



Published in final edited form as:

J Psychoactive Drugs. 2007 December ; 39(4): 443–449.

Smoking Among Adolescents in Substance Abuse Treatment: A Study of Programs, Policy, and Prevalence

JongSerl Chun, Ph.D.^{*}, Joseph Goydish, Ph.D.^{**}, and Ya-Fen Chan, Ph.D.^{***}

^{*}Research Specialist, Institute for Health Policy Studies, University of California, San Francisco

^{**}Professor, Institute for Health Policy Studies, University of California, San Francisco

^{***}Research Specialist, Chestnut Health Systems, Bloomington, IL

Abstract

The study was designed to: (1) identify smoking policies and interventions in adolescent residential treatment settings; (2) examine the prevalence of smoking among adolescents in these settings; and (3) assess relationships between program-level smoking policies and client-level smoking. The Center for Substance Abuse Treatment funded 17 sites to evaluate the effectiveness of Adolescent Residential Treatment (ART) programs for substance abuse. To describe program smoking policies and interventions, we conducted phone interviews with one key informant at each program (N = 12). To describe client smoking behaviors, we conducted a secondary data analysis of baseline data for adolescents (N = 912) entering ART programs. All sites had no smoking indoors and 75% of the site had tobacco-free grounds for adolescents. Forty-two percent provided their youth with nicotine replacement therapy, and 42% provided counseling for smoking cessation. Also, 33% did not allow staff smoking on and off campus. The prevalence of any smoking in the past month was 66%, and 22% of current smokers were daily smokers at admission. Where smoking was allowed on grounds, adolescents more often reported recent smoking. Smoking behavior is prevalent among adolescents in residential drug treatment, and should be addressed in all such programs through policy implementation and client-level smoking cessation intervention.

Keywords

adolescent; drug abuse treatment; residential treatment; smoking

Smoking is the single most preventable cause of morbidity and mortality nationally. According to the 2005 National Youth Risk Behavior Survey, 23% of high school students smoked cigarettes in the past 30 days, and 11% of these current smokers smoked more than 10 cigarettes per day (Eaton et al. 2006). Individuals who begin smoking before age 14 are less likely to quit smoking than those who begin smoking at 14 or older (Breslau & Peterson 1996), and those who initiate tobacco use at an early age are more likely to become severely addicted to nicotine than those who start later (US DHHS 1994).

Adolescent smoking is closely associated with alcohol and other drug use. Tobacco and alcohol use are developed by common etiological factors concurrently, and smoking is very prevalent among adolescents with substance abuse problems (Myers & Kelly 2006). Adolescents with other substance abuse involvement exhibit a substantially greater rate of smoking than their nonsubstance-abusing counterparts (Myers & Brown 1994; McDonald, Roberts &

Descheemaeker 2000). One study of adolescents treated for substance abuse found that 75% of the participants were daily smokers and 61% smoked at least one half of a pack per day (Myers & Brown 1994). Brown and colleagues (1996) reported that early cigarette use had a significant positive relationship with lifetime substance abuse. The 1995 National Household Survey on Drug Abuse found that adolescents who smoked cigarettes were eight times more likely to use other drugs and 11 times more likely to use alcohol than their nonsmoking counterparts (SAMHSA 1996). Moreover, when smoking cessation is not addressed in adolescent drug abuse treatment, smoking remains prevalent even after successful abstinence from alcohol and other drugs (National Center for Health Statistics 1998).

A meta-analysis of 19 randomized controlled trials examined the efficacy of smoking cessation interventions with adult clients in substance abuse treatment settings (Prochaska, Delucchi & Hall 2004). The study found that smoking cessation interventions showed significant short-term effectiveness at post-treatment and was related to long-term (six months or longer) abstinence from alcohol and other drugs. Despite the efficacy of smoking cessation interventions and its positive effects on abstinence from alcohol and drugs in adult substance abuse treatment settings, many drug treatment facilities have ignored tobacco use among clients (Williams et al. 2005).

