Strategies to help patients break the chains of tobacco addiction

Evidence-based treatments can help patients quit despite psychiatric illness

You are treating Mr. P, age 34, for schizoaffective disorder. He smokes 1 pack of cigarettes per day and has smoked for approximately 17 years. He has tried to stop but never has been able to quit for more than a few weeks. He reveals whenever he tries to quit, he starts feeling extremely lethargic and “depressed” and resumes smoking to prevent these symptoms from worsening. However, Mr. P expresses some interest in trying to quit again and asks whether any medications could prevent him from becoming depressed while he tries to quit.

Cigarette smoking is overrepresented and undertreated among individuals with psychiatric illness, in part because of the largely unfounded belief held by some patients and clinicians that smoking cessation might worsen psychiatric symptoms. In this article, we argue this challenge can be overcome and psychiatrists and other mental health professionals can and should help their patients reap the innumerable benefits of quitting smoking. We discuss:

- the short- and long-term effects of smoking cessation
- evidence-based treatment guidelines for working with motivated and unmotivated smokers
- unique issues that may arise when treating smokers who have psychiatric disorders.

Quitting: Profound benefits

Quitting smoking has substantial benefits beginning within minutes after taking the last puff. Some of the
Smoking cessation

**Clinical Point**

Nicotine withdrawal symptoms tend to be more severe in smokers who have a psychiatric disorder.

Smokers who have a psychiatric disorder tend to be more severe in nicotine withdrawal symptoms, including restlessness, irritability, depressed mood, concentration problems, and increased appetite/weight gain—that are formidable distractions from the positive aspects of quitting. Additionally, nicotine withdrawal symptoms tend to be more severe in smokers who have a psychiatric disorder.

Fortunately, there are effective, evidence-based methods of reducing withdrawal symptoms and helping smokers cope with these and other challenges of quitting.

**Combined treatment is best**

Current treatment guidelines suggest all smokers should be offered pharmacotherapy and counseling to aid quitting because this combined approach has the highest success rate (Algorithm). Table 1 (page 44) provides information about dosing, efficacy, and side effect profile of each of the 7 FDA-approved medications for smoking cessation. Using any of the approved medications at least doubles the odds of successful quitting compared with placebo. These pharmacotherapies can reduce or prevent nicotine withdrawal symptoms and—at least in the case of bupropion and varenicline—decrease reinforcement from smoking, thereby lowering the likelihood a lapse (ie, smoking ≥1 cigarettes without returning to regular smoking) will develop into a full-blown relapse (ie, return to regular smoking).

Medication selection depends on many factors, including:
- the patient’s psychiatric illness
- her/his prior response to smoking cessation pharmaco-therapies
- concomitant psychiatric medications
- patient preference.

Placebo-controlled trials of smoking cessation aids in psychiatrically ill patients are limited, but several studies of smokers with a history of major depression indicate treatment with bupropion SR or nortriptyline is effective. Similarly, although relapse rates generally are higher in patients with schizophrenia compared with non-mentally ill smokers, nicotine replacement therapy and bupropion SR are more effective than placebo in patients with this disorder.

When we prescribe these treatments, we tend to extend the duration of treatment beyond those described in Table 1 (page 44), and to use combined treatments (eg, a transdermal patch with a shorter-acting gum or lozenge preparation) to better target the marked withdrawal symptoms more severely nicotine-dependent patients frequently experience.

**Counseling.** All smokers should be provided with brief interventions consistent with the 5 A’s—Ask, Advise, Assess, Assist, and Arrange (Table 2, page 46). For smokers who are not motivated to quit, the recommended approach follows the principles of the 5 R’s—Relevance, Risks, Rewards, Roadblocks, and Repetition (Table 3, page 47). Smokers who are motivated to quit and willing to participate in more intensive treatment may be offered face-to-face individual or group counseling (depending upon availability) or referred to a telephone quit line (see Related Resources, page 49). Intensive treatments such as these typically provide social support and assistance overcoming barriers to cessation and developing skills to initiate and maintain abstinence (eg, coping with a lapse or handling cravings, identifying and avoiding high-risk situations for smoking). As a general rule, greater intensity of counseling is associated with a greater likelihood of quitting.
Q&A about treatment

How effective are smoking cessation interventions for individuals with psychiatric disorders? Several studies have demonstrated, on any given quit attempt, smokers with psychiatric or substance use disorders can be as successful as smokers without these disorders.5-11 In fact, quit rates as high as approximately 70% for end-of-treatment11 and 30% for 6-month follow-up10 have been reported. Of course, effectiveness varies by type and intensity of...
treatment as well as by individual characteristics of the smoker. Smokers with psychiatric disorders may fare better with more intensive interventions than briefer ones, and factors such as high levels of nicotine dependence and exposure to smoking environments—both of which are characteristic of smokers with serious mental illness—can negatively impact treatment outcomes.4

