Available online at www.sciencedirect.com
SCIENCE DIRECT
Drug and Alcohol Dependence 82 (2006) 91–102
DRUG and ALCOHOL DEPENDENCE
www.elsevier.com/locate/drugalcdep

Review

Do smokers with alcohol problems have more difficulty quitting?

John R. Hughes [a,*], David Kalman [b]

[a] *Department of Psychiatry, University of Vermont, 38 Fletcher Place, Burlington, VT 05401, USA*
[b] *Department of Psychiatry, Boston University School of Medicine, Boston, MA 02118, USA*

Received 19 April 2005; received in revised form 17 August 2005; accepted 31 August 2005

Abstract

This review compares nicotine dependence and the ability to stop smoking in smokers with no alcohol problems to smokers with current, past or lifetime (i.e., either current or past) alcohol problems. We searched computerized databases, meeting abstracts and made requests to listserves and grantees for comparisons of the above categories. We could not use meta-analyses and, thus, used consistency across studies to make conclusions. We located 17 articles on nicotine dependence, 12 on the ability to quit on a given attempt, 7 on lifetime quitting and 2 on quit attempts. Smokers with current and past alcohol problems were more nicotine dependent than smokers with no alcohol problems. Surprisingly, smokers with past problems were as able to quit on a given attempt as smokers with no problems. We hypothesize this may be because such smokers learned skills in resolving their alcohol problems that neutralized their increased nicotine dependence. Smokers with current or past alcohol problems appear to be less likely to quit in their lifetime. Given their equal ability to quit on a given attempt, this could be due to fewer quit attempts; however, whether this is actually so is unclear. Our results that smokers with past alcohol problems can quit as easily as those without alcohol problems suggest that smokers with past alcohol problems may respond to minimal treatments for smoking cessation.

Keywords: Alcoholism; Comorbidity; Nicotine dependence; Tobacco use cessation; Tobacco use disorder

Contents

* Corresponding author. Tel.: +1 802 656 9610; fax: +1 802 656 9628.
E-mail address: john.hughes@uvm.edu (J.R. Hughes).

0376-8716/$ – see front matter © 2005 Elsevier Ireland Ltd. All rights reserved.
doi:10.1016/j.drugalcdep.2005.08.018

1. Introduction

Commonality theories of drug abuse hypothesize that having problems with one drug increases the probability of having problems with a second drug (Blume et al., 2000; Levinson et al., 1983). These theories predict that smokers with alcohol problems should (a) be more dependent on nicotine, (b) have more difficulty stopping smoking on a given quit attempt, (c) especially require treatment to have reasonable smoking cessation rates and (d) be less likely to ever stop smoking than persons without problems. In fact, many studies have assumed smokers with alcohol problems would need either tailored or more intensive treatment for smoking cessation to have a good chance of quitting and have evaluated such targeted interventions (Abrams et al., 2003; Hurt, 2002).

Another possibility is that smokers with alcohol problems do not have more difficulty quitting smoking but are often not prompted to make a quit attempt due to fears that smoking cessation will threaten alcohol sobriety. In fact, many alcohol counselors advise smokers to not attempt smoking cessation (Bobo, 1989). If this is true, then such smokers need more prompting to make a quit smoking attempt. Prior articles by others (Bowman and Walsh, 2003; Fertig and Allen, 1995; Hurt et al., 1993; Hurt, 2002; McIlvain et al., 1998; Prochaska et al., 2004; Sussman, 2002) and ourselves (Hughes, 2002, 1996a,b; Kalman, 1998) have discussed treatment of smokers with past or current alcohol problems. The current article differs from these in that it systematically reviews studies comparing smokers with versus without alcohol problems on their nicotine dependence, ability to quit on a given quit attempt, whether they ever quit and number of quit attempts.

2. Methods

We used six methods to locate articles: (a) we searched *Medline, PsychAbstracts* and *EMBASE* databases for articles that had the stem "alcohol" and the stem "tobacco," "smok" or "cigar" in their title or abstract up to November 1, 2004, (b) we searched abstracts of the 2001–2004 annual meetings of the Research Society on Alcohol and the Society for Research on Nicotine and Tobacco (SRNT), (c) we searched the first author's collection of articles obtained from 7 years of the Institute of Life Sciences *Personal Alerts* database searches (www.alerting.isinet.com), (d) we obtained relevant references found in the bibliographies of articles, (e) we requested citations from the SRNT listserve and (f) we performed a search of the Computer Retrieval of Information on Scientific Projects (CRISP) system of NIH grants (www.crisp.cit.nih.gov) and requested citations from principal investigators of relevant grants. We translated the two non-English articles that appeared relevant but these did not meet our inclusion criteria. Among the articles we located, only two were unpublished (available upon request). Since the results of these unpublished studies were consistent with those of the >30 published articles, we did not include them and focused only on published articles.

Several studies have examined the association of alcohol use and smoking cessation (Dawson, 2000; Dawson et al., 2005; Istvan and Matarazzo, 1984; John et al., 2003a). The current review focuses on alcohol problems, not alcohol use, as a predictor of nicotine dependence and ability to quit smoking. Alcohol problems have been defined by (a) endorsing a simple question about "problems" (undefined), (b) having been in treatment, (c) validated self-report scales or (d) structured interviews. Although some studies used heavy drinking or binge drinking to define alcohol problems, we excluded these because we were unsure if they were adequate proxies for alcohol problems.

Three types of alcohol problems were cited in the literature. Current problems were defined as either (a) "current" dependence or abuse; i.e., endorsing dependence/abuse symptoms having occurred in the last year, (b) reporting "problems" in the last 12 months or (c) currently in treatment for problems. The first two groups may include some smokers whose alcohol problems were in remission at the time of the study; however, probably the large majority of those with problems in the last year still had problems at the time of the interview (Dawson et al., 2005; Schuckit et al., 2000, 2001). Past problems were usually defined as lifetime problems but no problems in the last year. Most studies did not require abstinence from alcohol in the last year to determine that past problems were in remission. Lifetime problems were defined as ever having a problem but no data on whether the problems were current or past. In interpreting results from smokers with lifetime problems, the reader should remember the large majority of lifetime alcohol problems are past problems (Helzer et al., 1991). Most studies were also unclear whether smokers with or without alcohol problems did or did not have non-alcohol drug or non-drug psychiatric problems. A few studies reported separate results for smokers with and without a non-substance-related psychiatric problem (e.g., major depression). In these studies, we report results within both groups.

Our dependent variables were nicotine dependence, ability to quit on a given attempt, lifetime (i.e., ever) quitting and incidence or number of quit attempts. These are defined at the beginning of each sub-section of Section 3.

The results of the studies were first entered into tables by the first author. Then the second author verified whether the entries were correct in a non-blind manner. No empirical data on the rate of disagreement was collected. Disagreements were resolved via a series of discussions and, sometimes, requests for clarifications from authors of the studies.

We considered conducting a meta-analysis; however, we were reluctant to do so given the studies used very heterogeneous measures of alcohol problems, nicotine dependence and smoking cessation plus the study methods and data analysis techniques varied widely. For example, measures of nicotine dependence included the Fagerstrom and DSM measures and these two measures are highly discordant (Hughes et al., 2004). We did attempt meta-analyses on several outcomes but when we tried to combine study outcomes, their results were statistically heterogenous (Higgins et al., 2003) and we could not find a way to form homogenous groups with a modicum number (i.e., $\geq$5) of studies. We could have persisted and used a random-effects meta-analysis but did not do so due to the above concern about methodological heterogeneity plus we feared such a