

Original Article

Impact of Smoking Cessation on Subsequent Pain Intensity Among Chronically Ill Veterans Enrolled in a Smoking Cessation Trial

Lori A. Bastian, MD, MPH, Laura J. Fish, PhD, Jennifer M. Gierisch, PhD, MPH, Karen M. Stechuchak, MS, Steven C. Grambow, PhD, and Francis J. Keefe, PhD

Veterans Affairs Connecticut Healthcare System (L.A.B.), West Haven, and Department of Medicine (L.A.B.), University of Connecticut Health Center, Farmington, Connecticut; Cancer Control and Population Sciences (L.J.F., F.J.K.), Duke Cancer Institute, Duke University Medical Center, Durham; Center for Health Services Research in Primary Care (J.M.G., K.M.S., S.C.G.), Durham Veterans Affairs Medical Center, Durham; and Departments of Medicine (J.M.G.), Community and Family Medicine (L.J.F.), Biostatistics and Bioinformatics (S.C.G.), and Psychiatry and Behavioral Sciences (F.J.K.), Duke University Medical Center, Durham, North Carolina, USA

Abstract

Context. Prior cross-sectional studies have reported greater pain intensity among persistent smokers compared with nonsmokers or former smokers; yet, few prospective studies have examined how smoking abstinence affects pain intensity.

Objectives. To determine the impact of smoking cessation on subsequent pain intensity in smokers with chronic illness enrolled in a smoking cessation trial.

Methods. We recruited veteran smokers with chronic illness (heart disease, cancer, chronic obstructive pulmonary disease, diabetes, or hypertension) for a randomized controlled smoking cessation trial and prospectively examined pain intensity and smoking status. Participants ($n = 380$) were asked to rate their pain in the past week from 0 to 10 at baseline and the five-month follow-up. The primary outcome measure was self-reported pain intensity at the five-month follow-up survey. Self-reported smoking status was categorized as an abstainer if patients reported no cigarettes in the seven days before the follow-up survey.

Results. In unadjusted analyses, abstainers reported significantly lower pain levels at the five-month follow-up compared with patients who continued to smoke (parameter estimate = -1.07 ; 95% CI = $-1.77, -0.36$). In multivariable modeling, abstaining from cigarettes was not associated with subsequent pain intensity at five-month follow-up (parameter estimate = -0.27 ; 95% CI = $-0.79, 0.25$).

Conclusion. Participants who were classified as abstainers did not report significantly different levels of pain intensity than patients who continued to smoke. Future studies should expand on our findings and monitor pain intensity in smoking cessation trials.

Trial Registration. ClinicalTrials.gov NCT00448344. *J Pain Symptom Manage* 2015;50:822–829. Published by Elsevier Inc. on behalf of American Academy of Hospice and Palliative Medicine.

Key Words

Pain, smoking, tobacco, cessation, veterans, chronic disease

Introduction

Cigarette smoking is the single greatest cause of morbidity and mortality in the U.S.¹ Moreover, smoking exacerbates the effects of chronic medical illnesses, such as cancer, pulmonary and cardiovascular

diseases; it also leads to complications with diabetes, hypertension (HTN), and chronic obstructive pulmonary disease (COPD).² Despite the risks of continued smoking, many smokers persist in using tobacco after a diagnosis with a smoking-related chronic illness.^{3–5}

Address correspondence to: Lori A. Bastian, MD, MPH, VA Connecticut Healthcare System, 950 Campbell Ave, West Haven, CT 06516, USA. E-mail: Lori.Bastian@Va.gov

Accepted for publication: June 27, 2015.

