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REVIEW

Smoking Cessation Interventions in Clinical Practice

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Objectives. *Physicians are in a unique position to advise smokers to quit by integrating the various aspects of nicotine dependence. This review provides an overview of interventions for smokers presenting in a clinical setting.*
Results. *Strategies used for smoking cessation counselling differ according to patient's readiness to quit. For smokers who do not intend to quit smoking, physicians should inform and sensitise them about tobacco use and cessation. For smokers who are dissonant, physicians should use motivational strategies, such as discussing barriers to cessation and their solutions. For smokers ready to quit, the physician should show strong support, help set a quit date, prescribe pharmaceutical therapies for nicotine dependence, such as nicotine replacement therapy (i.e., gum, transdermal patch, nasal spray, mouth inhaler, lozenges, micro and sublingual tablets) and/or bupropion (atypical antidepressant thought to work by blocking neural reuptake of dopamine and/or nor epinephrine), with instructions for use, and suggest behavioural strategies to prevent relapse. The efficacy of all of these pharmacotherapies is comparable, roughly doubling cessation rates over control conditions. Varenicline is a promising new effective drug recently approved by many health authorities.*
Conclusion. *Physician counselling and pharmacotherapeutic interventions for smoking cessation are among the most cost-effective clinical interventions.*

Keywords: Smoking; Smoking cessation; Tobacco; Nicotine replacement therapy; Prevention.

Introduction

Smoking is associated with a range of diseases, causing a high level of morbidity and mortalityand is one of the leading causes of preventable death, with more than 4.9 million smokers worldwide dying each year from smoking-related illnesses. Stopping smoking has major health benefits.[1] Smokers who quit before the age of 35 can anticipate a life expectancy similar to those who have never smoked.[2] Quitting at any age provides both short and long-term benefits. Middle-aged quitters gain improvements in health and reduce their excess risk of death. Despite the well-known health consequences of tobacco and the benefits of quitting, a quarter to a third of the adult population in industrialized countries continues to smoke. Although the majority of current smokers wish to quit smoking, and effective interventions exist for tobacco users,[3,4] very few request or receive formal smoking cessation interventions, even where there are comprehensive national smoking cessation services such in the United Kingdom. Physicians are in a unique position to intervene; yet studies suggest that smokers are not consistently identified or treated in clinical settings.[5] This overview of interventions for smokers draws heavily on recent clinical practice guidelines for treating tobacco use and dependence, which were based upon qualitative and quantitative reviews of published clinical research.[3,4,6,7]

General Recommendations

Even brief advice to quit offered by a physician can produce abstinence rates of 5–10%, which would have a significant public health impact if it were provided routinely.[8,9] Unfortunately, surveys of smokers indicate that they receive such advice from their physicians less than half the time.[5–8] One-reason

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physicians hesitate to advise smoking cessation is that they have become demoralized because so few of their patients follow this advice. This is an understandable reaction when a behaviour goes unrewarded. However, physicians should realize that even when their advice does not produce an immediate quit attempt by a patient, it may very well move the patient further towards the difficult decision to quit smoking. Smoking cessation should be considered as a process of change through successive stages requiring counselling tailored to smokers' motivation to quit. Application of this model improves physicians' performance on one-year smoking cessation.[10]

Each smoker should be encouraged to completely abstain from smoking and should be warned that other tobacco products, such as smokeless tobacco, are associated with significant health risks. Smoking reduction has been proposed as an alternative approach for smokers.[11] Even though this approach is promising, especially for heavy smokers who suffer from tobacco-related diseases, such as chronic obstructive pulmonary disease, its effectiveness remains a research question under scrutiny. The recommended clinical attitude should be to advise patients to quit rather than reduce smoking. Indeed, it is unlikely that a once-heavy smoker would be able to maintain light or infrequent smoking without resorting to his or her old smoking patterns. Indeed, even lighter smoking (less than 5 cigarettes per day) has been associated with elevated health risks,[12] particularly cardiovascular diseases. Strategies aimed at gradual reduction of smoking without any medication, versus quitting ''cold turkey,'' appear to lead to continued craving and prolonged withdrawal symptoms in tobacco users. Smokers compensate by taking more and/or deeper puffs per cigarette when they attempt to reduce their smoking. However, cutting down with nicotine replacement therapy (NRT) can lead to sustained ''real'' reductions in smoke intake when assessed by carbon monoxide levels.[13] As a result, several European countries the licence for the use of NRT has been extended to use it for reducing tobacco usage as well as for abrupt cessation of tobacco usage.