Myers and Kelly (2006) reviewed studies of smoking cessation for adolescents with substance abuse problems and found that, while few studies have addressed this issue, smoking cessation efforts are feasible and effective for adolescents in substance abuse treatment. To our knowledge, only three studies have examined the effectiveness of smoking cessation interventions for adolescents in drug treatment. McDonald and colleagues (2000) examined outcomes of a structured smoking cessation intervention that included education classes, group sessions, and a nicotine anonymous group in a residential treatment setting. Of 55 adolescents who received the intervention, 16% reported having quit smoking at discharge. Myers and Brown (2005) examined outcomes of a smoking reduction and cessation (SRC) intervention in an adolescent outpatient drug treatment facility. This study is the only controlled comparison study of the three studies. The SRC intervention included six weekly one-hour sessions. Cessation attempts and abstinence were compared between adolescents who received the SRC intervention (N=26) and those on the waiting list (N=28) at baseline, at the end of treatment, and at the three- and six-month follow-ups. SRC participants reported greater rates of cessation attempts and abstinence relative to the comparison group at all time points; however, treatment was a statistical predictor only for abstinence at three months. Myers and colleagues (2000) also evaluated a smoking cessation intervention with 35 adolescents in drug abuse treatment. They found that 17% of participants were abstinent from smoking at the three-month follow-up, while almost half of the participants had made cessation attempts during the three-month post-intervention period.

With regard to smoking policy in adolescent drug treatment facilities, McDonald and colleagues (2000) explored tobacco-free policies in place at one program and found that 65% of adolescents considered the tobacco-free policy to be extremely helpful to quitting smoking. Studies have reported that adult patients in residential drug abuse treatment may be motivated and interested in smoking cessation, and that a stay in residential treatment may be the best time to quit smoking (Joseph et al. 2002; Sees & Clark 1993). Despite concerns that tobacco-free policies may result in lower admission rates or shorter treatment retention in adolescent programs, available data do not bear this out. Kempf and Stanley (1996) found that adolescents who were heavy smokers were more likely to leave treatment early; however, the retention of heavy smokers was not distinguishable between a tobacco-free adolescent program and a tobacco-allowed program.

The rate of smoking among staff in community-based drug treatment programs can be elevated, with studies reporting staff smoking rates from 30% to 40% (Olsen et al. 2005; Bobo & Davis 1993a; Bobo & Gilchrist 1983). Staff smoking and attitudes have also been reported as barriers to treating client smoking, and staff who smoke are more resistant to treating client smoking. Bobo and Davis (1993b) reported that smoking staff were six times less likely to encourage clients to quit smoking than were nonsmoking staff, and Campbell and colleagues (1998) found that smoking staff were less likely to participate in discussions of smoking with their clients. McDonald and colleagues (2000), in a survey of 50 adolescent residential treatment program staff, found that 22% were current smokers and only 18% supported a tobacco-free grounds policy.

Despite the high prevalence of smoking among adolescents in drug abuse treatment and the potential influence of staff smoking on adolescents involved in such programs, few studies have examined issues related to smoking in adolescent drug abuse treatment settings (Myers & Kelly 2006). The current study was designed to identify smoking policies and interventions in adolescent drug treatment settings, to examine the prevalence of smoking among adolescents in drug treatment, and to explore relationships between program-level smoking policies and client-level smoking in adolescent drug treatment facilities.

METHODS

Study Context

From 2002 to 2005, the Center for Substance Abuse Treatment (CSAT) funded 17 sites nationwide to evaluate the effectiveness of Adolescent Residential Treatment (ART) for substance abuse. The ART study was designed to improve the quality and availability of residential treatment and its continuing care component for substance-abusing adolescents. Participants were recruited from residential treatment settings or continuing care settings following residential treatment. The ART project included a multisite evaluation component, in which adolescents entering these programs were interviewed using common measures at baseline and at six- and 12-months follow-up.

