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Smoking cessation during substance abuse treatment: What you need to know

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Abstract

Patients in substance abuse treatment frequently smoke cigarettes and often die of tobacco-related causes. Substance abuse treatment programs too often ignore tobacco use. Many patients have expressed interest in stopping smoking, although they may be ambivalent about smoking cessation during substance abuse treatment. This article provides a review of tobacco cessation literature and successful methods of intervention. Research supports two key findings: (a) smoking cessation during substance abuse treatment does not impair outcome of the presenting substance abuse problem and (b) smoking cessation may actually enhance outcome success. We will discuss how to incorporate smoking cessation. © 2009 Elsevier Inc. All rights reserved.

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1. Introduction: tobacco death in perspective

Worldwide, tobacco use is responsible for more death and disease than any other noninfectious cause. Half of the people who smoke today, about 650 million people, will eventually be killed by their tobacco use. Tobacco causes nearly 5 million deaths per year, and because the risk of tobacco use extends beyond the actual users (the problems of second hand smoke, for example), many more are affected (World Health Organization, 2007).

Let us consider tobacco relative to other substances of abuse. Tobacco remains responsible for greater morbidity than alcohol and all other drugs combined (U.S. Department of Health and Human Services, 2000). To put the death toll and morbidity of the different substances in perspective, a 1995 study in Canada (Single, Rehm, Robson, & Truong, 2000) found that 34,728 deaths and 194,072 admissions to hospital were attributed to tobacco. In contrast, 6,507 deaths and 82,014 admissions to hospital were attributed to alcohol, and 805 deaths and 6,940 admissions to hospital were due to illicit drugs. In Denmark, Juel (2001) found that during the period 1993–1997, the percentages of all deaths for tobacco,

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alcohol, and drugs were, respectively, 22.8%, 6.3%, and 1.2% for men and 16.5%, 2.5%, and 0.7% for women. The 2.3 million years of potential life lost by excessive drinking has been found to be approximately half the total years of potential life lost that were caused by smoking (U.S. Department of Health and Human Services, 2004). Annually in the United States, tobacco is responsible for approximately 438,000 deaths or nearly one of every five deaths (Centers for Disease Control and Prevention [CDC], 2008), whereas alcohol is responsible for 75,766 premature deaths (CDC, 2004), and illicit drugs are responsible for 20,950 premature deaths (CDC, 2007). More deaths are caused each year by tobacco use than by all deaths from HIV, illegal drug use, alcohol use, motor vehicle injuries, suicides, and murders combined (CDC, 2008). It is imperative that those of us that work in substance abuse know that relative to other substances, tobacco is by far the most harmful and deadly.

This review reflects the scientific literature about addressing tobacco use within the context of substance abuse treatment.

2. Methodology

The PubMed, Academic Research Complete, PsychAR-TICLES, and PsychINFO databases, as well as Google

internet, searches were conducted using the keywords "tobacco cessation in substance abuse treatment." Articles published between January 1990 and April 2008 were chosen to identify scientific literature relevant to the issue of tobacco cessation in substance abuse treatment. Those publications were reviewed, and from their references, other relevant literature was identified and reviewed.

3. Mortality rates for smokers in substance abuse treatment: an international perspective

Nicotine dependence is highly prevalent among drug- and alcohol-dependent patients. Substance abuse patients smoke more and are more vulnerable to the effects of smoking than general populations. Percentages of smokers in substance abuse treatment in Switzerland, United States, Australia, Canada, and England have ranged from 80% to 98% (Bernstein & Stoduto, 1999; Best et al., 1998; Hser, McCarthy, & Anglin, 1994; Tacke, Wolff, Finch, & Strang, 2001; Walsh, Bowman, Tzelepis, & Lecathelinais, 2005; Zullino, Besson, & Schnyder, 2000). These rates are considerably higher than the smoking rates in the general adult population of 21% in the United States (CDC, 2005), 20% in Canada (Baliunas et al., 2007), 30% in Europe, and 15.5% in Australia (World Health Organization, 2004).

Smoking is more deadly to substance abuse patients than their primary presenting substance of abuse. In a longitudinal study of 845 residents admitted to an inpatient addiction program for treatment of alcoholism and other nonnicotine drugs of dependence in Minnesota, USA, death certificates were obtained for 214 (96%) of the 222 patients who died,

More than half of the death certificates (50.9%) documented a tobacco-related cause of death. This was greater than deaths from alcohol (33.1%) or other drug-related causes (Hurt et al., 1996). In a 24-year study of smokers in treatment for narcotic use, Hser et al. (1994) found the death rate among cigarette smokers to be four times that of nonsmokers.