Clinical practice guidelines recommend that doctors follow the ''5 A's'' (Table 1) in initiating assessment and intervention with tobacco users. The ''5 A's'' comprise:

1) asking the patient if s/he uses tobacco; identify and document tobacco use status for every patient at every visit; 2) advising the patient to quit tobacco use; 3) assessing the patient's willingness to quit tobacco use; 4) assisting the patient in his/her quit attempt; and 5) arranging follow-up contacts and relapse prevention.

Table 1. The "5 A's" for smoking cessation intervention

Ask about tobacco use.	Identify and document tobacco use status for every patient at every visit.
Advise to quit.	In a clear, strong and personalized manner urge every tobacco user to quit.
Assess willingness to make a quit attempt.	Is the tobacco user willing to make a quit attempt at this time?
Assist in quit attempt.	For the patient willing to make a quit attempt, use counseling and pharmacotherapy to help him or her quit.
Arrange follow-up.	Schedule follow-up contact, preferably within the first week after the quit date.

Each patient should be asked about his/her smoking status during visits.[4] According to the guidelines, the physician then advises the patient to quit smoking in a clear (''It is important for you to quit smoking now, and I can help you. Cutting down while you are ill is not enough.'') and strong manner (''As your doctor, I need you to know that quitting smoking is the most important thing you can do to protect your health now and in the future. The clinic staff and I will help you.''). The advice should also be personalized for the patient, highlighting his/her particular situation. For example, the advice may be tied to the patient's health (''Your smoking is only prolonging your cough and putting you at risk for long-term respiratory problems such as chronic bronchitis or emphysema.'') and the impact smoking might have on children (''You are putting your children at risk of asthma, ear infections and other diseases by exposing them to second-hand smoke.'').

Intervention for Smokers Unwilling to Quit

Intervention efforts will not be successful without sufficient motivation or ''readiness'' to quit smoking on the part of the smoker. For the patient who is presently unwilling to quit smoking, recommending entering a smoking cessation program may be premature and ineffective. The US practice guidelines suggest following the ''5 R's'' motivational intervention as listed Table 2:[4] Relevance, Risks, Rewards, Roadblocks, and Repetition. Such a patient should be asked to: 1) identify why quitting smoking is personally relevant to the patient (e.g., patient's own health such as bypass occlusion or reducing growth rate of small aneurysms; health of patient's children; prior ability to quit, for example for women while pregnant); 2) identify potentially negative consequences, or risks, of tobacco use (e.g., exacerbation of cough; long-term risk of cardiovascular problems and cancer; risks to children of breathing her

Table 2. Recommendations to enhance motivation to quit tobacco—the "5 R's"

