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Interventions for Tobacco Cessation in Patients Being Treated for or Recovering from Substance Use Disorders

ELIZABETH SALISBURY-AFSHAR, MD, MPH, FAAFP, FASAM, FACPM, *Chicago Department of Public Health, Chicago, Illinois*

Clinical Question

Are tobacco cessation interventions effective for patients being treated for or recovering from other substance use disorders?

Evidence-Based Answer

Pharmacotherapy alone and pharmacotherapy plus counseling are effective for tobacco cessation among patients being treated for or recovering from alcohol and substance use disorders (number needed to treat [NNT] = 21; 95% confidence interval [CI], 8 to 58 for patients receiving pharmacotherapy alone; NNT = 15; 95% CI, 9 to 28 for patients receiving pharmacotherapy plus counseling). Counseling interventions without pharmacotherapy are not effective for tobacco cessation among patients in treatment for or recovery from substance use disorders. There is no evidence that tobacco cessation interventions affect abstinence rates from alcohol or other drugs.¹ (Strength of Recommendation: B, based on inconsistent or limited-quality patient-oriented evidence.)

Practice Pointers

Smoking remains the leading cause of preventable death in the United States, and approximately 19% of adults report tobacco use.² Among adults in early recovery from alcohol and substance use disorders, smoking rates are greater than 75%, with smoking-related mortality exceeding alcohol-related mortality in this population.³ Despite strong evidence supporting smoking cessation efforts in persons recovering from alcohol and substance use disorders, physicians remain apprehensive that smoking cessation may increase the risk of alcohol or

substance use relapse.¹ The authors examined the effectiveness of various smoking cessation interventions among patients in treatment for or recovery from alcohol and other non-tobacco substance use disorders, and whether smoking cessation increased the risk of relapse.

In this review, 34 randomized controlled trials involving 5,796 patients examined tobacco cessation counseling alone (11 studies); pharmacotherapy alone (i.e., nicotine replacement therapy [NRT], non-NRT, or the two combined; 11 studies); and counseling in combination with pharmacotherapy (12 studies). The primary outcome was tobacco abstinence at the longest period of follow-up, and the secondary outcome was abstinence from alcohol and other drugs. Tobacco cessation counseling alone did not affect tobacco abstinence when results were pooled across the studies. Pharmacotherapy alone increased tobacco abstinence (NNT = 21; 95% CI, 8 to 58). Counseling plus pharmacotherapy also increased abstinence (NNT = 15; 95% CI, 9 to 28). Follow-up ranged from six weeks to 18 months. Tobacco cessation interventions were not associated with a difference in abstinence rates for alcohol or other drugs.

Tobacco cessation pharmacotherapies approved by the U.S. Food and Drug Administration (FDA) include NRTs (i.e., patch, gum, lozenge, inhaler, and nasal spray), bupropion (Zyban), and varenicline (Chantix). Although all tobacco cessation pharmacotherapies are better than placebo, this review did not compare the effectiveness of the different types among persons who were in treatment for or recovering from alcohol and other non-tobacco substance use disorders. However, a separate Cochrane analysis compared studies of the effectiveness of these medications in the general population.⁴ The analysis demonstrated that combination NRT (combining a long-acting and short-acting NRT) and varenicline had similar outcomes and were associated with the highest rates of tobacco cessation. Monotherapy

NRT and bupropion had similar effectiveness, with higher rates of tobacco cessation than placebo, but not as high as combination NRT or varenicline.

Current guidelines recommend screening and treatment for tobacco use among patients being treated for alcohol and substance use disorders.^{5,6} None of the FDA-approved tobacco cessation medications have interactions with medications that are used in the treatment of opioid or alcohol use disorders (i.e., methadone, buprenorphine/naloxone [Suboxone], naltrexone [Revia, Vivitrol], acamprosate, or disulfiram [Antabuse]). Bupropion lowers the seizure threshold, so it should be avoided in patients with a history of seizures or who are at increased risk of seizures because of abrupt discontinuation of alcohol or benzodiazepines.⁷ Previously, bupropion and varenicline had boxed warnings about neuropsychiatric safety and increased risk of suicidality, but these warnings were removed in December 2016 after a randomized controlled trial found no increase in neuropsychiatric events with either drug compared with NRT or control. The FDA reports that there is still a small risk of these adverse effects and that physicians should counsel patients to stop taking the medication and to call their physician right away if they notice any changes in mood, behavior, or thinking.^{8,9}

The practice recommendations in this activity are available at <http://www.cochrane.org/CD010274>.

