, has been translated into nine languages. More than 40 experts from around the world collaborated to produce summaries and recommendations in five areas: efficacy, safety, demographics and health effects, health economics, and policy. In each section, evidence is systematically reviewed to provide the background for all of the recommendations.

The section on treatment efficacy states, "The key findings are based on the results of systematic reviews of the evidence from randomized controlled trials of treatment interventions. They highlight those interventions that have been shown to produce a sustained increase in quit rates six months or more after treatment. Recommendations are based on recent clinical practice guidelines. Interventions range from population-wide large-scale interventions, to intensive, expert-delivered treatments. Interventions may also address smokers at different stage of readiness to quit."⁷ Each study was rated on the strength of the evidence; ranges of effects and confidence intervals are provided.

This paper presents evidence-based strategies for assisting patients in quitting smoking. Summaries of the effectiveness of advice alone, varying levels of behavioral counseling, nicotine replacement therapies, and bupropion either alone or in combinations are presented. We describe two web-based resources, one that offers guidance to practitioners and another that is intended as a training tool for students or healthcare professionals on ways to intervene with patients who smoke. The training curriculum contains both didactic material based on the US Public Health Service Clinical Practice Guideline and tutorials with simulated patients depicting various types of real-life scenarios. The curriculum can meet the need for training among both students and practitioners in medicine, nursing, health education, dentistry, and other healthcare professions. (*Ethn Dis.* 2005;15[suppl 2]:S2-10-S2-13)

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From the Department of Community Health and Preventive Medicine, Morehouse School of Medicine, Atlanta, Georgia.

Address correspondence and reprint requests to Linda Pederson, PhD, MA; Adjunct Professor, Morehouse School of Medicine; 23 Deerpath Road; Chalfont, PA 18914; 215-822-1748; lindap@mindspring.com

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Behavioral Intervention for All Smokers

“Brief advice to quit smoking from a primary care physician during a routine consultation is effective in increasing the number of smokers stopping at least 6 months.”⁷ The increase in six-month abstinence rate over rates seen when no advice is given is 2% (95% confidence interval [CI]: 1%–3%).

Behavioral Interventions for Smokers Who Indicate That They Want to Quit

“There is a dose-response relationship between the amount of therapist client contact and successful cessation.”⁷ Seven percent of moderate-to-heavy smokers quit smoking following behavioral support from a specialist (95% CI: 3%–10%), while heavy smokers who are hospitalized are less likely to quit (4%, 95% CI: 0%–8%). Self-help materials are not as effective as other treatments (1%, 95% CI: 0%–2%). However, telephone support may be effective for some smokers (2%, 95% CI: 1%–4%).

Nicotine Replacement Therapy

“Nicotine replacement therapies (NRTs) are effective in aiding smoking cessation.”⁷ These therapies include the nicotine patch, nicotine gum, nicotine nasal spray, nicotine inhalator/inhaler and nicotine sublingual tablets. “All forms of nicotine replacement appear to be equally effective and the choice of type may be based on susceptibility to side effects, patient preference, and availability” (5%, 95% CI: 4%–7%),⁷ “Combining behavioral support and nicotine replacement therapy will increase success rates over either treatment alone.” (effect sizes 6%–12%, with CI of ± 5 or more percentage points)⁷ Little evidence is available on combinations of NRTs.

Non-nicotine Pharmacotherapies

“Bupropion is an effective aid to smoking cessation.” (9%, 95% CI: 5%–

14%)⁷ “Clonidine has been found to be effective, but its usefulness is limited because of high incidence of side effects..... Nortriptyline—there is evidence for effectiveness of this tricyclic antidepressant”⁷; however, it should be considered to be a second-line therapy because of side effects.

Alternative Therapies

“Acupuncture and hypnotherapy have not been found to aid smoking cessation over and above any placebo effect.”⁷

Cost Effectiveness

“There is strong evidence that smoking cessation interventions are highly cost-effective.”⁷

Infrastructure

“There is evidence that asking patients about tobacco use and documenting their tobacco use status increases the rate of clinician intervention.”⁷

Population-Based Approaches

“Policies including bans or restrictions on smoking in workplaces and other areas, and increased taxation of tobacco products are likely to increase motivation to quit and number of quit attempts. . . . Anti-tobacco mass media campaigns can reduce consumption and increase cessation rates when implemented in conjunction with other interventions such as community education or tax increases.”⁷

WHY ARE THE GUIDELINES NOT USED?