Relevance	Encourage the patient to indicate why quitting is personally relevant, being as specific as possible. Motivational information has the greatest impact if it is relevant to a patient's disease status or risk, family or social situation (e.g., having children in the home), health concerns, age, gender, and other important patient characteristics (e.g., prior quitting experience, personal barriers to cessation).
Risks	The clinician should ask the patient to identify potential negative consequences of tobacco use. The clinician may suggest and highlight those that seem most relevant to the patient. The clinician should emphasize that smoking low-tar/low-nicotine cigarettes or use of other forms of tobacco (e.g., smokeless tobacco, cigars, and pipes) will not eliminate these risks. Examples of risks are: • Acute risks: Shortness of breath, exacerbation of asthma, harm to pregnancy, impotence, infertility, increased serum carbon monoxide. • Long-term risks: Heart attacks and strokes, exacerbation of peripheral arterial disease, lung and other cancers (larynx, oral cavity, pharynx, esophagus, pancreas, bladder, cervix), chronic obstructive pulmonary diseases (chronic bronchitis and emphysema), long-term disability and need for extended care. • Environmental risks: Increased risk of lung cancer and heart disease in spouses; higher rates of smoking by children of smokers; increased risk for low birth weight, SIDS, and respiratory infections in children of smokers.
Rewards	The clinician should ask the patient to identify potential benefits of stopping tobacco use. The clinician may suggest and highlight those that seem most relevant to the patient. Examples of rewards follow: Improved health; Food will taste better; Improved sense of smell; Save money; Feel better about yourself; Home, car, clothing, breath will smell better; Can stop worrying about quitting; Set a good example for children.
Roadblocks	The clinician should ask the patient to identify barriers or impediments to quitting and note elements of treatment (problem solving, pharmacotherapy) that could address barriers. Typical barriers might include: Withdrawal symptoms; Fear of failure; Weight gain; Lack of support; Depression; Enjoyment
Repetition	The motivational intervention should be repeated every time an unmotivated patient visits the clinic setting. Tobacco users who have failed in previous attempts should be told that most people make repeated quit attempts before they are successful.

"second-hand smoke;» increased probability that children will become smokers themselves); 3) identify rewards associated with cessation (e.g., improved sense of taste and smell; clothes, house, car will smell better; financial savings); 4) identify roadblocks or barriers to quitting and note treatment elements that could address them (e.g., withdrawal symptoms, such as irritability; appetite increase, risk of depression, could be attenuated by pharmacotherapy; lack of social support for quitting could be remedied by joining a cessation clinic or support group). Finally, 5) the doctor should repeat this information each time the patient is seen in the clinic.

Preparation for the Quitting Process

As the doctor has the opportunity to assist the patient's quit attempt, the intervention should comprise the following: 1) helping the patient with a quit plan; 2) providing practical counselling (problem solving/skills training); 3) providing intra-treatment social support; 4) helping the patient obtain extra-treatment support; 5) recommending the use of approved pharmacotherapy, except in special circumstances; 6) providing supplementary materials. In detail, these recommendations imply that the physician should instruct the patient to do the following to prepare to quit ("STAR" acronym):[4] 1) Set a quit date for as soon as possible; 2) Tell family, friends, and co-workers about quitting and request understanding and support; 3) Anticipate challenges to the planned quit attempt (including nicotine withdrawal symptoms), particularly during the critical first few weeks; 4) Remove tobacco products from his/her environment and, prior to quitting, avoid smoking in places where spending a lot of time (e.g., work, home, car).

The physician should then provide the patient with some basic didactic information about quitting smoking.

1) Smoking represents an addiction to nicotine. Therefore smoking cessation must be undertaken as seriously as one would approach any other drug addiction. Willpower alone is often insufficient. The patient must make quitting smoking his/her top priority.
2) The goal should be total tobacco abstinence after the quit date.
3) The patient can expect to experience unpleasant nicotine withdrawal symptoms (e.g., mood disturbance, insomnia, irritability, difficulty concentrating, increased appetite and weight gain). For most individuals, these symptoms peak within a few days of quitting and most of them dissipate gradually to return to baseline levels after about 3–4 weeks.
4) The physician can help the patient identify "high-risk" or dangerous situations. These are events, internal states, or activities that increase the risk of smoking or relapse due to their past association with smoking (e.g., negative emotional states, being around other smokers, drinking alcohol). These situations should be avoided early on, if at all possible.
5) The doctor can help the patient select cognitive and behavioural coping skills for use when s/he

experiences an urge (or "craving") for cigarettes. Examples of cognitive coping skills are: reminding him/herself reasons for quitting; telling him/herself that urge will pass; and repeating the phrase, "Smoking is not an option." Behavioural coping skills include: leaving the situation, engaging in some distracting activity, taking deep breaths, and seeking social support.