Smoking and drinking act synergistically to harm health. Their combined harm is more than either smoking or drinking alone. Epidemiologic studies have provided strong evidence of a synergistic effect of alcohol and tobacco use for the risk of oral and pharyngeal cancers in the Americas, Europe, Asia, and Africa (Dlamini & Bhoola, 2005; Garavello et al., 2005; Lee et al., 2005; Pelucchi, Gallus, & Garavello, 2007; Rosenquist, 2005; Wunsch Filho, 2004; Zeka, Gore, & Kriebel, 2003; Znaor et al., 2003). For those who both drink and smoke, the combination is more lethal than the effects of alcohol or tobacco alone. Blot (1992) concluded that drinking tends to combine with smoking in a multiplicative fashion, so that cancer risks for heavy consumers of both products exceeded risks for abstainers from both by 37-fold.

4. Concurrent treatment works

The majority of evidence supports concurrent treatment for tobacco and other substances. Combining treatments is the most effective way to address concurrent addictions (U.S. Department of Health and Human Services, 2007). Within the context of substance abuse treatment, studies show that smoking cessation is effective. Table 1 summarizes relevant data. Smoking cessation rates range from 4.7% at 6 months

Table 1
Results for tobacco cessation rates during substance abuse treatment

Study	n	Intervention	Smoking cessation rate (%)	Follow-up period
Bernstein & Stoduto, 1999	42	Choice based	17.5	6 months
Burling et al., 2001	50	MST	12	1 year
	50	MST + G	10	1 year
	50	Control	0	1 year
Campbell et al., 1995	66	CBT + NRT patch	11	16 weeks
	21	Control	0	16 weeks
Campbell et al., 1998	40	CBT + NRT patch	7.5	12 weeks
Cooney et al., 2007a	69	Brief counseling	2.1	6 months
	64	Intensive intervention	9.1	6 months
Hurt et al., 1994	51	Counseling	11.8	1 year
	50	Control	0	1 year
Joseph, 1993	92	Counseling	10	8-21 months
	105	Control	4	8-21 months
Joseph, Lexau, et al., 2004	251	Concurrent treatment	12.4	18 months
	248	Delayed treatment	13.7	18 months
Richter, McCool, et al., 2005	28	MI, bupropion, NRT gum	14	6 months
Saxon et al., 1997	49	NRT patch	10.2	6 weeks
Shoptaw et al., 1996	17	Contingency management	23.4	1 week
Stein et al., 2006	191	Counseling + NRT	5.2	6 months
	19	4As + NRT	4.7	6 months

Note. MST = multicomponent smoking treatment; MST + G = multicomponent smoking treatment plus generalization training of smoking cessation to drug and alcohol cessation.

follow-up to 23.4% at 1 week follow-up. A number of clinical trials have demonstrated modest but reliable effects of relatively brief opportunistic smoking cessation interventions during substance abuse treatment.

Although these smoking cessation rates appear to be modest, the clinical significance is important. Although abstinent rates may be low with each attempt at smoking cessation, these rates may be underestimations of patients' eventual quit rates. West (2007) estimated that small but robust effects of treatments that aid smoking cessation are, in fact, clinically significant. Their clinical significance is due to the very large health gains that accrue from smoking cessation.

5. Immediate health benefits of cessation

In substance abuse treatment, we tend to concentrate on treating illicit substances and alcohol, yet tobacco disease and death outweigh that of other substances. Another choice, the choice of improved health, can also be made available for our smoking patients (U.S. Department of Health and Human Services, 1990). In contrast to the morbidity and mortality data, White (2007) offered this hopeful message:

The positive effects of smoking cessation are measurable almost immediately. As soon as 20 minutes after the last cigarette, blood pressure decreases and peripheral vaso-constriction is reduced, causing the temperature of the hands and feet to return to normal. After 8 hours, carbon monoxide levels drop to normal. After just 24 hours, the chance of a heart attack is reduced. After 1 to 9 months, ciliary function in the lungs returns to normal; this allows for appropriate clearance of mucus, ... and particulate matter and reduces the chance for infection. Coughing, sinus congestion, fatigue, and shortness of breath are also reduced. Risk of coronary heart disease will drop to half of that of a smoker after 1 year and to the level of a nonsmoker after 15 years. After 5 to 15 years, risk of stroke is reduced to the level of a nonsmoker.