Inasmuch as the health hazards of smoking are well known and that guidelines for treating smoking are readily available, why clinicians do not use them consistently is not clear, although several possible reasons exist. Smoking cessation services are infrequently covered by insurance plans.⁸ Medicaid covers these services, including pharmaco-

therapy, in only one state.⁹ Second, since many smokers attempt to quit several times before they succeed, clinicians may feel that they are not effective in this role when a patient does not quit immediately. Hence even when they initially provide cessation advice, they may not follow through. Third, many clinicians have not been trained to provide smoking cessation services and may lack confidence in their ability to succeed in this role. Ferry et al,¹⁰ in a survey of medical schools, found that most schools did not require clinical training in smoking cessation techniques and concluded that most graduates from these schools were not sufficiently trained in smoking treatment and prevention. Providing a self training program that is easily accessible and clinically relevant may help to deal with some of these barriers.

WEB-BASED TOBACCO CURRICULUM FOR HEALTHCARE PROFESSIONALS

A web-based training program is versatile: it can be available to students or other healthcare professionals either as part of their preclinical curriculum or as a component of their clinical clerkships. The program can be either adjunctive or required. It can be easily available to students when they are working with patients who smoke, thereby making it timely and relevant. We designed a web-based curriculum that can be viewed and used at <http://user1037262.wx8.registeredsite.com>.¹¹

The curriculum was based on the five A's and five R's^{5,6} and was designed from information gathered during focus groups with medical students from Morehouse School of Medicine¹² and Mercer University School of Medicine.¹³ The curriculum is divided into two parts: the tutorial and practicum sections. The tutorial section is divided into the five A's and the five R's. In ad-

dition, didactic information and web links to the National Institutes of Health and the Centers for Disease Control and Prevention, among others, provide in-depth material on cessation, the pharmacology of addiction, the epidemiology of tobacco use, and state-of-the-art cessation strategies. For example, in the material on "Assist," are links to the American Lung Association. In the section on "Relevance," links to the Environmental Protection Agency and to the Surgeon General's Report on Women and Smoking can be found.

The practicum section contains eight patient scenarios. Each of the scenarios is designed to demonstrate strategies for dealing with issues that arise in clinical practice:

- 1) a 12-year-old female who has never smoked, to demonstrate prevention;
- 2) a 12-year-old female who had tried smoking, to demonstrate prevention to addicted smoking;
- 3) a 19-year-old male who is a freshman in college, smokes occasionally and does not consider himself a smoker;
- 4) a 28-year-old female smoker who is pregnant with her second child, who smokes to deal with stress and whose husband smokes;
- 5) a 28-year-old male smoker whose wife is pregnant and has quit smoking;
- 6) a 42-year-old male who has quit smoking for two months, to demonstrate support for cessation;
- 7) a 57-year-old male smoker who has been hospitalized with chest pain, to demonstrate, how to assist a person who has tried to quit many times and has experienced severe withdrawal symptoms; and
- 8) a 62-year-old female smoker who is a widow, has recently retired and has chest pain, to demonstrate how to assist a patient who does not want to quit smoking.

African-American, non-Hispanic White, and Native-American actors play

both patients and physicians. The interactions provide the basis for demonstrating the strategies and techniques outlined in the curriculum. At various points in the scenarios, the action is stopped and the student is provided with alternative and more effective ways of dealing with the patient.

DISCUSSION

Very few healthcare professionals are smokers.¹⁴ In most studies done on medical students' and physicians' attitudes toward smoking,¹⁵⁻¹⁷ a large gulf exists between the desire to offer smoking cessation advice and the confidence to do so successfully. While healthcare professionals agree on the need for more training concerning tobacco prevention and cessation for their clients, no generally applicable approach exists to offer such training. For example, Ferry et al¹⁰ have documented the use of didactic materials in medical schools across the country. PACE¹⁸ supports an eclectic approach which incorporates a broad spectrum of innovative materials and techniques into the existing curriculum or as electives.