The doctor should also provide support within the clinic by: 1) encouraging the patient in the quit attempt (e.g., note that effective tobacco dependence treatments are now available; remind them that one-half of all people who have ever smoked have now quit; communicate belief in the patient's ability to quit); 2) communicating caring and concern (e.g. asking how the patient feels about quitting; directly express concern and willingness to help; be open to the patient's expression of fears of quitting, difficulties experienced, and ambivalent feelings); 3) encouraging the patient to talk about the quitting process by asking about reasons why the patient wants to quit, concerns or worries about quitting, success the patient has achieved, and difficulties encountered while quitting. Eventually, the patient should be assisted with obtaining social support outside of the clinic environment. The clinician should train the patient in support solicitation skills (e.g., practice requesting social support from family, friends, and co-workers; aid a patient in establishing a smoke-free home) and prompt support seeking in the patient (e.g., help the patient identify supportive others, inform patients of community resources such as hotlines). A busy clinician may be tempted to hand one or more of the available self-help booklets to a patient who smokes, instead of providing the personal advice called for by the "5 A's." The clinical practice guidelines found that there was insufficient evidence to support the use of self-help materials.[4]

Treatment of Nicotine Dependence

Over the past decade there has been a notable increase in the number of available pharmacotherapies for treating tobacco dependence. The current recommended first line therapies are nicotine replacement therapy (NRT) and Bupropion.[4,5]

Nicotine replacement therapy (NRT)

Nicotine replacement therapies help smokers, who are nicotine dependent, and include transdermal patches, gum, nasal spray, mouth inhaler, sublingual tablets, and lozenges. NRT is a well-established treatment for smokers attempting to quit, with more than 90 randomised trials comparing different forms of NRT with non-NRT controls. Trials have generally recruited smokers of >10 cigarettes per day. Not all NRT types are available in all countries. Few trials of the sublingual tablets and lozenges have been published, but the consistency of the findings for other types supports an assumption that these formulations are also effective. All NRT have been shown to be effective, roughly doubling cessation rates over control conditions.[4] They work by replacing the nicotine in the cigarettes and reducing this gradually. NRT also provides a background level of nicotine that reduces craving and withdrawal. The hypothesis is that by replacing the nicotine that smokers receive from cigarettes, the craving to smoke and the symptoms of abstinence will be alleviated. Nicotine is released from the different pharmaceutical formulations to maintain a plasma nicotine level concentration that is sufficient to decrease the desire to smoke.

A systematic review of fourteen randomised controlled trials evaluating the efficacy of gum performed in cessation clinics showed that success rates were significantly higher (27% and 23%) than with placebo gum (18% and 13%) at 6 and 12 months, respectively.[14] These data also suggest that proper use of nicotine gum in general medical practices will increase the rate of cessation.[15] Transdermal systems may be more effective in a primary practice setting than nicotine gum.[4] Furthermore, such a therapy tends to double the quitting rates associated with whatever behavioural intervention is used. In one study, for example, 305 patients participating in a behavioural smoking cessation program were randomly assigned to a nicotine patch or placebo for 10 weeks. After a three-year follow-up, continuous cigarette abstinence rates were significantly higher in those individuals treated with the patch (13.8 versus 5.2 percent for placebo).[16] Studies assessing the efficacy of either nasal spray or inhaler showed one year-quit rates between 26 and 28 % in actively treated patients compared to 10% and 18% with placebo, respectively.[17] Additional success is found in patients who are also given supportive counselling.[4]

The few side effects, which appear to interfere with use of the patch, are mild skin sensitivity, leading rarely to withdrawal of patch use, as well as sleep disturbance for some smokers using the 24-hour patch.[18] The major side effects usually reported with nicotine gum, including hiccoughs, gastrointestinal disturbances, jaw pain, and orodental problems.[4] The major side effects reported with the nicotine inhaler and nasal spray are related to local irritation at the site of administration

(mouth and nose respectively).[4] Symptoms such as throat irritation, coughing, and oral burning were reported significantly more frequently with subjects allocated to the nicotine inhaler than to placebo control.[19] None of the experiences, however, were reported as severe. With the nasal spray, nasal irritation and runny nose are the most commonly reported side effects. Nicotine sublingual tablets have been reported to cause hiccoughs, burning and smarting sensation in the mouth, sore throat, coughing, dry lips and mouth ulcers.[20]