6. Smoking cessation does not impair substance abuse treatment outcome

Clinical studies have found that smoking cessation can be integrated into alcohol and drug abuse treatment without jeopardizing recovery goals (Bobo, Gilchrest, Schilling, Noach, & Schinkke, 1987; Burling, Marshall, & Seidner, 1991; Burling, Burling, & Latini, 2001; Cooney et al., 2007a; Grant et al., 2007; Hurt et al., 1994; Joseph, 1993; Joseph, Nichol, & Anderson, 1993; Kalman et al., 2001; Reid et al., 2007).

Smoking and drinking alcohol are strongly interconnected (Breslau, Peterson, Schultz, Andreski, & Chilcoat, 1996; Flay, Petraitis, & Hu, 1995; Gulliver et al., 2000). First, drinking alcohol is associated with cigarette initiation (Reed, Wang, Shillington, Clapp, & Lange, 2007). Once the individual is dependent on both smoking and drinking, urges

to smoke can correlate significantly with urges to drink (Burton & Tiffany, 1997; Cooney et al., 2007b; Gulliver et al., 1995; Hillemacher et al, 2006), and increased smoking is associated with increased drinking (Barrett, Tichauer, Leyton, & Pihl, 2006; Bien & Burge, 1990; Dawson, 2000; Daeppen et al., 2000; Sobell & Sobell, 1996).

7. Smoking cessation can improve substance abuse treatment outcome

Smoking cessation has been shown to improve drinking outcomes (Friend & Pagano, 2005a), and this improvement continued at 15-month follow-up (Friend & Pagano, 2005b). Individuals in treatment for alcohol use disorders who are motivated to stop smoking can safely be encouraged to do so without jeopardizing their sobriety (Hughes & Kalman, 2006).

Tobacco counseling may actually reinforce alcohol treatment. In a study by Kalman, Kahler, Garvey, and Monti (2006), nicotine abstinence at follow-up was related to longer alcohol abstinence. Treating smoking helps patients drink less alcohol. Bobo, McIlvain, Lando, Walker, and Leed-Kelly (1998) found that although a smoking cessation intervention did not have a significant impact on tobacco cessation, the intervention did lead to higher rates of alcohol abstinence. An integral association has also been noted between smoking and other substance use (Frosch, Nahom, Shoptaw, Jarvik, 2000; McCool & Richter, 2003; Wiseman & McMillan, 1998; Zickler, 2000). Discontinuance of one may help the patient quit the other. In a study of methadonemaintained (MM) individuals by Shoptaw, Jarvik, Ling, and Rawson (1996), a link was noted between smoking abstinence after intervention and reduced cocaine use. Lemon, Friedmann, and Stein (2003) found that smoking cessation was associated with greater abstinence from drug use. The authors concluded that concurrent smoking cessation during treatment for illicit drug use causes no harm and possibly has a beneficial effect.

Smoking cessation may also benefit MM patients in reduction of other drug use. The number of cigarettes smoked the previous day has been correlated with the number of reports of methadone being insufficient (Tacke et al., 2001). Shoptaw et al. (2002) found that during the weeks when participants met criteria for smoking abstinence, they also produced more opiate-free and cocaine-free urines than in the weeks when they smoked. In another study of patients in methadone maintenance, Frosch et al. (2000) found that smoking status (nonsmoker, occasional smoker, heavy smoker) is a more powerful predictor of cocaine and opiate use than daily methadone dose. Those authors suggested that smoking cessation should be offered to all MM individuals. Including nicotine as another drug to be addressed in chemical dependency treatment supports fuller freedom from addictive urges in general (Pletcher, 1993).

Prochaska, Delucchi, and Hall (2004) conducted a metaanalysis of 19 randomized controlled trials. The trials involved smoking cessation interventions with individuals in substance abuse treatment or recovery. They found that smoking cessation interventions provided during addictions treatment were associated with a 25% increased likelihood of long-term abstinence from alcohol and illicit drugs.

