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Perceived Barriers to Smoking Cessation among Adults with Substance Use Disorders

R. Kathryn McHugh^{a,b}, Victoria R. Votaw^a, Francesca Fulciniti^a, Hilary S. Connery^{a,b}, Margaret L. Griffin^{a,b}, Peter M. Monti^c, and Roger D. Weiss^{a,b}

^aDivision of Alcohol and Drug Abuse, McLean Hospital, 115 Mill Street, Belmont, MA 02478, USA

^bDepartment of Psychiatry, Harvard Medical School, 25 Shattuck Street, Boston, MA 02115, USA

^cCenter for Alcohol and Addiction Studies, Brown University, 121 South Main Street, Providence, RI 02903, USA

Abstract

The majority of adults seeking substance use disorder treatment also smoke. Smoking is associated with greater substance use disorder severity, poorer treatment outcome, and increased mortality among those with substance use disorders. Yet, engaging this population in smoking cessation treatment is a significant challenge. The aim of this study was to examine perceived barriers to smoking cessation among treatment-seeking adults with alcohol or opioid use disorder.

Additionally, we examined whether anxiety sensitivity--a known risk factor for barriers to smoking cessation in the general population--was associated with more barriers to smoking cessation in this sample. A sample of 208 adults was recruited for a one-time study and completed self-report measures of anxiety sensitivity and perceived barriers to smoking cessation. Results indicated that the most common barriers were anxiety (82% of the sample), tension/irritability (76%), and concerns about the ability to maintain sobriety from their primary substance of abuse (64%). Those who reported more barriers also reported lower confidence in the ability to change their smoking behavior. Higher anxiety sensitivity was associated with more perceived barriers to smoking cessation, even when controlling for nicotine dependence severity. These results suggest that there are several perceived barriers to smoking cessation among treatment-seeking adults with substance use disorders. In addition to psychoeducational interventions aimed to modify negative beliefs about smoking cessation, anxiety sensitivity may be a promising therapeutic target in this population.

Keywords

opioid use disorder; alcohol use disorder; substance use disorder treatment; smoking cessation; anxiety sensitivity

Corresponding Author: R. Kathryn McHugh, Ph.D., Assistant Professor, Department of Psychiatry, Harvard Medical School, Associate Psychologist, Division of Alcohol and Drug Abuse, McLean Hospital, 115 Mill Street, Belmont, MA 02478, 617-855-3169 (phone), 617-855-2699 (fax), kmchugh@mclean.harvard.edu.

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1. Introduction

Approximately 70–90% of adults receiving treatment for substance use disorders (SUDs) are current cigarette smokers, a rate that is 3–4 times higher than that of the general population (Guydish et al., 2011; Kalman et al., 2001; McCarthy, Collins, & Hser, 2002; Williams & Ziedonis, 2004). Smoking is associated with more severe SUD symptoms (Mannelli, Wu, Peindl, & Gorelick, 2013), worse SUD treatment outcomes (Frosch, Shoptaw, Nahom, & Jarvik, 2000; Peters, Budney, & Carroll, 2012), and increased mortality among those with SUDs. Of particular concern, smoking may be a stronger contributor to mortality in this population than other substance use (Hurt et al., 1996; Lanier, Johnson, Rolfs, Friedrichs, & Grey, 2012). Thus, efforts to enhance engagement in smoking cessation are critical among those with SUDs.