There has been concern about the safety of NRT in smokers with cardiac disease. A review of adverse effects based on 35 trials with over 9 000 participants did not find evidence of excess adverse cardiovascular events assigned to nicotine patch, and the total number of such events was low.[18] A trial of nicotine patches, which recruited smokers aged over 45 with at least one diagnosis of cardiovascular disease, found no evidence that serious adverse events were more common in smokers in the nicotine patch group.[21] Events related to cardiovascular disease such as increase in angina severity occurred in approximately 16% of patients, but did not differ according to whether or not patients were receiving NRT. Therefore NRT should not be contraindicated in patients with cardiovascular or cerebrovascular disease.[22]

NRT may be prescribing during pregnancy and breast-feeding when a woman in preparation stage cannot quit smoking with behavioural approach.[2] Ex-smokers using NRT for a long time (e.g., several months) might become dependent on the product and therefore have difficulty weaning themselves off it. To our knowledge, there is no data assessing the incidence of such NRT dependence. However, this situation seems to be very rare.

Bupropion

The main alternative pharmacological treatment to nicotine replacement therapy is bupropion, which has been shown to be effective.[23–25] A Cochrane review of the evidence for bupropion in smoking cessation identified 24 studies giving data on over 6 000 patients. Ten studies had information on abstinence rates at one year. Meta-analysis of the data from 19 trials showed an odds ratio of around 2 in favour of smoking cessation, although studies lasted variable lengths of time.[25]

Bupropion is an anti-depressant, which inhibits noradrenaline and dopamine reuptake, thereby increasing levels within the brain. Its mechanism of action in smoking cessation is unclear, although it is thought that dopaminergic pathways are involved in the ''reward'' circuit of drug dependence. The positive reinforcing effects of nicotine are due increased dopamine release in the nucleus accumbens. Therefore, increased dopamine release by bupropion will decrease withdrawal symptoms. It also is hypothesised that bupropion may act as an antagonist at the nicotinic acetylcholine receptor. Although it is possible that the anti-depressant effects of bupropion contribute to its benefits in depressed smokers, it has been shown to be efficacious in patients who are not depressed making it unlikely that this is the sole explanation.

Bupropion should be initially prescribed at 150 mg once a day, increasing to twice a day after 6 days, if tolerated. Peak plasma concentrations are reached at 3 hours after dosage. Both bupropion and its three active metabolites are conjugated within the liver to inactive metabolites, which are excreted in the urine. Elimination half-life is 20 hours.[24]

Bupropion and its main metabolite inhibit CYP2D6, leading to possible increases in plasma concentrations of particular antidepressants (desipramine, imipramine, paroxetine), antipsychotics (thioridazine, risperidone), type 1C antiarrhythmics and metoprolol. Bupropion is metabolised via CYP2B6 and should be used with care in combination with medication, which inhibits or induces this enzyme. For example anticonvulsants such as phenytoin and carbamazepine may induce metabolism, whereas valproate may inhibit metabolism, as does ritonavir. The possibility of a pharmacokinetic interaction with alcohol has been raised in case reports describing reduced alcohol tolerance and increased psychiatric effects. The manufacturers advise that alcohol intake is avoided whilst taking bupropion. Drugs with dopaminergic effects such as monoamine oxidase inhibitors, levodopa and amantidine may produce increased side effects when prescribed with bupropion.

In one study bupropion was found to be significantly more effective than nicotine patch.[26] However, nicotine patch itself was not efficacious in this particular study. Additionally bupropion and nicotine patch were combined and appeared to increase quit rates more than patch alone (OR 2.65, 95% CI 1.58 to 4.45).[26] In a study assessing bupropion for re-treating smokers who had just failed to quit with NRT, only one participant, from the bupropion treatment arm, was abstinent after six months.[27]