The current study used two methodologies. First, to describe program-level smoking policies and interventions, the study team conducted phone interviews with one key informant at each site participating in the ART study. Second, to describe client-level smoking behavior, the study team conducted secondary data analysis using ART project data. These data were collected using the Global Appraisal of the Individual Needs (GAIN) instrument (Dennis et al. 2003), and the present study analyzed GAIN items related to smoking behaviors at baseline. Because these methods are distinct, they are described below in separate sections.

Study of Facility (Program-Level) Smoking: Related Policies and Interventions

Participants—A total of 12 staff members from the ART programs participated in the phone interviews. Approximately 58% of participants were women. About 83% were white and the rest included African Americans (8%) and Latinos (8%). Approximately 83% had a master's degree and 17% had a doctoral degree. Participants had worked in the substance abuse treatment field for an average 14.5 years and worked in the agency where the interviews were conducted for a mean of 8.3 years. Half of them were program directors, 17% were vice presidents, 17% were coordinators, and the rest were program managers or chief operating officers.

Measures—The phone interview was conducted using a semistructured questionnaire previously developed by the study team for use in interviewing directors of adult drug abuse treatment programs. This measure asked whether written tobacco policies were in place in the

program and what the nature of those policies were, and whether a number of specific nicotine-related services were available to clients and staff.

Procedures—Inclusion criteria for key informants were that they were knowledgeable about the ART project conducted on their site, and that there had been a full-time staff person in the program continuously during the past year. Names of potential participants were provided by the CSAT project officer and by the ART multisite evaluation team, and those identified received a study invitation letter and the information sheet by email. A total of 17 staff members, one from each site, were then contacted by email and invited to participate in the phone interview. When the identified key informant was nonresponsive to the invitation email, we sent two follow-up emails at two week intervals. Where potential key informants did not respond to the follow-up emails, we considered this a refusal to the study invitation.

The response rate was 71% (N = 12). In the initial contact with potential participants, a subsequent appointment was scheduled for the phone survey. The interviewer made written notes during the phone interview using the interview guide, and these notes were transcribed within 24 hours after the call was completed. Phone interviews were digitally recorded, and these were compared with written notes to ensure accuracy. Participants who completed the phone survey received a \$25 gift card redeemable at a local coffee shop or a department store. Study procedures were approved by the University of California, San Francisco (UCSF) Institutional Review Board.

Study of Adolescent (Client-Level) Smoking Behavior

Participants—The secondary data analysis included de-identified data for adolescents admitted in seven residential programs that participated in the ART project, and also participated in the phone interview concerning program-level smoking policies and interventions. Among 12 ART programs, seven programs recruited participants from only residential programs; however, others were from continuing care programs after residential treatment, or from both residential and continuing care programs. Therefore, we included client-level data for the seven sites where clients were interviewed at admission to residential treatment (N = 912). Participants had a mean age of 16 years (SD = 1.2; range: 12–20) and approximately 32% were female. Twenty-six percent were Hispanic, 21% were White, and 14% were African American. The rest included Native American or Alaskan (1%), Asian (2%), and persons of other ethnicities (3%). Also, 33% identified themselves as belonging to a mixed ethnic group. About 80% had attended any kind of school or training in the past 90 days and 78% were currently involved in the criminal justice system. More than half (56%) were diagnosed based on the GAIN's mental health scale with major depressive disorder, 73% with conduct disorder, 39% with traumatic stress disorder and 57% with attention deficit hyperactivity disorder (ADHD).

Measures—ART evaluation interviews were conducted using the GAIN (Dennis et al. 2003), a standardized biopsychosocial assessment tool developed to use in research and clinical settings for clinical diagnosis, treatment planning and placement, evaluation, and economic analysis (Chan, Dennis & Funk 2008). All ART programs reported GAIN data to the ART data center located at Chestnut Health Systems. Using the GAIN dataset, the following smoking behaviors at baseline were examined: smoking status in the past month, last time smoked, days of smoking in the past 90 days, times of smoking per day, and daily tobacco use. The cross-site evaluation protocol instructed sites to complete the baseline interview within seven days after treatment admission, although data were not collected to confirm compliance with this instruction.