Even among smokers with a desire to quit smoking, perceived barriers to smoking cessation, or beliefs about the potential negative consequences of a quit attempt, can impede engagement in smoking cessation efforts (e.g., Garey et al., in press; Macnee & Talsma, 1995). For example, smokers often report concerns about anxiety, insomnia, or weight gain as barriers to quitting smoking. In the general population, smokers who perceive more barriers to smoking cessation are less motivated to quit (McKee, O'Malley, Salovey, Krishnan-Sarin, & Mazure, 2005), experience more severe withdrawal symptoms after they quit (Garey et al., in press), and relapse more quickly following a cessation attempt (Toll et al., 2008). Even among adults seeking smoking cessation treatment, perceived barriers to quitting are common, and are associated with poorer cessation outcomes, such as treatment dropout (e.g., Garey, Kauffman, Neighbors, Schmidt, & Zvolensky, 2016). Perceived barriers to smoking cessation also appear to be higher among those with greater psychiatric symptoms, particularly anxiety (e.g., Buckner, Zvolensky, Jeffries, & Schmidt, 2014). Smokers who have elevated anxiety sensitivity (the tendency to respond fearfully to anxiety symptoms and sensations) appear to be particularly susceptible to these negative beliefs about quitting (Buckner et al., 2014; Gonzalez, Zvolensky, Vujanovic, Leyro, & Marshall, 2008; Gregor, Zvolensky, McLeish, Bernstein, & Morissette, 2008; Zvolensky, Farris, Leventhal, & Schmidt, 2014; Zvolensky et al., 2007).

In addition to perceived barriers common to smokers generally (e.g., anxiety, weight gain), there are barriers unique to smokers with SUDs, such as the belief that it will be harder to tolerate alcohol or drug craving without smoking. The belief that smoking cessation will interfere with efforts to attain or maintain sobriety is common among those with alcohol use disorder (Gulliver, Kamholz, & Helstrom, 2006; Martin, Rohsenow, MacKinnon, Abrams, & Monti, 2006). Moreover, beliefs that smoking cessation will interfere with SUD treatment may be reinforced by similar beliefs among some clinicians (Bobo, Slade, & Hoffman, 1995; Pagano, Tajima, & Guydish, 2016; Richter, 2006; Sheals, Tombor, McNeill, & Shahab, 2016), as well as limited availability of smoking cessation services in SUD treatment settings (Currie, Nesbitt, Wood, & Lawson, 2003; Knudsen, in press; Knudsen, Muilenburg, & Eby, 2013; Knudsen, Studts, Boyd, & Roman, 2010; Nahvi, Blackstock, Sohler, Thompson, & Cunningham, 2014). Thus, individuals presenting to SUD treatment have particularly poor smoking cessation rates and are vulnerable to a broader array of

potential barriers to smoking cessation relative to those without SUDs, highlighting the importance of understanding barriers to smoking cessation in this population. Studies of adults presenting for smoking cessation treatment have found that substance use is associated with more perceived barriers to smoking cessation (Buckner et al., 2014; Foster, Schmidt, & Zvolensky, 2015), further highlighting the importance of considering perceived barriers among those with SUDs.

In this study, we aimed to address two gaps in the literature on perceived barriers to smoking cessation among patients in SUD treatment. First, these barriers have not been characterized in opioid-dependent individuals despite very high rates of smoking and particularly poor cessation outcomes (Miller & Sigmon, 2015; Stein et al., 2013; Stein et al., 2006). Second, to our knowledge, no published studies have examined the association between anxiety sensitivity and perceived barriers to smoking cessation in treatment-seeking SUD populations. A prior study of adults in residential SUD treatment found that women (but not men) with high anxiety sensitivity had lower motivation to quit smoking (Dahne, Hoffman, & MacPherson, 2015). However, this study did not examine perceived barriers, which are uniquely related to smoking cessation outcomes, even when adjusting for pre-treatment smoking severity (i.e., cigarettes smoked per day; Martin, Cassidy, Murphy, & Rohsenow, 2016). Understanding the link between anxiety sensitivity and perceived smoking cessation barriers is of value because anxiety sensitivity is modifiable (Smits, Berry, Tart, & Powers, 2008), and thus may be a promising target for intervention.