8. Smokers want to quit

According to the U.S. Center for Disease Control (2005), 70% of adult smokers in the U.S. general population report that they want to quit completely. Like smokers in the general population (Hyland et al., 2004), smokers in substance abuse treatment are generally knowledgeable about the harmful health effects of smoking (Clemmey, Brooner, Chutuape, Kidorf, & Stitzer, 1997) and wish to quit (Hughes, 2002). Many studies in the literature have documented significant willingness of smoking clients within the context of substance abuse centers to receive treatment for smoking cessation (Bobo, McIlvain, Gilchrist, & Bowman, 1996; Clarke, Stein, McGarry, & Gogineni, 2001; Clemmey et al., 1997; Ellingstad, Sobell, Sobell, Cleland, & Agrawal, 1999; Frosch, Shoptaw, Jarvik, Rawson, & Ling, 1998; Harris et al., 2000; Irving, Seidner, Burling, Thomas, & Brenner, 1994; Joseph, Nelson, Nugent, & Willenbring, 2003; Kozlowski, Skinner, Kent, & Pope, 1989; Orleans & Hutchinson, 1993; Richter, Gibson, Ahluwalia, & Schmelzle, 2001; Sees & Clark, 1993; Seidner, Burling, Gaither, & Thomas, 1996).

9. Policy changes are moving in the direction of including tobacco treatment

In June 2002, the World Health Organization recommended that treatment of nicotine dependence be considered part of a comprehensive tobacco-control policy. The policy should include a behavioral and/or pharmacological approach to treatment of tobacco dependence. A supportive environment can encourage tobacco consumers in their attempts to quit. Measures may also include taxation and price policies, advertising restrictions, dissemination of information, and establishment of smoke-free public places (World Health Organization, 2002).

United States guidelines direct health care professionals to address nicotine dependence in drug abuse patients (Fiore, Bailey, and Cohen, 2000). Medicare began offering a smoking cessation counseling benefit in 2005. The expansion of coverage includes two tobacco cessation attempts per year for enrolled patients who have been diagnosed with tobacco-use-associated diseases (Centers for Medicare and Medicaid Services, 2005). The following two codes from the Health Common Procedure Coding System have been created for Medicare patients: G0375 and G0376.

New Jersey led the way in implementing a licensure standard for all residential addiction treatment programs. It required them to assess and treat patients for tobacco dependence and maintain tobacco-free facilities, including grounds (Foulds et al., 2006). This was accomplished through policy change, training, and the provision of free nicotine replacement therapy (NRT). The definition of chemical dependence also was expanded to explicitly include tobacco. When the program began, 77% of all clients in 30 residential programs were smokers, and of those, 65% reported they wanted to stop or cut down tobacco use. The changes did not produce an increase in irregular discharges or reduction in proportion of smokers among those entering residential treatment compared with prior years (Williams et al., 2005). Most (87%) substance abuse treatment program directors affected by the policy thought that, overall, it had either a positive or neutral effect on clients or staff (Williams et al., 2005). Licensure standards can be an effective mechanism for increasing the quantity and quality of tobacco treatment in residential addiction programs.

In addition to international, national, and state policy changes, policy changes are also important at the treatment center level. An early first step in program change can include policies to restrict staff smoking with patients (Ziedonis, Guydish, Williams, Steinberg, & Foulds, 2006). Smoking staff members are common in substance treatment centers (Hahn, Warnick, & Plemmons, 1999). In Canada, about 30% to 40% of addiction treatment staff in community-based programs are themselves tobacco dependent (Bernstein & Stoduto 1999). In an Australian survey of drug and alcohol treatment agencies, 16.5% of respondents stated that it is occasionally useful for staff to smoke with a client (Walsh et al., 2005). Staff need to be persuaded to be good role models for their patients (Sussman, 2002). Designating smoking areas creates the problem of patients and counselors smoking together, reinforcing the perception that tobacco is acceptable and not a substance of much concern. Within each treatment center, a goal of 100% smoking cessation by staff should be encouraged.