The most frequent side effects are insomnia, occurring in 30% to 40% of patients, dry mouth (10%) and nausea (5–10%). Typical dropout rates, due to adverse events, range from 7% to 31%. Allergic reactions reported with bupropion include pruritus, hives,

angioedema and dyspnoea and at a rate of about 1 to 3 per thousand.[25] Using a slow release (SR) preparation in doses of 300 mg/day or less, and excluding those at risk of seizures, no seizures had been reported in any of the smoking cessation trials until a European enrolling study[28] reported two seizures amongst 502 people randomised to bupropion. A much larger, open, uncontrolled observational safety surveillance study conducted by the manufacturers[29] examined 3 100 adult patients using slow release bupropion for eight weeks for treatment of depression (not smoking cessation). Treatment was extended if necessary to a year, at a maximum dose of 150 mg twice daily. Patients with a history of eating disorder, or a personal or family history of epilepsy were excluded. Three participants (0.1%) had a seizure considered to be related to the therapeutic use of bupropion. Post-marketing surveillance, does not report any higher rates of seizure.[24]

Although no patient was reported to have died while taking bupropion in trials for smoking cessation, some have died while taking bupropion prescribed for smoking cessation in routine practice. There has been no formal epidemiological analysis of these deaths, but no national reporting scheme has concluded that bupropion caused these deaths. Bupropion may cause adverse effects in overdose. A review of bupropion non-therapeutic exposures reported to the US Toxic Exposure Surveillance System for 1998–1999 identified 7 348 exposures to bupropion, prescribed either for depression or smoking cessation, and concluded that the extent of toxicity for bupropion was comparable to other antidepressants such as selective serotonin reuptake inhibitors (SSRIs).[30]

Other drugs and clinical interventions

Varenicline is an alpha4 beta2 nicotinic acetylcoline receptor partial agonist and was designed for smoking cessation. This drug works by reducing the strength of the smoker's urge to smoke and by relieving withdrawal symptoms.[31] It is structurally similar to cytosine, prescribed as a smoking cessation drug for many years in Central Europe. The alpha4 beta2 receptors play a role in the rewarding system of nicotine by modulating the release of neurotransmitters such as dopamine in the nucleus accumbens, ''the reward centre'' of the brain. Varenicline mimics the effect of nicotine and hence reduces craving when smokers stop. Furthermore, varenicline blocks nicotine receptors and, in this manner, provokes a weaker response to nicotine if smokers use tobacco products while taking the drug. Thus, the smoker experiences less satisfaction from smoking. In clinical studies, the short-term and long-term cessation rate of varenicline exceeded that of placebo or bupropion.[32,33] Varenicline appears to be safe and well tolerated in healthy smokers. Nausea, the most frequent side effects, was reported as being mostly mild to moderate in severity and rarely resulted in discontinuation of study medication. Data for cardiovascular disease patients are lacking.

Several antidepressants, apart from buproprion, have been assessed for smoking cessation. There was one trial of the monoamine oxidase inhibitor moclobemide, and one of the atypical antidepressant venlafaxine. Neither of these detected a significant long-term benefit. There were five trials of SSRIs; three of fluoxetine, one of sertraline and one of paroxetine. There was no evidence of a significant benefit when results were pooled.[25]

Other medications, which have been tried, include mecamylamine (non-competitive nicotinic receptor antagonist), clonidine (a centrally acting antihypertensive), buspirone (and other anxiolytics), lobeline (a nicotine like alkaloid) and naloxone.[4] Little evidence is currently available to support the use of any of these agents.

Patients often express interest in smoking cessation via hypnosis. Its popularity is understandable, because it implies smoking cessation can be effected without effort or distress. However, several reviews of the literature have found insufficient evidence that hypnosis offers any additional treatment advantage above and beyond the behavioural and pharmacotherapeutic interventions that may be bundled together with it.[4] It is noteworthy that research literature is lacking in properly controlled studies and that the smoking cessation interventions offered by hypnotherapists are quite variable in terms of their other treatment components. Given the lack of evidence for their efficacy, hypnosis-based treatments cannot currently be routinely recommended for smoking cessation.