The aim of this study is to advance understanding of perceived barriers to smoking cessation in treatment-seeking adults with SUDs by (1) examining these barriers in participants with alcohol use disorder and opioid use disorder, and (2) evaluating the association between perceived barriers and anxiety sensitivity. We aimed to characterize these barriers in adults with SUDs, and to examine whether prior findings from alcohol use disorder generalize to adults with opioid use disorder. We hypothesized that anxiety sensitivity would be associated with more perceived barriers to smoking cessation, consistent with data from the general population (Buckner et al., 2014; Gonzalez et al., 2008; Zvolensky et al., 2014; Zvolensky et al., 2007). Understanding perceived barriers to quitting smoking and anxiety sensitivity among those with SUDs may help in engaging this population in smoking cessation treatment.

2. Material and Methods

2.1. Participants

Adults receiving inpatient detoxification and stabilization treatment at an academically affiliated psychiatric hospital were recruited for a study of clinical characteristics of individuals with SUDs. Participants were recruited via brief presentations or invitation to participate by study staff. Individuals were eligible to participate in the study if they were at least 18 years old and were able to complete study procedures (i.e., read and provide informed consent). Exclusion criteria included the presence of an unstable psychiatric or medical illness, or cognitive impairment that would interfere with the ability to complete study procedures. All participants provided informed consent prior to participating in the study.

2.2. Procedures

The local Institutional Review Board approved all study procedures. After providing informed consent, individuals completed a battery of self-report measures that took approximately 15–30 minutes to complete.

2.3. Measures

Participants self-reported demographic data. SUD diagnoses were extracted from the medical record. The primary SUD was defined as the disorder for which each participant was seeking treatment.

The Barriers to Quitting Smoking in Substance Abuse Treatment (BQS-SAT) questionnaire includes 11 true-false statements about perceived negative effects of smoking cessation. The BQS-SAT assesses barriers to smoking cessation across several domains, including somatic withdrawal symptoms (e.g., If I quit smoking, I won't be able to sleep), affective withdrawal symptoms (e.g., If I quit smoking, I would feel anxious), losing benefits of smoking (e.g., I need smoking to lift me up when I'm feeling down), self-efficacy of quitting smoking (e.g., I don't have the willpower to quit smoking), and perceived effects of smoking cessation on SUD treatment (e.g., If I quit smoking, my urges to drink or use drugs will be so strong I won't be able to stand it). The measure is scored as a sum of the number of barriers endorsed (i.e., the number of "true" ratings) with potential scores ranging from 0–11. In treatment-seeking adults with alcohol use disorder this measure has demonstrated strong internal consistency reliability (Cronbach's $\alpha = .73$; Asher et al., 2003) and more perceived barriers are associated with greater frequency of cigarette smoking, greater cigarette dependence, and lower motivation to quit smoking (Asher et al., 2003; Martin et al., 2006).

The Motivation to Change Scale (MCQ), a 3-item questionnaire that assesses motivation to change substance use, has shown construct and predictive validity (for reductions in substance use) in both alcohol users and cigarette smokers (Bertholet, Gaume, Faouzi, Gmel, & Daeppen, 2012; Boudreaux et al., 2012). A version of the measure specific to cigarette smoking was administered in the present study. Participants were asked "How important is it to you to make changes in your smoking?", "How confident are you that you would be able to make changes in your smoking, if you decided to do so?", and "How ready are you to make changes in your smoking?" Participants responded to each question on a 0–10 scale, with a higher score representing more motivation to change. Each item was examined separately, and thus had a potential range of 0–10.

The Anxiety Sensitivity Index-3 (ASI-3) is an 18-item questionnaire designed to measure anxiety sensitivity, which is the trait-like tendency to fear symptoms associated with anxiety (e.g., racing heart, upset stomach) because of their perceived adverse consequences (Taylor et al., 2007). The ASI-3 utilizes a Likert scale that ranges from 0 (very little) to 4 (very much), with a higher score indicating greater anxiety sensitivity. The potential range of scores for the total scale is 0 to 72, with higher scores reflecting higher anxiety sensitivity. The ASI-3 has shown satisfactory internal consistency reliability (Taylor et al., 2007; Wheaton, Deacon, McGrath, Berman, & Abramowitz, 2012), convergent and discriminate validity (Taylor et al., 2007), and criterion-related validity (evidenced by individuals with

anxiety disorders having significantly higher ASI-3 scores than control groups) (Taylor et al., 2007; Wheaton et al., 2012). Notably, the ASI-3 has displayed strong psychometric properties (i.e., factor stability, test-retest reliability, internal consistency reliability, construct validity) among treatment-seeking smokers, and the physical concerns subscale has demonstrated predictive validity for smoking behaviors (i.e., time to first cigarette and cigarettes smoked per day; Farris et al., 2015).