Procedures—To understand ART programs, the authors obtained and reviewed proposals submitted by those programs to CSAT in response to the original request for proposals. One of the authors (JC) completed standard GAIN training and data induction training, both provided by Chestnut Health Systems. De-identified client-level data were provided to the study team under provisions of a data use agreement with the ART data repository at Chestnut Health Systems.

Data Analysis

Using both descriptive statistical analyses (frequency and proportion), the analysis of the phone interview data for aim 1 described smoking policies and interventions at the program level. The secondary data analysis (aim 2) described the smoking behaviors of adolescents served by the ART program. For aim 3, using an inferential statistical analysis (chi-square analysis), relationships between program-level smoking policies and client-level smoking were examined in adolescent drug treatment settings.

RESULTS

Program Policies and Interventions Related to Smoking

All sites reported assessment of tobacco use among new clients at intake. One third of programs listed the diagnostic code for tobacco dependence on treatment plans, and 42% of programs arranged individual and group counseling on tobacco for new clients. One third of facilities assigned reading and writing materials on tobacco to new clients and one quarter arranged self-help meetings for smoking cessation at admission. One program had a carbon monoxide (CO) meter available, and two programs obtained cotinine levels via saliva, blood or urine screening at intake. With regard to nicotine replacement therapy (NRT), 42% of sites provided some types of NRT: 25% provided the patch, 17% provided gum, and one site provided both patch and Zyban/bupropion. While 42% of sites offered didactic sessions on tobacco for their clients, no sites made arrangements for attendance at Nicotine Anonymous (NicA) meetings. One site invited NicA members to speak with their adolescent clients at the facility. Some programs (25%) reported that they developed discharge plans for unresolved smoking problems and 17% included aftercare services for smoking cessation in the discharge plan.

Smoking Policies for Adolescents—The study team examined written policies regarding tobacco use. A minority of programs (17%) included a tobacco policy in their mission statement, goals, and objectives. None of the sites permitted adolescents to smoke in program buildings. Most programs (75%) had tobacco-free grounds policies in place for adolescents, meaning that youth were not allowed to smoke anywhere on program property. However, 25% of facilities (N = 3) did not have tobacco-free grounds policies, and those three facilities allowed adolescent clients to smoke in areas outside the building, across the street from the facility, or off-site at 12-Step meetings or school (see Table 1). Most programs (83%) informed clients of policies prohibiting tobacco use in vehicles, but only 42% posted signs to this effect.

Smoking Policies for Staff—None of the sites permitted staff to smoke in buildings. However, 67% of sites allowed staff smoking on the outdoor campus, 25% allowed staff to smoke in designated areas on the outdoor campus, and 33% allowed staff to smoke on the adjacent sidewalk on campus. Moreover, 42% provided smoking breaks for staff members. Also, 33% of sites reported off-campus (for example, across the street from the facilities or at 12-Step meetings) as the place for staff smoking.

Key informants reported that, on average, 14% of program staff were current smokers. Several programs (42%) had no written policies prohibiting tobacco use by staff during work hours or when representing facilities, and only 17% had policies defining any requirements to new

employees for tobacco abstinence. In addition, only two sites arranged on- and off-site training on the topic of nicotine dependence and one of the two sites required new clinical staff to receive nicotine dependence training at the time of the interviews.

Adolescent Smoking Behavior

The prevalence of any smoking in the past month was 66%, and 22% of current smokers were daily smokers at intake. Adolescents in this study smoked an average of 47 days during the past 90 days. They also reported smoking cigarettes an average of nine times per day. About 26% reported smoking cigarettes last in the past two days.