Should the nature of the psychiatric disorder(s) guide decisions about the optimal pharmacotherapy or counseling approach? There have been numerous attempts

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### Table 1

**First-line pharmacotherapies for smoking cessation**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Standard dosage</th>
<th>Efficacy (OR, % abstinent at 6 mos. [with 95% CI])</th>
<th>Contraindications (C) and precautions (P)</th>
<th>Common side effects</th>
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<tbody>
<tr>
<td><strong>Non-nicotine medications</strong></td>
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<tr>
<td>Bupropion</td>
<td>Days 1-3: 150 mg/d Days 4-8: 150 mg bid Continue for 7–12 weeks at 150 mg bid</td>
<td>2.0 (1.8–2.2), 24% (22%–26%)</td>
<td>C: Eating disorders, seizure history, taking bupropion, MAOI in past 2 weeks P: Pregnancy, cardiovascular disease, warning for emergent psychiatric symptoms</td>
<td>Insomnia, dry mouth</td>
</tr>
<tr>
<td>Varenicline</td>
<td>Days 1-3: 0.5 mg/d Days 4-7: 0.5 mg bid Day 8+: 1 mg bid Continue 11 weeks at 1 mg bid; up to 6 months for maintenance</td>
<td>3.1 (2.5–3.8), 33% (29%–38%)</td>
<td>P: Warning for emergent psychiatric symptoms</td>
<td>Nausea, sleep problems, abnormal dreams</td>
</tr>
<tr>
<td><strong>Nicotine replacement therapies</strong></td>
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<tr>
<td>Nicotine gum</td>
<td>1 piece every 1-2 hours for 6–12 weeks &lt;20 cigarettes/d: 2 mg gum ≥20 cigarettes/d: 4 mg gum</td>
<td>1.5 (1.2–1.7), 19% (17%–22%)</td>
<td>P: Pregnancy, recent myocardial infarction, serious arrhythmia, unstable angina</td>
<td>Mouth soreness, hiccups, dyspepsia</td>
</tr>
<tr>
<td>Nicotine inhaler</td>
<td>6–16 cartridges/d, up to 6 months</td>
<td>2.1 (1.5–2.9), 25% (19%–32%)</td>
<td>Same as above</td>
<td>Mouth/throat irritation, coughing, rhinitis</td>
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<tr>
<td>Nicotine lozenge</td>
<td>9–20 lozenges/d, up to 12 weeks Smoke ≤30 minutes after waking: 4 mg lozenge Smoke &gt;30 minutes after waking: 2 mg lozenge</td>
<td>2.0 (1.6–2.5)a</td>
<td>Same as above</td>
<td>Nausea, hiccups, heartburn</td>
</tr>
<tr>
<td>Nicotine nasal spray</td>
<td>1-2 doses/hour, 8–40 doses/d for 3–6 months</td>
<td>2.3 (1.7–3.0), 27% (22%–33%)</td>
<td>C: Severe reactive airway disease P: Same as above</td>
<td>Nasal irritation, higher risk of dependency</td>
</tr>
<tr>
<td>Nicotine patch</td>
<td>1 patch/d, step-down dosing over 8 weeks Weeks 1–4: 21 mg patch Weeks 5–6: 14 mg patch Weeks 7–8: 7 mg patch</td>
<td>1.9 (1.7–2.2) 23% (21%–26%)</td>
<td>P: Same as above</td>
<td>Skin reactions, sleep problems, abnormal dreams</td>
</tr>
</tbody>
</table>

bid: twice a day; CI: confidence interval; MAOI: monoamine oxidase inhibitor; OR: odds ratio

Source: Adapted from reference 4
to investigate the effectiveness of targeted interventions for particular subgroups of smokers with psychiatric disorders, including:

- studies of the efficacy of the antidepressants bupropion\(^1\)\(^4\) and nortriptyline\(^1\)\(^5\) as well as cognitive-behavioral therapy-based mood management counseling\(^1\)\(^6\) for depressed smokers
- integrative treatment approaches for smokers with posttraumatic stress disorder (PTSD)\(^1\)\(^7\)
- group counseling designed specifically for smokers with schizophrenia\(^,1\)\(^8\),\(^1\)\(^9\)

Although more research is needed and there have been some promising early results (eg, McFall et al\(^1\)\(^7\)), current literature does not provide consistent evidence supporting treatment matching solely on the basis of the psychiatric disorder. Rather, patient preference, safety considerations (eg, use of medications in children/adolescents, pregnant women), medication side effect profiles, prior experience with the treatment approach, and cost/availability of treatment should guide development of the treatment plan. When results from placebo-controlled trials are available for subgroups of patients (eg, those with a history of major depression), consider this information when selecting a pharmacologic smoking cessation aid.