The Fagerstrom Test for Nicotine Dependence (FTND) is a widely used measure for assessing severity of cigarette dependence (Heatherton, Kozlowski, Frecker, & Fagerstrom, 1991). The questionnaire consists of 6 multiple-choice questions pertaining to different aspects of smoking behaviors (e.g., time to first cigarette, number of cigarettes per day). These items are summed to yield a value of 0–10, with a higher score indicating more severe cigarette dependence (Fagerstrom, Heatherton, & Kozlowski, 1990). The FTND has displayed strong test-retest reliability ($r = .72-.88$) (Etter, Duc, & Perneger, 1999; Hudmon, Pomerleau, Brigham, Javitz, & Swan, 2005; Pomerleau, Carton, Lutzke, Flessland, & Pomerleau, 1994), internal consistency reliability (Cronbach's $\alpha = .72-.74$) (Weinberger et al., 2007), and concurrent validity (Etter et al., 1999; Pomerleau et al., 1994). Strong psychometric properties have been replicated across heterogeneous cigarette smoking populations (Etter et al., 1999; Pomerleau et al., 1994; Weinberger et al., 2007).

2.4. Data Analysis

A total of 335 participants were enrolled in the parent study. Four participants did not report their current smoking status. Of the remaining 331, 63% were current smokers ($n = 208$). Nine participants declined to answer at least one item on the Barriers to Quitting Smoking Scale; data on the total number of barriers were thus available for 199 participants (data available for each individual barrier ranged from $n = 203$ to $n = 206$).

All variables were evaluated for skewness to determine the appropriate statistical tests. Descriptive statistics were used to characterize the prevalence of barriers in the sample and their associations with clinical and sociodemographic characteristics. Associations between the number of barriers and continuous variables were examined using Pearson's correlations; associations with dichotomous variables were assessed using t -tests.

Differences between those with alcohol use disorder vs. those with opioid use disorder were assessed using chi-square tests for each individual barrier (i.e., whether any barrier was endorsed more by one group) and independent-samples t -test for the total number of barriers. Group comparisons were adjusted using Sidak correction (Sidak, 1967) for multiple tests (adjusted $\alpha = .005$). The association between primary SUD (alcohol vs. opioid use disorder) and the total number of barriers was then examined using multiple linear regression controlling for smoking severity (FTND total score) and sociodemographic variables (age, gender, marital status, employment, race).

Next, we conducted a multiple linear regression to examine the association between anxiety sensitivity and the number of barriers to smoking cessation, controlling for cigarette dependence severity, sociodemographic variables, and primary substance use disorder (alcohol vs. opioid). Given prior findings suggesting that gender moderates the association

between anxiety sensitivity and clinical variables (e.g., confidence in ability to quit smoking; Dahne et al., 2015), gender was examined as a moderator of this association (i.e., the anxiety sensitivity by gender interaction term was entered into the regression model).

3. Results

3.1. Descriptive and Preliminary Analyses

Current smokers in this sample reported a mean age of 34.4 years ($SD = 12.9$), and were mostly male ($n = 146$, 71%), Caucasian ($n = 194$, 97%), and single ($n = 143$, 70%). Less than half of the sample was employed ($n = 87$, 43%). Ninety-three participants (45%) had a primary diagnosis of alcohol use disorder, 102 (50%) had a primary diagnosis of opioid use disorder, and 11 (5%) had another primary SUD diagnosis. Participants smoked an average of 16.1 ($SD = 9.5$, range = <1–60) cigarettes per day and reported an average FTND score of 4.5 ($SD = 2.5$, range = 0–10), corresponding to a low-to-medium level of cigarette dependence (Fagerstrom et al., 1990).

