

Smoking and Diabetes

AMERICAN DIABETES ASSOCIATION

BACKGROUND — As documented in the American Diabetes Association’s technical review “Smoking and Diabetes” (1), a large body of evidence from epidemiological, case-control, and cohort studies provides convincing documentation of the causal link between cigarette smoking and health risks. Cigarette smoking is the leading avoidable cause of mortality in the U.S., accounting for 400,000 deaths each year. Cigarette smoking accounts for one out of every five deaths in the U.S. and is the most important modifiable cause of premature death. Cigarettes provide the delivery system for nicotine, an addictive substance related to various pharmacological, biochemical, and psychological processes that interact to support a compulsive pattern of drug use.

Much of the prior work documenting the impact of smoking on health did not discuss separately results on subsets of individuals with diabetes, suggesting the identified risks are at least equivalent to those found in the general population. Other studies of individuals with diabetes consistently found a heightened risk of morbidity and premature death associated with the development of macrovascular complications among smokers. The cardiovascular burden of diabetes, especially in combination with smoking, has not been effectively communicated to people with diabetes or to health care providers, and there is little evidence that this risk factor is being addressed as consistently and comprehensively as its importance requires. Smoking is also related to the premature development of microvascular complications of diabetes and may even have a role in the development of type 2 diabetes (1).

General smoking prevalence decreased substantially up until about 1990 because of extensive public health efforts,

which included making the population aware of the health hazards of active and passive smoking, implementation of smoking cessation interventions, and policy changes. However, since then there has been very little further reduction, and about 25% of American adults continue to smoke, with variations reported by ethnic and sociodemographic groups. These figures mirror the prevalence of tobacco use among individuals with diabetes. It appears that adolescents may initiate smoking after being diagnosed with diabetes and that the prevalence of tobacco use decreases with disease duration (1–3).

Effectiveness of smoking cessation counseling

Smoking cessation is one of the few interventions that can safely and cost-effectively be recommended for all patients, and it has been identified as a gold standard against which other preventive behaviors should be evaluated. A number of large randomized clinical trials have demonstrated the efficacy and cost-effectiveness of certain forms of provider and behavioral counseling in changing smoking behavior of primary care and hospitalized patients. This work, combined with the more limited studies specific to individuals with diabetes, suggests that smoking cessation counseling is effective in reducing tobacco use in this high-risk group (3,4). This evidence has been summarized in the updated clinical practice guideline from the U.S. Public Health Service “Treating Tobacco Use and Dependence” (4).

Several treatment characteristics have been identified as critical to achieve cessation. These characteristics include brief counseling by multiple health care providers, use of individual or group counseling

strategies, and use of pharmacotherapy (1). Effective pharmacotherapies now include nicotine replacement therapy in a variety of forms (gum, patch, inhaler, spray) and antidepressants (bupropion and nortriptyline). Although many large-scale well-controlled outcome studies have included patients with diabetes, few have reported results separately for patients with diabetes versus other participants. Special issues that affect successful abstinence have been identified in these studies and include weight management and depression. Postcessation weight gain may be an impediment to smoking cessation, especially among women or other people concerned with weight management (4). The presence of comorbid psychiatric conditions such as depression is associated with a greater prevalence of smoking and an increased risk of relapse after quitting. Though not reported separately, these issues are expected to be at least equally relevant for diabetic patients as for general patients (1).

Smoking cessation delivery systems

Despite demonstrated efficacy and cost-effectiveness, smoking cessation has not received the priority it deserves from health care providers. Only about half of smokers with diabetes have been advised to quit smoking by their health care providers (1). One important means of assuring systematic advice regarding the prevention and cessation of tobacco use is through the implementation of smoking cessation delivery systems in office practices and hospitals. These systems require organizational changes in clinics and hospitals to systematically identify all tobacco users at every visit, so that evaluation of smoking status becomes a routine vital sign (1,4). After tobacco users have been identified by staff, clinicians should provide a brief assessment of interest in quitting, advise those without current interest how important it is to quit, and connect those prepared to quit with those who can provide further information, assistance, and follow-up.