Relationships between Adolescent Smoking and Program Policies

Adolescent smoking in the past two days was compared between those youth enrolled in four programs having a tobacco-free grounds policy for adolescents ($N = 631$) and three programs where adolescents were allowed to smoke on program grounds ($N = 281$). At intake, adolescents enrolled in programs allowing smoking on program grounds were more likely to report smoking in the past two days as compared to adolescents enrolled in programs with tobacco-free grounds (51% v. 15%; $\chi^2 = 127.96$, $df = 1$, $p < .001$). Similarly, adolescents in six facilities which allowed staff smoking on and off campus ($N = 835$) showed higher smoking prevalence in the past two days than their counterparts in one facility with tobacco-free grounds for staff ($N = 77$) (28% vs. 5%, $\chi^2 = 19.20$, $df = 1$, $p < .001$).

DISCUSSION

Smoking prevalence in the past month among adolescents in residential drug abuse treatment was 66%. This is lower than the 85% past month prevalence reported in a prior study of adolescents in residential treatment facilities, which may be the most recent comparable study (Myers & Brown 1994). Part of this difference may be due to decreasing smoking rates nationally in the past decade; however, the smoking prevalence observed in this sample was nearly three times higher than the 23% observed for U.S. high school students (Eaton et al. 2006).

All sites prohibited indoor smoking for both clients and staff. About 75% of the sites had tobacco-free grounds policies for adolescents and 67% had tobacco-free grounds for staff. In this study, only one third had tobacco-free grounds for both clients and staff. Program-level policies were related to client-level smoking.

A recent meta analysis of 58 studies on controlled trials of adolescent cigarette smoking cessation intervention found that cognitive-behavioral interventions, motivational enhancement interventions, and social influence interventions were effective (Sussman, Sun & Dent 2006). A systematic review of 15 controlled trials (Grimshaw & Stanton 2007) considered psychosocial interventions (such as motivational interviewing) to be promising, although this approach had not demonstrated effectiveness. Myers and Kelly (2006) commented that peer influences, motivation, and nicotine dependence should be focused on smoking cessation intervention for adolescents with substance abuse problems. They also suggested that Project EX (a school-based tobacco cessation programs derived from a motivation-coping skills-personal commitment model of teen cessation, specifically designed for high school students) (Sussman, Dent & Lichtman 2001) assesses these developmental issues and may be helpful for smoking intervention in this population. In the current study, 42% of treatment programs provided individual or group counseling on smoking cessation and 33% provided reading materials on tobacco. Despite the high smoking prevalence among youth in residential drug abuse treatment, smoking interventions are still limited in these settings. In

future research, those suggested interventions may be applied and tested in adolescent drug abuse treatment samples (e.g., Project EX).

Pharmacotherapy is another prevalent form of smoking intervention. This intervention alleviates the symptoms of physical withdrawal during the quitting process by the use of NRT, including nicotine gum, patch, and lozenge, as well as other prescription medications including a nicotine inhaler, nicotine nasal spray, and bupropion. NRT has been shown to be safe and effective with adults, yet there is no evidence to date on whether NRT plays a major role in smoking cessation for adolescents (Grimshaw & Stanton 2007; Adelman 2004). NRT has not been approved by the Federal Drug Administration for use with individuals younger than 18 years of age. According to the guidelines for youth smoking cessation by Fiore and colleagues (2000), NRT may be considered when adolescents are tobacco dependent and have the intention to quit. Although there is a debate on NRT use among adolescents, in this study it was found that NRT is used in some adolescent treatment settings (42%).

Only two sites included a tobacco policy in their mission statement, goals, and objectives. Although most of the sites did not have written policies forbidding tobacco use, they did restrict indoor smoking for both adolescents and staff. However, 25% of programs permitted adolescent smoking on the outdoor campus or off campus, including across the street, in the facilities at 12-Step meetings or in schools. Moreover, they provided smoke breaks for adolescents.