On average, participants reported 5.9 ($SD = 3.2$) out of a possible 11 total barriers; the full range of the scale was represented (0–11). The most common barriers were *feeling anxious* (81.6% of the sample), *feeling tense/irritable* (76.2%), *harder to stay sober when quitting during SUD treatment* (69.0%), and *feeling restless/can't concentrate* (64.1%). See Figure 1 for the prevalence of each perceived barrier.

The total number of barriers was not associated with age ($r = -0.12$, $p = .08$), or employment status (employed vs. other; $t[195] = 0.28$, $p = .78$). Those who were never married reported more barriers ($t[196] = -2.17$, $p < .05$). Men and women did not differ on the total number of barriers ($t[197] = 0.81$, $p = .42$). When the prevalence of specific barriers by clinical and sociodemographic characteristics, no individual barrier met the adjusted alpha of .005. However, one barrier approached significance; women were more likely to report that they would feel anxious if they quit smoking (93.2% of women vs. 76.7% of men; $\chi^2 = 7.58$, $p = .006$).

Consistent with prior studies, the total number of barriers reported was associated with greater smoking severity. The total number of barriers was strongly associated with severity of cigarette dependence on the FTND ($r = .49$, $p < .001$) and number of cigarettes smoked per day ($r = .41$, $p = .001$). The number of barriers was associated with lower importance of changing smoking ($r = -.21$, $p = .003$) and lower readiness to change smoking ($r = -.35$, $p < .001$), and was very strongly associated with lower confidence in the ability to change smoking ($r = -.62$, $p < .001$).

3.2. Barriers in Opioid vs. Alcohol Use Disorder

Those with a primary opioid vs. primary alcohol use disorder did not differ with respect to the total number of barriers in bivariate analysis ($t[187] = 0.80$, $p = .43$), or when controlling for nicotine dependence severity and sociodemographic variables ($B = 0.61$, $SE_B = 0.48$, $t = 1.25$, $p = .21$). When considering specific barriers and correcting for multiple tests, there were no differences between those with opioid vs. alcohol use disorder on the prevalence of any specific barrier (all p values $> .01$).

Given recent arguments that smoking cessation may be a particular challenge among those with opioid use disorder (Miller & Sigmon, 2015), we examined whether those with alcohol vs. opioid use disorder differed with respect to the likelihood of being a current smoker or a lifetime smoker. In the full study sample (data available on both current and lifetime smoking status in $n = 256$ participants with either alcohol or opioid use disorder), participants with an opioid use disorder were more likely to be current smokers than those with a current alcohol use disorder (77.4% vs. 48.9%; $\chi^2 = 22.80$, $p < .001$). However, there were no differences between these groups with respect to lifetime smoking status (87.3% vs. 81.2%, $\chi^2 = 1.71$, $p = .19$). See Figure 2.

3.3. Anxiety Sensitivity and Barriers to Quitting Smoking

Results of the multiple linear regression indicated that anxiety sensitivity was strongly and significantly associated with barriers to smoking cessation, controlling for cigarette dependence and sociodemographic variables (see Table 1). Gender did not moderate this association, and thus the interaction term was not included in the final model.

4. Discussion

In this study of adults receiving inpatient treatment for SUDs, perceived barriers to smoking cessation were strongly associated with less confidence in the ability to quit smoking. Affective and substance use-related barriers were the most commonly reported barriers, and there were few differences between men and women, and between those with opioid use vs. alcohol use disorder. The majority of participants (69%) reported that quitting smoking would make it harder to abstain from other substances. This finding is consistent with prior studies of alcohol use disorder. For example, more than 40% of a sample of alcohol-dependent participants reported that smoking cessation during treatment would make it more difficult to remain abstinent from alcohol, even controlling for a range of smoking and substance use variables (Martin et al., 2006).