Because secondhand smoke poses a risk to all exposed (U.S. Department of Health and Human Services, 2006), smoke-free buildings and grounds would also eliminate the dangers of secondhand smoke and the problem of staff and patients smoking together. Facility no-smoking policies indicate providers' concern for the health and well-being of both clients and staff (Fogg & Borody, 2001). Although drug treatment facilities routinely ban alcohol use and drug dealing on any of their grounds, a survey on smoking policies revealed that only 1 in 10 outpatient methadone maintenance facilities in the United States completely banned smoking from any part of their grounds (Richter, Choi, & Alford, 2005). In the long run, a nonsmoking policy does not negatively impact attendance in substance abuse programs nor does it jeopardize treatment adherence (Joseph, Nichol, Willenbring, Korn, & Lysaght, 1990). Rustin (1998) found that any disruption caused by becoming a smoke-free addiction treatment unit stabilized after 3 months. The increasing experience of staff in treating nicotine dependence resulted in improved patient outcomes. Callaghan et al. (2007) examined admission and completion patterns before and after a total smoking ban in an adolescent hospital-based substance abuse treatment program in Canada. They concluded that total smoking bans do not appear to be an obstacle for adolescent smokers seeking residential substance abuse treatment, nor did bans appear to compromise the treatment completion rates of smokers in comparison to nonsmokers. A smoke-free environment alone, without smoking cessation treatment, however, may not markedly affect the smoking status of patients (el-Guebaly, Cathcart, Currie, Brown, & Gloster, 2002; Patten, Martin, & Hofstetter, 1999).

Part of policy expansions may include staff training. Staff training is important before implementing smoking cessation programs (Hoffman & Slade, 1993). Staff training should include an educational component (Perine & Schare, 1999) and also involve individual performance feedback and coaching to improve the acquisition of clinical skills (Miller, Sorensen, Selzer, & Brigham, 2006). In some substance treatment programs, simple monitoring of staff counseling practices has been sufficient to increase the frequency of attention to tobacco (Bobo, Anderson, & Bowman, 1997). Coaching with feedback is still needed to enhance the quality of smoking cessation counseling.

10. And yet, tobacco dependence is greatly undertreated in substance abuse care

Traditional substance abuse treatment too frequently focuses only on treatment of the presenting substance (alcohol or other drugs) rather than including treatment for tobacco dependence. In a cross-sectional survey from the United States, Olsen, Alford, Horton, and Saitz (2005) reported that although addiction counseling is required in methadone programs, nicotine addiction is addressed less than half the time. In another survey of methadone and other opioid treatment centers in the United States, Richter, Choi, McCool, Harris, and Ahluwalia (2004) found in the 30 days before the survey only 1 of 3 facilities provided counseling for smoking to any patients and only 1 in 10 prescribed NRT. A recent study of outpatient substance abuse treatment programs in the United States found that 41% offered smoking cessation counseling or pharmacotherapy, 38% offered individual/ group counseling, and only 17% provided quit-smoking medication (Friedmann, Jiang, & Richter, 2008). In another study of 348 treatment clinics that participated in the U.S. National Drug Abuse Treatment Clinical Trials Network, 69% of the units offered no treatment for nicotine dependence (Fuller et al., 2007). In a survey of 223 Canadian adult substance abuse programs, 54%

reported providing some help in quitting smoking; however, most of these programs stated they placed "very little" emphasis on smoking compared to other substances (Currie, Nesbitt, Wood, & Lawson, 2003). Only 22% of Canadian outpatient programs indicated tobacco was a specific treatment area (Canadian Centre on Substance Abuse, 2000). A cross-sectional survey was mailed to all Australian drug and alcohol treatment agencies. It found that approximately one quarter of agencies have smoking cessation intervention policies, and one third of clients receive adequate smoking advice (Walsh et al., 2005). The alcohol and drug treatment systems, at least in the United States, Australia, and Canada, either ignore or undertreat tobacco as a drug.

11. Why is tobacco treatment so underutilized?

Barriers that reinforce the lack of attention given to this important problem include staff attitudes about and use of tobacco, lack of adequate staff training to address tobacco use, unfounded fears among treatment staff and administration regarding tobacco policies, and limited tobacco treatment resources (Asher et al., 2003; Ziedonis et al., 2006).