EDITOR'S NOTE: The numbers needed to treat reported in this Cochrane for Clinicians were calculated by the author based on raw data provided in the original Cochrane review.

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Topical NSAIDs for Chronic Musculoskeletal Pain in Adults

JOSEPH R. YANCEY, MD, *Defense Health Agency, Falls Church, Virginia*

CATHERINE GILL, MD, *Martin Army Community Hospital, Fort Benning, Georgia*

Clinical Question

Are topical nonsteroidal anti-inflammatory drugs (NSAIDs) more effective than oral NSAIDs or placebo for chronic musculoskeletal pain associated with osteoarthritis in adults?

Evidence-Based Answer

Topical diclofenac and ketoprofen are slightly more effective than placebo for relieving chronic pain associated with osteoarthritis in adults. Evidence is lacking to determine the effectiveness of topical NSAIDs compared with oral NSAIDs.¹ (Strength of Recommendation: B, based on inconsistent or limited-quality patient-oriented evidence.)

Practice Pointers

Osteoarthritis is one of the most common presentations in outpatient primary care practices, with the knee being the joint most often involved.² Topical NSAIDs are used to treat chronic musculoskeletal pain because

they are thought to be as effective as and have fewer adverse effects than oral NSAIDs. In this updated Cochrane review, the authors sought to determine the effectiveness of topical NSAIDs vs. placebo and oral NSAIDs, as well as compare adverse effect profiles.¹

This Cochrane review included 39 studies with a total of 10,631 patients who had knee osteoarthritis.¹ All studies were considered to have at least moderate methodologic quality and small to moderate risk of bias. The primary outcome of the review was clinical success, defined by any of the following: (1) reduction of pain by at least 50%, (2) a very good or excellent global assessment rating of treatment, or (3) no pain or slight pain with movement of the joint. Secondary outcomes included adverse effects or withdrawals from treatment. No reports addressed topical NSAID use for other joints or for soft tissue pain. All studies included dosing of topical NSAIDs at least once daily, but dosages varied or were not always recorded.

Of the 39 studies, 33 compared a topical NSAID with placebo. Of these 33 studies, only those with topical ketoprofen and diclofenac had enough participants to allow for data pooling. Clinical success with diclofenac was better than with placebo (relative risk [RR] = 1.9; 95% confidence interval [CI], 1.5 to 2.3), with a number needed to treat (NNT) of 5 (95% CI, 3.7 to 7.4). Plaster formulations in the form of a medicated patch demonstrated more clinical success than placebo (NNT = 3.1; 95% CI, 2.3 to 4.6), as did medication in the form of gels or solutions (NNT = 7.5; 95% CI, 4.6 to 20). Ketoprofen also improved clinical success compared with placebo (NNT = 6.9; 95% CI, 5.4 to 9.3).

Nearly all adverse effects were due to skin irritation. Only diclofenac demonstrated a significant risk of adverse effects (number needed to harm [NNH] = 16; 95% CI, 12 to 23). Patients treated with diclofenac also were more likely than those treated with placebo to stop treatment (NNH = 51; 95% CI, 30 to 170).

Only five studies included a blinded comparison between topical and oral NSAID administration. Three of the studies used topical diclofenac; the others used piroxicam (Feldene) and ketoprofen. The oral

NSAID used was either ibuprofen, diclofenac, or celecoxib (Celebrex). Analysis of these five studies revealed no statistically significant difference in clinical improvement between the oral and topical therapies.

In the studies comparing patients treated with topical vs. oral medication, local adverse effects were more common among those using topical NSAIDs (NNH = 6.4; 95% CI, 5.3 to 8.0; five studies, 1,651 patients). Gastrointestinal adverse effects were less common in the topical NSAID group than in the oral NSAID group.

General expert consensus supports the use of topical NSAIDs as a safe and effective treatment for chronic pain associated with osteoarthritis of the hand and knee.³ The American Academy of Orthopaedic Surgeons includes topical and oral NSAIDs in its updated 2013 guideline recommendations for the treatment of knee osteoarthritis.⁴ The National Institute for Health and Care Excellence published a guideline in 2014 recommending a trial of topical NSAIDs for hand and knee osteoarthritis as a first-line therapy before initiating oral NSAIDs.⁵

The practice recommendations in this activity are available at <http://www.cochrane.org/CD007400>.

The opinions expressed in this paper reflect those of the authors alone and do not reflect the opinions of the Department of the Army, Defense Health Agency, the Department of Defense, or the U.S. government.

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