These beliefs stand in contrast to results from research on smoking cessation, which has consistently demonstrated that cessation can be safely implemented during SUD treatment, and may even result in superior SUD treatment outcomes (Burling, Burling, & Latini, 2001; Burling, Marshall, & Seidner, 1991; Reid et al., 2007; Winhusen et al., 2014; Winhusen, Kropp, Theobald, & Lewis, 2014). A meta-analysis of 19 randomized controlled trials found that smoking cessation interventions in SUD treatment settings were associated with a 25% increase in long-term abstinence from other substances of abuse (Prochaska, Delucchi, & Hall, 2004).

Psychoeducation on perceived barriers may be a promising approach to enhance engagement in smoking cessation among those with SUDs; preliminary data suggest that perceived barriers may be modified with psychoeducational intervention (Rohsenow et al., 2014; Toll et al., 2008; Weinberger, Pittman, Mazure, & McKee, 2015). However, this intervention may be insufficient for some patients, particularly those who are highly anxious about the consequences of a quit attempt.

The association between anxiety sensitivity and smoking cessation barriers found in this study is consistent with the broader literature on smoking cessation in community samples (Zvolensky et al., 2007) and medical populations (McLeish, Johnson, Avallone, & Zvolensky, 2015). Given this association, as well as the predominance of affective barriers in this study and in prior studies in treatment-seeking alcohol-dependent patients (Asher et al., 2003), anxiety sensitivity may be an important therapeutic target to improve patients' smoking cessation engagement and success. Prior research has demonstrated that anxiety sensitivity can be reduced with cognitive-behavioral interventions, which employ methods (e.g., cognitive restructuring, exposure) to facilitate modification and extinction of fearful responding (Smits et al., 2008). However, other affective variables have also been associated with anxiety sensitivity, and therefore additional or alternative therapeutic targets might be warranted. In previous studies among the general population, emotion dysregulation (i.e., difficulties regulating emotion) (Johnson, Farris, Schmidt, & Zvolensky, 2012) and smoking inflexibility/avoidance (i.e., the use of smoking to avoid distressing thoughts, feelings, and sensations that are perceived to be intolerant) (Zvolensky, Farris, Schmidt, & Smits, 2014) were more strongly related to perceived barriers than anxiety sensitivity. Nonetheless, reductions in anxiety sensitivity during standard smoking cessation treatment (cognitive behavioral therapy plus nicotine replacement) have been associated with positive treatment outcomes (Assayag, Bernstein, Zvolensky, Steeves, & Stewart, 2012), and trials of treatments targeting anxiety sensitivity in smokers are ongoing (Smits et al., 2012). Prospective studies, particularly those enrolling smokers with SUDs, will clarify these relationships and inform if anxiety sensitivity is a viable therapeutic target for smoking cessation among those with SUDs.

The only gender difference noted in this study was that more women than men reported that anxiety was a perceived barrier to quitting. However, this difference did not reach statistical significance when controlling for multiple tests. Although age was not associated with the number of perceived barriers in bivariate analyses, in multivariable analyses, younger age was associated with more perceived barriers. Accordingly, consideration of barriers among younger SUD patients may be of benefit to enhancing engagement in this subgroup.

Participants with opioid use disorder did not differ from those with alcohol use disorder with respect to perceived barriers. However, these results must be considered in the context of the broader sample. Participants with a primary alcohol use disorder were almost 30% less likely than those with an opioid use disorder to be current smokers, despite similar lifetime smoking rates in our sample. Thus, it appears that successful smoking cessation may be more common among those with alcohol use disorder. In this study we included current smokers (i.e., those who had not successfully quit smoking), possibly reflecting either a persistent smoking or treatment-resistant group. It is possible that perceived barriers would differ between those with alcohol use disorder relative to those with opioid use disorder prior to any initial cessation attempt. In other words, the participants in our sample who had successfully quit smoking in the past may have reported fewer, or different, perceived smoking cessation barriers than those who continued to smoke. Those with an alcohol use disorder were also older, which could have affected smoking cessation rates. Future studies designed to examine the association between these barriers and smoking quit attempts

prospectively will help to clarify this association, as well as differences between those with alcohol vs. opioid use disorder.