This study did not examine whether the agencies merely complied with existing state law concerning smoking, or whether they developed additional policies in addition to legal requirements. However, three of the seven sites that participated in this study were in states that have a smoke-free workplace law (www.smokefree.net). We are aware of only one state, New Jersey, that eliminated smoking in all residential treatment programs (Williams et al. 2005).

Tobacco-free policies were related to adolescent smoking. Adolescents in nontobacco-free grounds smoked more than those in tobacco-free grounds in the past two days. These results were also aligned with those from a study by McDonald and colleagues (2000), which considered the tobacco-free policy as extremely helpful to quitting smoking. There are concerns that tobacco-free policies may result in lower admission rates or shorter treatment retention in adolescent programs (Kempf & Stanley 1996). Therefore, the relationship between tobacco-free policy and treatment retention needs to be examined among adolescents in a future study.

Compared to McDonald's study (2000) in an adolescent residential drug treatment facility, smoking prevalence among staff was lower in this study (22% vs. 14%). This is also a positive result compared to the rate of smoking among staff in community-based adult drug abuse treatment settings (Olsen et al. 2005; Bobo & Davis 1993a; Bobo & Gilchrist 1983). Walsh and colleagues (2005) asked one director and one staff member from multiple programs to estimate staff smoking prevalence. Compared to prevalence estimates made by staff key informants, those made by director key informants were lower. This suggests the possibility that program directors may underestimate smoking prevalence among staff in their program. If directors underestimated staff smoking prevalence in the current study, staff smoking prevalence may be higher than that reported (14%). Moreover, 67% of sites allowed staff smoking on campus, so that adolescents were exposed to adult modeling of smoking behavior and were exposed to smoking-related cues such as cigarette packs, lighters, and the smell of cigarette smoke on staff clothing. Adolescents in facilities that allowed staff smoking on campus were more likely to report recent (past two days) smoking than were those in facilities with restrictions on staff smoking.

This study included a policy analysis of adolescent treatment programs where only 12 programs (71 %) agreed to participate and secondary data analysis of interview data for adolescents entering seven residential treatment programs. This collection of programs represents a sample of programs selected for participation in a larger CSAT study of residential treatment and, further, measures of client-level smoking behavior were limited to a few items. For these reasons, the sample may be regarded as a convenience sample, and the findings may be regarded as preliminary and of limited generalizability. We interviewed only one key informant who was either the program director or another program leader. Interviewing program directors has been used in similar studies of smoking in drug abuse treatment facilities (i.e., Walsh et al. 2005; Richter et al. 2004; Knapp et al. 1993). At the same time, and to our knowledge, data reported here represent the broadest view available of smoking among adolescents enrolled in residential drug abuse treatment, and of smoking related policies in such programs. Although the findings reported here warrant further research and confirmation or correction, some practical recommendations may emerge from these data. First, smoking among adolescents in drug abuse treatment is prevalent, and should be assessed and treated in these programs. Second, consistent smoking policies for adolescents and staff within the same program appear desirable, not only because staff smoking represents adult modeling of a health risk behavior for adolescents, but also because smoking-related cues may make it harder for adolescents to adhere to a higher level of smoking restriction than staff in the same program. Third, tobacco-free ground policies, which are broader and more encompassing than elimination of indoor smoking, appear to be related to lower levels of recent smoking among youth entering such programs. Based on these observations we recommend that adolescent residential treatment programs formulate and implement tobacco-free ground policies applicable to both clients and staff, and that programs assess and address nicotine use among youth, including NRT in the presence of nicotine dependence.

Acknowledgments

This work was supported by the National Institute on Drug Abuse (NIDA R01 DA020705), the California-Arizona research node of the NIDA Clinical Trials Network (U10 DA 015815), the NIDA San Francisco Treatment Research Center (P50 DA009253 & Pilot Study Grant), the Center for Substance Abuse Treatment (CSAT) Adolescent Residential Treatment initiative, and Chestnut Health Systems, Bloomington, IL.