The recommendations in this paper are based on the evidence reviewed in the following publication: Smoking and diabetes (Technical Review). *Diabetes Care* 22:1887–1898, 1999.

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Table 1—Recommendations regarding diabetes and smoking (E)

Assessment of smoking status and history
<ul style="list-style-type: none"> ● Systematic documentation of a history of tobacco use must be obtained from all adolescent and adult individuals with diabetes.
Counseling on smoking prevention and cessation
<ul style="list-style-type: none"> ● All health care providers should advise individuals with diabetes not to initiate smoking. This advice should be consistently repeated to prevent smoking and other tobacco use among children and adolescents with diabetes under age 21 years. ● Among smokers, cessation counseling must be completed as a routine component of diabetes care. ● Every smoker should be urged to quit in a clear, strong, and personalized manner that describes the added risks of smoking and diabetes. ● Every diabetic smoker should be asked if he or she is willing to quit at this time. <ul style="list-style-type: none"> If no, initiate brief and motivational discussion regarding need to stop using tobacco, risks of continued use, and encouragement to quit as well as support when ready. If yes, assess preference for and initiate either minimal, brief, or intensive cessation counseling and offer pharmacological supplements as appropriate.
Effective systems for delivery of smoking cessation
<ul style="list-style-type: none"> ● Training of all diabetes health care providers in the Public Health Service guidelines regarding smoking should be implemented. ● Follow-up procedures designed to assess and promote quitting status must be arranged for all diabetic smokers.

RECOMMENDATIONS— Substantial evidence supports inclusion of the prevention and cessation of tobacco use as an important component of state-of-the-art clinical diabetes care (4). Health care providers engaged in the care and management of individuals with diabetes should follow the approach summarized in Table 1 and address the following primary areas.

Ask

The routine assessment of current tobacco use is a critical first step toward encouraging cessation. The nurse or medical technician who prepares patients for their visit should do this. Nonsmoking adults are unlikely to start, so a sticker on their charts can prevent having to ask them at each visit.

Assess

In those who are current tobacco users, it is important to assess their interest in quitting by asking if they are ready to quit in the next 30 days (preparation phase) or in the next 6 months (contemplation phase). Knowledge of this readiness stage allows tailoring of the intervention to each individual (1).

Advise

Health care providers should advise all smokers with diabetes how important it is for them to quit. There is a dose-response relationship between type, intensity, and duration of treatment and smoking cessation. In general, minimal interventions are defined as <3 min of counseling, whereas brief interventions are defined as 3–10 min of counseling (4). While more intense interventions are most effective in producing long-term abstinence from tobacco, few smokers are willing to participate (1,3,4).

Assist

The keys to assistance are helping the smoker to set a quit date, providing information about how to prepare for that date, and offering counseling and/or medication assistance to those who are interested. Several pharmacological agents increase smoking cessation rates when used in conjunction with behavioral interventions. These include 4–6 weeks of nicotine replacement therapy, bupropion (150 mg p.o. q.d. or b.i.d.) or nortriptyline (25–75 mg p.o. q.h.s.).

Arrange

In addition to providing support and pharmacological assistance to smokers who are ready to quit, health care providers should also make arrangements for a follow-up phone call soon after the quit date. This can be done by clinic staff. Smokers receiving pharmacotherapy should also have a return office visit arranged.

Organize your clinic

Effective systems for implementing these guidelines should be incorporated into the routine practice of diabetes care. Recording smoking status as a vital sign increases identification of current tobacco users. Organized office information systems and delegation of cessation support and follow-up to trained office staff will greatly increase tobacco cessation rates.

Advocacy for tobacco control through public policy initiatives is also an appropriate and potentially effective way to reduce the burden of excess morbidity and mortality that tobacco use confers on those with diabetes.

References

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