The use of acupuncture for smoking cessation also appears to be growing in popularity. However, meta-analysis found that ''active'' acupuncture did not outperform ''control'' acupuncture, suggesting that acupuncture itself is not a potent intervention.[4]

Selective central cannabinoid receptor antagonists represent a novel pharmaceutical approach to smoking cessation.[34] One of them, Rimonabant, has been developed as a treatment for both smoking and obesity, and results of phase III human trials for smoking are pending. The use of dextrose has been investigated since the 'urge' to smoke may be due to a mislabelling of a physiological need for carbohydrates. Short-term trials have

suggested a possible benefit, but it has not been evaluated in long-term studies.

Preliminary data suggest that vaccine-targeting nicotine may help smokers quit. Nicotine vaccine is designed to stimulate the production of antibodies. The basic premise is that such antibodies might block some of nicotine's reinforcing effects by sequestering the chemical in blood and preventing it from reaching the brain. Results from phase I trials show that such a vaccine appears to be well tolerated and promotes immunological responses to the majority of the study participants.[35]

Relapse prevention

Even the most effective interventions are plagued by relapse. Clinicians should tell the patient that the typical smoker requires several serious quitting attempts before finally achieving long-term success. Although the patient must enter each quitting attempt motivated by the expectation of success, setbacks should be viewed as learning experiences. With each relapse, the patient learns more about his/her personal strengths and vulnerabilities, the nature of nicotine addiction and relapse risk factors for which the patient needs to prepare better in the future. Indeed, tobacco use should be defined as a ''chronic condition that often requires repeated intervention''. Patients should be advised to avoid any tobacco use at all after cessation and warned that many of those who have a single post-cessation cigarette eventually return to daily smoking. Relapse-prevention strategies have been found to be effective as a treatment component for tobacco use. Therefore, the clinician should execute the last of the ''5 A's'': Arrange follow-up and relapse prevention. Clinicians should arrange for either a formal or phone follow-up contact with the patient shortly after the target quit date. By arranging for such a contact, the clinician emphasizes the importance of quitting smoking and communicates personal support for the patient's effort. The contact itself provides an opportunity to offer additional encouragement and support, to monitor the patient's progress, and to provide further assistance (e.g., adjustment of pharmacotherapy instructions, referral to an intensive program, advice about weight gain). Patients can benefit from extended contact by receiving a series of printed relapse-prevention materials through the mail over an extended period of time.[36]

In case of relapse, clinicians should tell the patient that the most smokers require several serious quitting attempts before finally achieving long-term success. Although the patient must enter each attempt motivated by the expectation of success, setbacks should be viewed as learning experiences. With each relapse, the patient learns more about personal strengths and vulnerabilities, the nature of nicotine addiction, and relapse risk factors.

Conclusion

The ''5 A's'' recommended by the clinical practice guidelines typically require only a few minutes of direct clinician time. Counselling and pharmacotherapeutic interventions for smoking cessation are among the most cost-effective clinical interventions.[37,38] Smoking cessation interventions systematically provided to smokers during physician-patient contacts have the aggregate potential to produce a dramatic enhancement of public health. Doctors and other medical personnel should assess, advise, and assist smokers at every opportunity. For smokers ready to quit, the physician should show strong support, help set a quit date, prescribe pharmaceutical therapies for nicotine dependence, such as nicotine replacement therapy and/or an effective drug such as bupropion or varenicline, with instructions for use, and suggest behavioural strategies to prevent relapse.

Box
Nicotine replacement therapies and bupropion are effective to help smokers quit and should be considered as the two first line therapies. Varenicline (now licensed in the UK) has the potential to be considered as a first-line therapy. Combining behavioural support and nicotine replacement therapy will increase success rates over either treatment alone. Using two different forms of NRT could have an effect by producing higher blood nicotine levels, however the incremental success produced by combination NRTs may depend on the use of two distinct delivery systems: one passive and one ad libitum. Use of the patch to establish a background level of nicotine, combined with using gum, inhaler/inhalator or nasal spray when cravings occur, may provide better control of withdrawal. There is no evidence that using more than one form is likely to lead to nicotine overdose. Clinicians should not forget that smoking is not only individual behaviour due to nicotine dependence, but also the consequence of several economic and social factors, such as cigarettes price, marketing and social norms, which require integrating into the assessment and advice of a smoker.

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