REFERENCES

- Adelman WP. Nicotine replacement therapy for teenagers. *Archives of Pediatrics & Adolescent Medicine* 2004;158:205–206. [PubMed: 14993074]
- Bobo JK, Davis CM. Cigarette smoking cessation and alcohol treatment. *Addiction* 1993a;88:405–412. [PubMed: 8384911]
- Bobo JK, Davis CM. Recovering staff and smoking in chemical dependency programs in rural Nebraska. *Journal of Substance Abuse Treatment* 1993b;10:221–227. [PubMed: 8389899]
- Bobo JK, Gilchrist L. Urging the alcoholic client to quit smoking cigarettes. *Addictive Behaviors* 1983;8:297–305. [PubMed: 6666694]
- Breslau N, Peterson EL. Smoking cessation in young adults: Age at initiation of cigarette smoking and other suspected influences. *American Journal of Public Health* 1996;86:214–220. [PubMed: 8633738]
- Brown R, Lewinsohn P, Seeley J, Wagner E. Cigarette smoking, major depression, and other psychiatric disorders among adolescents. *Journal of American Academic Child and Adolescent Psychiatry* 1996;35:1602–1610.
- Campbell BK, Krumenacker J, Stark MJ. Smoking cessation for clients in chemically dependency treatment: A demonstration project. *Journal of Substance Abuse Treatment* 1998;14:313–318. [PubMed: 9650139]
- Chan Y-F, Dennis ML, Funk RR. Prevalence and co morbidity of major internalizing and externalizing problems among adolescents and adults presenting to substance abuse treatment. *Journal of Substance Abuse Treatment* 2008;34:14–24. [PubMed: 17574804]