**What is the risk of psychiatric symptoms worsening as a result of quitting smoking?** Little research on this topic is available because more often than not, smokers with psychiatric disorders are excluded from tobacco treatment studies. However, research examining psychiatric status changes among recent quitters with schizophrenia,\(^2\)\(^0\),\(^2\)\(^1\) depression,\(^2\)\(^2\),\(^2\)\(^3\) PTSD,\(^1\)\(^7\) and substance use disorders\(^2\)\(^4\) suggests smoking cessation does not worsen symptoms of these disorders, and may be associated with symptom improvement.\(^1\)\(^7\) Nonetheless, driven largely by anecdotal evidence, the misconception that smoking cessation worsens psychiatric symptoms remains a substantial barrier to treatment.

Mr. P’s case is an example of how not probing about the nature of psychiatric complaints can be problematic. Mr. P reported what on first glance appeared to be a worsening of psychiatric symptoms starting when he stopped smoking and resolved when he resumed smoking. However, without gathering additional information about these events, we cannot conclude that stopping smoking caused his psychiatric symptoms to worsen. Other potential explanations include nicotine withdrawal symptoms, side effects of smoking cessation medications, an increase in levels of psychotropic medications for which metabolism is affected by tobacco smoke, or the natural course of his mood disorder. The timing of the onset and offset of symptoms seems to argue against Mr. P’s symptoms reflecting the natural course of psychiatric illness.

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**Table 2**

*The 5 A’s of tobacco treatment*

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Example</th>
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<tr>
<td>Ask</td>
<td>“Do you currently use, or have you ever used, tobacco products?”</td>
</tr>
<tr>
<td>Advise</td>
<td>“I think it is very important for you quit smoking to keep your breathing problems from getting any worse”</td>
</tr>
<tr>
<td>Assess</td>
<td>“What do you think? Are you ready to quit?”</td>
</tr>
<tr>
<td>Assist</td>
<td>“I’m here to help you with this. Let me start by letting you know about the many options available to help you quit”</td>
</tr>
<tr>
<td>Arrange</td>
<td>“I would like to give you a call within the next week to see how you did with your quit date. Would that be OK with you?”</td>
</tr>
</tbody>
</table>

*Source: Adapted from reference 4*
his mood disorder, but the other 3 explanations remain plausible.

It is important to distinguish whether Mr. P’s worsening symptoms are consistent with a depressive episode or whether they are a manifestation of the transient dysphoria that accompanies nicotine withdrawal. Assessing the severity and persistence of the mood disturbance as well as the timing of onset could help make this determination. Nicotine withdrawal symptoms typically emerge within 24 hours of quitting or significantly reducing smoking and tend to peak within approximately 1 week. Thus, depressive symptoms that develop after weeks or months of abstinence would be less consistent with nicotine withdrawal. Additionally, the lethargy Mr. P reported may be a symptom of depression, or it may stem from a cessation-induced increase in antipsychotic serum levels. Because tobacco smoke increases the metabolism of several antipsychotics and antidepressants—including olanzapine, clozapine, haloperidol, and fluoxetine—stopping smoking may increase medication levels and side effects.

To rule out medication side effects as a cause of post-cessation mood changes, the psychiatrist should ask Mr. P about which smoking cessation pharmacotherapies (if any) he was using and which psychotropic medications he was taking. Unfortunately, such a detailed history is not always taken, and patient-generated theories of smoking cessation causing worsening psychiatric symptoms often are taken at face value.

**When should smokers with psychiatric disorders be encouraged to quit? Are there times when smoking cessation should be discouraged?** Tobacco treatment guidelines recommend advising users to quit at every clinical encounter, but there has been some debate about the timing of tobacco treatment for smokers with psychiatric disorders. There is minimal research to guide such treatment decisions. However, even if quit attempts are more successful during times of symptomatic stability—and there is no conclusive evidence to indicate they are—waiting for perfect mental health before initiating smoking cessation treatment is unnecessary and ill-advised. In some situations, such as when a patient has experienced an acute increase in psychiatric symptoms or when psychotropics are being titrated, a short-term postponement of quitting may be reasonable. However, discouraging smokers from trying to quit when they express readiness to try should be done sparingly, because it is uncertain how long that window of opportunity will be open, and the consequences of missed opportunities can be fatal.

**References**

Physical and mental health by consistently offering evidence-based smoking cessation treatment that combines approved pharmacotherapies and counseling.

Related Resources
- National Tobacco Quitline. 1-800-QUIT-NOW. www.smokefree.gov.

Drug Brand Names
- Bupropion - Wellbutrin, Zyban
- Clozapine - Clozaril
- Fluoxetine - Prozac
- Haloperidol - Haldol
- Nortriptyline - Aventyl, Pamelor
- Olanzapine - Zyproxa
- Varenicline - Chantix

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Clinical Point
Waiting for a patient to exhibit perfect mental health before starting smoking cessation treatment is unnecessary and ill-advised.

Bottom Line
Smoking has a profound negative impact on the health and quality of life of individuals with psychiatric disorders. Clinicians can help patients improve their physical and mental health by consistently offering evidence-based smoking cessation treatment that combines approved pharmacotherapies and counseling.