Overall, providers appear to be ambivalent about addressing smoking cessation. Some providers want to include tobacco treatment, whereas other providers advise patients to delay quitting smoking. There are fears in the recovery community that recovery from other substances of abuse would be jeopardized by quitting smoking (Goldsmith & Knapp, 1993; Gulliver, Kamholz, & Helstrom, 2006). In a secondary analysis of data from a national survey of methadone centers, one in four clinic leaders reported their staff had advised patients to delay quitting smoking cigarettes (Richter, 2006). Bobo, Slade, and Hoffman (1995) surveyed 771 professionals employed in alcohol treatment programs in the United States and learned that only one third of respondents agreed that clients in active treatment should be urged to guit smoking. Some providers may rely on cigarettes to help stabilize moods (Richter, 2006). Concerns about the potential negative impact of smoking interventions were expressed in a survey of alcohol and other drug treatment agencies in Australia (Walsh et al., 2005) and in Switzerland (Zullino et al., 2000).

12. What factors promote clinic and practitioner adoption of smoking cessation methods?

Smoking cessation success is greatest in a clinical setting in which smoking cessation treatment is staff supported and integrated with chemical dependency treatment (Campbell, Krumenacker, & Stark, 1998). Providers are more positive about including tobacco treatment when they learn that it is helpful to clients and if the clinic already operates a nicotine dependence program (Fuller et al., 2007; Hurt, Croghan,

Offord, Eberman, & Morse, 1995). These two findings have been true in a wide range of programs, including drug-free residential, methadone maintenance, outpatient, inpatient, and detoxification facilities (Fuller et al., 2007).

Many providers want to include tobacco as a substance of abuse and would like to be trained in smoking cessation treatment (McCool, Richter, & Choi, 2005). Education and training for staff is essential, as their beliefs and habits remain an important factor (Zullino et al., 2000). In a survey of methadone and other treatment centers across the United States, Richter et al. (2004) found that most respondents (77%) reported that their staff were interested in receiving training in nicotine dependence treatment, and more than half (56%) had at least one staff member with a strong interest in treating nicotine dependence.

Many staff in chemical dependency units are themselves current or former smokers. In a survey of 700 alcoholism counselors and medical personnel in residential and outpatient units in Nebraska, more than 63% of all respondents themselves were former or current smokers (Bobo & Davis 1993a). Counselors who smoke are less likely to address cigarette smoking in their patients. Conversely, counselors who do not smoke are more likely to address smoking (Bobo & Davis, 1993b; Bobo et al., 1995). In addition, treatment staff who describe themselves as recovering alcoholics and smokers are significantly less likely than nonalcoholicnonsmokers to urge smoking cessation efforts (Bobo & Gilchrist, 1983). The professionals' own smoking behavior was directly related to whether they desired to have a smoking cessation program in their treatment facility (Gill & Bennett, 2000).

It would be helpful to offer smoking cessation programs to treatment program staff, as well as clients. In Oregon a cognitive–behavioral group program plus nicotine patches was offered separately for staff and clients in a chemical dependence program. The intervention resulted in 37% of the staff and 7.5% of the clients becoming abstinent from smoking at the conclusion of the 12-week program (Campbell et al., 1998). Recovering staff have been successful in quitting smoking by applying their professional practice guidelines for substance treatment to their personal tobacco use (Bobo & Davis, 1993b).

13. What works?

A champion for smoking cessation frequently begins the process of integrative treatment. Goldsmith, Hurt, & Slade (1991) found that a leader to champion the inclusion was important in treating nicotine dependence in substance-abusing patients. The authors also noted that once the policy was in place, these chemical dependency unit personnel expressed surprise that the programs ran so smoothly, including normal census counts. Several strategies to integrate treatments have been successful. We discuss six strategies here.

13.1. The 5As

The U.S. Public Health Service recommends use of the 5A's model (Ask, Advise, Assess, Assist, and Arrange) when treating patients with nicotine addiction (Fiore et al., 1996). The first A, "ask," is to identify patients with risk factors. A productive way to ask is, "Please tell me about your current tobacco use." Merely asking, "Are you a smoker?" may not identify occasional or light smokers, some of whom do not consider themselves smokers (Okuyemi, Nollen, & Ahluwalia, 2006). The second A is "advise." Advice should be clear, strong, and personalized. The third A is "assess." Assess the patient's willingness by asking on a scale of 0 to 10, "How willing are you to quit smoking?" The fourth A is "assist." Assist the patient in making a quit plan. The fifth A is "arrange." Arrange follow-up within a week after the quit date. We recommend adding a sixth A to the process, "affirm." By affirming past successes and acknowledging client strengths, practitioners increase treatment adherence (Miller & Rollnick, 2002).