- Dennis, ML.; Titus, JC.; White, M.; Unsicker, J.; Hodgkins, D. Global Appraisal of Individual Needs (GAIN): Administration Guide for the GAIN and Related Measures. Bloomington, IL: Chestnut Health Systems; 2003. Accessed at <http://www.chestnut.org/li/gain>
- Eaton DK, Kann L, Kinchen S, Ross J, Hawkins J, Harris WA, Lowry R, McManus T, Chyen D, Shanklin S, Lim C, Grunbaum JA, Wechsler H. Youth risk behavior surveillance — United States, 2005. *Morbidity and Mortality Weekly Report* 2006;55:1–108. [PubMed: 16410759]
- Fiore, MC.; Bailey, WC.; Cohen, SJ., et al. Treating Tobacco Use and Dependence. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service; 2000.
- Grimshaw GM, Stanton A. Tobacco cessation interventions for young people. *Cochrane Database of Systematic Reviews* 2007. 2007;(Issue 3)
- Joseph AM, Willenbring ML, Nelson D, Nugent SM. Timing of alcohol and smoking cessation study. *Alcohol, Clinical and Experimental Research* 2002;26:1945–1946.
- Kempf J, Stanley A. Impact of tobacco-free policy on recruitment and retention of adolescents in residential substance abuse treatment. *Journal of Addictive Disease* 1996;15:1–11.
- Knapp JM, Rosheim CL, Meister EA, Kottke TE. Managing tobacco dependence in chemical dependency treatment facilities: A survey of current attitudes and policies. *Journal of Addictive Diseases* 1993;12(4):89–104. [PubMed: 8292642]
- McDonald CA, Roberts S, Descheemaeker N. Intention to quit smoking in substance-abusing teens exposed to a tobacco program. *Journal of Substance Abuse Treatment* 2000;18:291–308. [PubMed: 10742645]
- Myers MG, Kelly J. Cigarettes smoking among adolescents with alcohol and other drug use problems. *Alcohol Research & Health* 2006;29:221–227. [PubMed: 17373413]
- Myers MG, Brown SA. A controlled study of a cigarette smoking cessation intervention for adolescents in substance abuse treatment. *Psychology of Addictive Behaviors* 2005;19:230–233. [PubMed: 16011397]
- Myers MG, Brown SA. Smoking and health in substance abusing adolescents: A 2 year follow-up. *Pediatrics* 1994;93:561–566. [PubMed: 8134209]
- Myers MG, Brown SA, Kelly JF. A smoking intervention for substance abusing adolescents: Outcomes, predictors of cessation attempts, and post-treatment substance use. *Journal of Child and Adolescent Substance Abuse* 2000;9:77–91.
- National Center for Health Statistics. Health, United States, 1998. Hyattsville, MD: NCHS; 1998.
- Olsen Y, Alford DP, Horton NJ, Saitz R. Addressing smoking cessation in methadone programs. *Journal of Addictive Diseases* 2005;24(2):33–48. [PubMed: 15784522]
- Prochaska JJ, Delucchi K, Hall SM. A meta-analysis of smoking cessation interventions with individuals in substance abuse treatment or recovery. *Journal of Counseling and Clinical Psychology* 2004;72(6):1144–1156.
- Richter KP, Choi WS, McCool RM, Harris KJ, Ahluwalia JS. Smoking cessation services in U.S. methadone maintenance facilities. *Psychiatric Services* 2004;55(11):1258–1264. [PubMed: 15534014]
- Sees KL, Clark HW. When to begin smoking cessation in substance abusers. *Journal of Substance Abuse Treatment* 1993;10:189–195. [PubMed: 8510193]
- Substance Abuse and Mental Health Services Administration (SAMHSA). Office of Applied Studies Advance Report Number 18. Washington, DC: SAMHSA; 1996. Preliminary Estimates from the 1995 National Household Survey on Drug and Abuse.
- Sussman S, Sun P, Dent CW. A meta-analysis of teen cigarette smoking cessation. *Health Psychology* 2006;25(5):549–557. [PubMed: 17014271]
- Sussman S, Dent CW, Lichtman KL. Project EX: Outcomes of a teen smoking cessation program. *Addictive Behaviors* 2001;26:425–438. [PubMed: 11436934]
- U.S. Department of Health and Human Services (DHHS). Preventing Tobacco Use among Young People: A Report of the Surgeon General. Atlanta: U.S. Department of Health and Human Services, Center for Disease Control and Prevention; 1994.

- Walsh RA, Bowman JA, Tzelepis F, Lecathelinais C. Smoking cessation interventions in Australian drug treatment agencies: A national survey of attitudes and practices. *Drug and Alcohol Review* 2005;24(3):235–244. [PubMed: 16096127]
- Williams JM, Foulds J, Dwyer M, Order-Connors B, Springer M, Gadde P, Ziedonis DM. The integration of tobacco dependence treatment and tobacco-free standards into residential addictions treatment in New Jersey. *Journal of Substance Abuse Treatment* 2005;28:331–340. [PubMed: 15925267]

TABLE 1

Smoking Policy Related to Adolescent and Staff Smoking (N = 12)

Site	Smoking not Permitted		Designated Outdoor Areas		Outside Building on Campus		During Permitted Smoke Breaks		Off-Campus	
	Client	Staff	Client	Staff	Client	Staff	Client	Staff	Client	Staff
1	Y	-	-	Y	-	-	-	-	-	-
2	-	-	Y	Y	-	-	Y	Y	Y	Y
3	Y	Y	-	-	-	-	-	-	-	-
4	Y	-	-	-	-	Y	-	Y	-	-
5	Y	Y	-	-	-	-	-	-	-	-
6	Y	-	-	-	-	-	-	Y	-	Y
7	Y	Y	-	-	-	-	-	-	-	-
8	-	-	-	-	Y	Y	Y	Y	Y	Y
9	-	-	-	-	Y	Y	Y	Y	Y	Y
10	Y	Y	-	-	-	-	-	-	-	-
11	Y	-	-	Y	-	-	-	-	-	-
12	Y	-	-	-	-	Y	-	-	-	-