Textbooks and traditional classroom instruction are increasingly being supplemented or replaced, by web-based instruction in medical education and in other educational domains. Several reports document specialized modules that are being used to teach students or practicing physicians particular skills or specialized bodies of knowledge. For instance, critical appraisal skills for reading journal articles among practicing general surgeons were improved by an Internet-based intervention.¹⁹ Web-based instructional initiatives are often successful, but are not necessarily superior to traditional approaches. Chumley-Jones et al²⁰ reviewed the literature and concluded that "Medical educators must use well-designed curricula regardless of the method of delivery."

Clinical training for healthcare pro-

fessionals who treat patients who smoke needs to be relevant, accessible, and effective. Materials must be evaluated in terms of provider knowledge, attitudes, and behavior with patients. The effect if the interventions on the patients themselves must also be evaluated.

REFERENCES

1. Department of Health and Human Services. *Reducing Tobacco Use: A Report of the Surgeon General*. Atlanta, Ga: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2000.
2. Frank E, Winkelby MA, Altman DG, Rockhill B, Formann SP. Predictors of physicians' smoking cessation advice. *JAMA*. 1991;266:3139-3144.
3. Angela Trosclair for the NHIS 2000, personal communication, 2004.
4. Tomar SL, Husten CG, Manley MW. Do dentists and physicians advise tobacco users to quit? *J Am Dent Assoc*. 1996;127:259-265.
5. Fiore MC, Bailey WC, Cohen SJ, et al. *Treating Tobacco Use and Dependence: Quick Reference Guide for Clinicians*. Rockville, Md: US Department of Health and Human Services, Public Health Service; 2000.
6. Fiore MC, Bailey WC, Cohen SJ, et al. *Treating Tobacco Use and Dependence: Clinical Practice Guideline*. Rockville, Md: US Department of Health and Human Services, Public Health Service; 2000.
7. Society for Research on Nicotine and Tobacco. Available at: <http://www.treatobacco.net/efficacy/efficacy.cfm>. Access date: October 27, 2004.
8. Centers for Disease Control and Prevention. *Coverage for Tobacco Use Cessation*. Rockville, Md: US Department of Health and Human Services; December 8, 2003.
9. Centers for Disease Control and Prevention. State Medicaid coverage for tobacco-dependence treatments—United States, 1994-2001. *Morb Mortal Wkly Rep*. 2003;52(21):496.
10. Ferry LH, Grissino LM, Runfola PS. Tobacco curricula in USA undergraduate medical education. *JAMA*. 1999;282:825-829.
11. Web-based curriculum. Available at: <http://user1037262.wx8.registeredsite.com>. Access date: October 27, 2004.
12. Morehouse School of Medicine. Available at: <http://www.msm.edu/titleIII/MSMMissionandVision.htm>. Access date: October 27, 2004.
13. Mercer University School of Medicine. Available at: <http://medicine.mercer.edu/Introduction/mission>. Access date: October 27, 2004.

14. Mangus RS, Hawkins CE, Miller MJ. Tobacco and alcohol use among 1995 medical school graduates. *JAMA*. 1998;280:1192–1193, 1195.
15. Chung RWH, Lam TH, Cheng YS. Knowledge and attitudes about smoking in medical students before and after a tobacco seminar. *Med Care*. 1996;30:290–295.
16. Allen MB. Medical students' knowledge of smoking. *Thorax*. 1999;54:2.
17. David SP. Smoking cessation for the primary care physician. *Prim Care*. 2001;7:211–221.
18. Prevention and Cessation Education for Medical School Students (PACE). *Setting the PACE*. 2004;1(1):1–3.
19. Macrae HM, Regehr G, McKenzie M, et al. Teaching practicing surgeons critical appraisal skills with an Internet-based journal club: a randomized, controlled trial. *Surgery*. 2004;136:641–646.
20. Chumley-Jones HS, Alison Dobbie A, Alford CL. Web-based learning: sound educational method or hype? A review of the evaluation literature. *Acad Med*. 2002;77:S86-S93.