13.2. Motivational interviewing

Motivational interviewing (MI) is one option for practitioners to consider when treating patients who express ambivalence about concurrent smoking cessation. MI is an evidence-based, client-centered, yet goal-directed counseling method for helping people to resolve ambivalence about health behavior change by building intrinsic motivation and strengthening commitment (Miller & Rollnick, 2002). Talking about and reflecting motivations for change often causes a "click" within the client, resulting in a quiet realization of the importance of change and a decision to make it happen (Miller, Rollnick, & Butler, 2008).

In searching the literature that addressed three key terms, tobacco cessation, substance abuse treatment, and motivational interviewing, we located six studies. Three of the six studies found no difference between MI and other methods. Both MI treatment and (other) control produced encouraging results. Amphetamine users in treatment randomly assigned to MI combined with cognitive-behavior therapy versus self-help performed similarly at follow-up (Baker et al., 2005). Both groups reduced their amphetamine and tobacco use. The authors recommended a stepped-care approach in which more intensive treatment is offered only when less intensive care has been insufficient. Synergistic risks to health from combining smoking with alcohol were addressed in a randomized controlled trial of MI compared with brief advice in a residential substance abuse treatment program (Rohsenow, Monti, Colby, & Martin, 2002). Both approaches showed promise, especially since previous studies indicated that no alcoholic patients had quit smoking. Pregnant smokers with dependence on opiates benefited from both standard care and motivational enhancement therapy (Haug, Svikis, & DiClemente,

2004). However, the women in the motivational group indicated greater readiness to reduce their tobacco use.

In an inpatient unit for substance use detoxification, Gariti et al. (2002) found that the MI intervention group outperformed the control group at 6-month follow-up. Combined self-report and biochemical findings indicated that 6% of the MI group had stopped smoking, whereas 0% of the control group had stopped.

An uncontrolled pilot study focused on maintaining fidelity to MI principles and counseling strategies (Richter, McCool, Catley, Hall, & Ahluwalia, 2005). The patients in drug treatment had made at least one serious quit attempt during the study, and the number of cigarettes per day declined from 22 at baseline to 10 at 6 months. Six months after their proposed quit date, 14% of the patients were abstinent from smoking. Participating in the smoking cessation part of the study had neither a positive nor a negative impact on patients' other drug use.

In their study with 200 young people (age range = 16-20 years) who were currently using illegal drugs, McCambridge and Strang (2004) tested whether a single session of MI in which alcohol, tobacco, and illicit drugs were discussed would lead to reduction in use. At follow-up, the MI participants reduced their use of cigarettes, alcohol, and cannabis significantly when compared with the education-as-usual participants. The MI group also had more substance quitters than the control group. The authors concluded that a comprehensive yet brief conversation with young people can motivate reductions in risk behavior across different drugs of use.

The take-home message from these six MI trials: Offering smoking cessation to patients who are being treated for other substance use may help significantly and does not detract from their treatment.

13.3. Psychotherapy

Addressing mental health in substance abuse treatment increases willingness to take part in smoking cessation. It is important to include depression-specific interventions for alcohol- and tobacco-dependent individuals to facilitate successful drinking treatment outcomes (Kodl et al., 2008). However, in a methadone-maintained population, depression had little influence on smoking cessation outcomes (Stein, Weinstock, Anderson, & Anthony, 2007). Among patients in intensive treatment for alcohol use disorders who smoke, a history of depressive disorder and depressive symptoms predict less interest in quitting smoking (Joseph, Lexau, Willenbring, Nugent, & Nelson, 2004).

Cognitive—Behavioral therapy (CBT) combined with contingency management was helpful in a high-school-based smoking cessation program for adolescents (Cavallo, Duhig, McKee, & Krishnan-Sarin, 2006; Krishnan-Sarin, Duhig, & McKee, 2006). CBT did not significantly differ from general health education in obtaining 30-day abstinence in a sample of patients with cancer (Schnoll et al., 2005).

Treated populations frequently have psychiatric comorbidity (Kessler et al., 1996).

Addressing depression helps improve smokers' chances of successful smoking cessation (Joseph, Lexau, et al., 2004). Because there is an association between smoking, drinking, and depression, clinicians should address all three to treat patients effectively (Ait-Daoud et al., 2006; Martin, Rohsenow, MacKinnon, Abrams, & Monti, 2006). In a study that examined smoking cessation efforts among 120 substance abusers with and without psychiatric comorbidity, the presence of a psychiatric disorder, in conjunction with a substance use disorder, did not appear to deter smoking cessation efforts in early recovery (Unrod, Cook, Myers, & Brown, 2004).