We acknowledge several limitations of the present study. First, participants were predominately white and data were not collected on income or education. In addition, most participants had a primary diagnosis of alcohol or opioid use disorder, and all were enrolled in inpatient treatment. Thus, replication of these findings in other SUD samples (e.g., non-treatment seekers, other primary SUDs, racially diverse) is needed to establish generalizability among those with SUDs. Second, because this was a cross-sectional study, it cannot be determined if barriers to smoking are related to subsequent quit attempts or the success of these attempts. Nonetheless, a previous study indicates that number of smoking cessation barriers prospectively predicts smoking abstinence at 1-month post-treatment (Martin et al., 2016). The validity of these barriers was also supported by strong associations with confidence in the ability to quit smoking, as well as other indices of smoking severity (e.g., cigarette dependence). Third, although this study provides information on the prevalence and number of perceptual barriers to smoking cessation, the measure used only assessed presence or absence of each barrier, and did not assess to what degree the barrier is perceived to interfere with cessation attempts. Although other existing measures (i.e., Perceived Barriers for Cessation Scale; BCS) assess the extent that each barrier is perceived to be important (Garey et al., in press; Macnee & Talsma, 1995), we chose to utilize the BSQ-SAT in the present study because it includes items that specifically assess perceived negative effects of smoking cessation on sobriety and has been previously validated among those with substance dependence. Further investigation of the strength of these barriers is an important future direction.

Despite the substantially elevated prevalence of smoking among people with SUDs, and its negative impact on both SUD symptoms and mortality, smoking cessation during SUD treatment remains limited. Receipt of smoking cessation services is associated with a significantly higher likelihood of a quit attempt among smokers in SUD treatment (Martinez, Guydish, Le, Tajima, & Passalacqua, 2015), highlighting the importance of incorporating these services as part of routine care. The results of this study are consistent with findings from other populations—including those seeking smoking cessation treatment—that suggest that even among those with motivation to quit, perceived barriers to cessation are common (e.g., Garey et al., in press; Macnee & Talsma, 1995). Motivational and psychoeducational interventions aimed to reduce anxiety sensitivity and perceived barriers may be needed to better engage this challenging population in potentially life-saving smoking cessation treatment.

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Highlights

- Smoking is highly prevalent among adults with substance use disorders.
- We examined perceived barriers to smoking cessation in this population.
- The most common perceived barriers to quitting smoking were anxiety and irritability.
- Over 60% of the sample reported that it would be hard to maintain sobriety if they quit smoking.
- Anxiety sensitivity was associated with the number of perceived barriers to smoking cessation.

Figure 1.
Consequences of Smoking Cessation (Rated as True or False) - Percent of the Sample
Endorsing Each Consequence (N=206)

Figure 2.
Percent of Current and Lifetime Smokers by Primary Substance Use Disorder

Table 1

Association Between Clinical Characteristics and Number of Perceived Barriers to Smoking Cessation (BQS-SAT Scores) Among Current Smokers (N=174)

Variable	B	SE _B	t	p
Age	−0.05	0.02	−2.28	.02
Sex	−0.25	0.42	−0.258	.56
Race	0.59	0.93	0.64	.753
Employment	−0.02	0.38	−0.04	.97
Primary Substance Use Disorder	0.16	0.49	0.33	.74
Cigarette Dependence	0.61	0.08	7.80	<.001
MCQ: Importance of Changing Smoking	.39	.21	1.84	.07
MCQ: Confidence in the Ability to Change Smoking	−.00	.11	−0.01	.99
MCQ: Readiness to Change Smoking	−.30	.18	−1.69	.09
Anxiety Sensitivity Index	0.05	0.01	4.10	<.001

Note. MCQ = Motivation to Change Questionnaire