Previous cross-sectional studies have found that smokers experience greater pain intensity than non-smokers, especially among patients with cancer.^{6,7} After a lung cancer diagnosis, smokers who continue to use tobacco are more likely to report moderate or severe pain intensity compared with never and former smokers, after controlling for age, education, health status, and other cancer symptoms, such as dyspnea, fatigue, and trouble eating.⁶ A similar pattern has been seen among other cancers.⁸ Ditre et al.⁷ assessed the association of pain and smoking status for a variety of cancer diagnoses (e.g., breast, bladder, ovarian, colon) and found that persistent smokers reported more severe pain than those who had never smoked; the relationship did not differ by cancer type. Conversely, an inverse relationship between pain severity and number of years since quitting was observed among former smokers, suggesting that quitting smoking may lead to reduced pain over time.⁷

The specific link between smoking and pain is unknown and likely multifactorial;^{7,9,10} however, smoking is associated with the development and progression of many painful conditions, such as psoriasis, rheumatoid arthritis, and musculoskeletal pain, for example, lower back pain.^{11–16} Smoking has been shown to be associated with greater pain intensity and pain interference with functioning.¹⁷ Moreover, the link between pain and smoking is likely bidirectional. In a recent review, Ditre and Brandon¹⁸ hypothesized a reciprocal model of pain and smoking fueled by myriad social, biological, and physiological factors in which pain and smoking exacerbate each other, resulting in a positive feedback loop of more pain and increased smoking.

Although there is substantial support for the link between smoking and pain in cross-sectional studies, few studies have prospectively examined how smoking abstinence affects pain intensity. A small study of patients followed in a pain clinic found that smokers ($n = 51$) who reduced the number of cigarettes smoked reported breathing better (68%), feeling better (66%), and having less pain (34%).¹⁹ In a secondary analysis of a longitudinal survey (U.S. Health and Retirement Study), smoking status and pain were measured over time.²⁰ In this cohort of older adults, smoking cessation was not independently associated with changes in pain symptoms. In a study from Sweden ($n = 1141$, aged 65 to 103 years), there was an association between current smoking and chronic pain, and these effects were more pronounced for women.²¹ These authors suggested that interventions to help people stop smoking may be one way to ease pain intensity among older people and that gender must be considered when studying this relationship.

An essential next step to further inform the next generation of smoking cessation interventions for

patients with chronic illness is to determine if smoking cessation is associated with a change in pain intensity in a smoking cessation trial. Thus, we conducted the present secondary analysis to determine the impact of smoking cessation on subsequent pain intensity among smokers with chronic illness. We hypothesized lower pain intensity among veterans who quit smoking compared with those who continued to smoke.

Methods

Study Data

Data for these secondary analyses come from a smoking cessation comparative effectiveness trial of a family supported telephone counseling intervention vs. standard telephone counseling for chronically ill veterans ($n = 471$), the methods of which are described in detail elsewhere.²² We conducted recruitment from February 2008 to February 2010. To be eligible for this study, patients had to meet all the following criteria: enrolled in the Durham Veteran Affairs Medical Center (VAMC) for ongoing care, receiving treatment for chronic illnesses (i.e., cancer, cardiovascular disease, HTN, diabetes, COPD), currently smoking and planning to quit smoking in the next 30 days, and able to identify a support person. Patients who met any one of the following criteria were excluded: active diagnosis of psychosis documented in the medical record, no access to a telephone, refusal to provide informed consent, and severely impaired hearing or speech that would make them unable to respond to telephone counseling.

Procedures

Patients treated for chronic illnesses, including cancer, cardiovascular disease, diabetes, COPD, and HTN, were identified from the Durham VAMC using the hospital's computerized medical record. Medical records also were screened for smoking status. Recent smokers with eligible diagnoses were mailed an introductory letter from the Chief of Cardiology, Chief of Oncology, or principal investigator informing them of the study and encouraging smoking cessation. The letter included a toll-free number patients could call to opt out of the study. Those who did not call to opt out were called to assess interest in the study, establish eligibility criteria, which included smoking at least seven cigarettes in the past seven days, wanting to quit in the next 30 days, and the ability to identify a support person and obtain verbal informed consent. The Durham VAMC Institutional Review Board approved the study.

Intervention Components. All participants received up to five telephone counseling sessions over a

Download English Version:

<https://daneshyari.com/en/article/5879588>

Download Persian Version:

<https://daneshyari.com/article/5879588>

[Daneshyari.com](https://daneshyari.com)