Although an attempt was made to include the most relevant and relatively recent articles and reports, our report is not an exhaustive review. Limitations in this review include omission of a comprehensive reference to psychiatric comorbidity in this population. Associations between nicotine dependence and specific Axis I and II disorders were all strong and statistically significant (Grant, Hasin, Chou, Stinson, & Dawson, 2004). Treatment populations are likely to have higher rates of mental illness compared with individuals who are not in treatment (Kessler et al., 1996). Psychiatric comorbidity needs to be addressed in future research regarding smoking cessation in substance abuse treatment (Gershon Grand, Hwang, Han, George, & Brody, 2007).

13.4. Pharmacotherapy

Use of pharmacotherapy improves outcomes in smoking cessation. Pharmacological treatments that have demonstrated therapeutic effects in assisting clients to quit smoking include NRT, bupropion, and varenicline (Gonzales et al., 2006; Hays et al., 2001; Hughes, Stead, & Lancaster, 2007; Wu, Wilson, Dimoulas, & Mills, 2006). NRT can be in the form of a gum, patch, nasal spray, inhaler, and lozenge. These are first-line therapy, and varenicline or bupropion can be used alone or as an adjunct to NRT (Frishman, 2007). Many smokers are unaware of these effective cessation methods, and most underestimate their benefit (Hammond, McDonald, Fong, & Borlands, 2004).

NRT is available over the counter and is associated with improved long-term smoking abstinence rates (West & Zhou, 2007). In heavy drinkers, transdermal nicotine replacement, compared to mild nicotine deprivation, has attenuated subjective and physiological alcohol responses and delayed the initiation of drinking (McKee, O'malley, Shi, Mase, Krishnan-Sarin, 2008). The nicotine patch as well as nicotine lozenges are effective even for very heavy, highly dependent smokers (Henningfield & McLellan, 2005). Kozlowski et al. (2007) described the safety and effectiveness of over-the-counter NRT options.

Because smokers with substance abuse problems have higher levels of nicotine dependence, NRT may be particularly important in substance abuse treatment (Hughes, 1993, 1996; Prochaska et al., 2004). NRT is effective in substance abuse clients. Hurt, Dale, et al. (1995) concluded that recovering alcoholic smokers are likely to be more nicotine dependent than nonalcoholic smokers but could achieve comparable short-term cessation rates with nicotine patch therapy. Hays et al. (1999) found that people with past or current alcohol problems did significantly better than those without alcohol problems after nicotine patch therapy. In a study by Hughes, Novy, Hatsukami, Jensen, and Callas (2003), 115 smokers with a history of alcohol dependence were randomly assigned to either a 21-mg nicotine patch or placebo. The nicotine patch group had significantly improved smoking abstinence continuing to 6-month follow-up.

The cost of NRT may inhibit clients from using nicotine replacement to help them stop smoking (Kozlowski et al., 2007). Helping patients find resources to overcome this cost hurdle helps increase their chances of success. Distribution of free NRT plus one or two telephone counseling sessions for smokers has resulted in a stop rate of 20% at 6-month follow-up (Miller et al., 2005).

Bupropion SR (sustained release) is an effective treatment of tobacco dependence in various populations of smokers who may experience difficulty in quitting smoking (Johnston, Robinson, & Adams, 1999; Tonstad, 2002). However, bupropion is contraindicated in patients with a history of seizures or serious head trauma. Previous alcohol withdrawal seizures in a patient might preclude its use (Hurt, 2002). Alcohol abuse is strongly correlated with co-occurring depression (Grant et al., 2004), and in addition, bupropion is an antidepressant. Tonstad (2002) found that in smokers who wanted to quit smoking, abstinence from smoking after treatment with bupropion SR was not affected by a history of major depression or alcoholism.

A combination of smoking treatments may be more useful than one. In a study by Croghan et al. (2007), participants who received the combination of bupropion and a nicotine inhaler increased smoking abstinence. Combining nonpharmacological interventions with pharmacotherapy can optimize support for smokers who are trying to quit (Niaura, 2008).

13.5. Telephone support: quitlines

When smoking cessation programs are not feasible, telephone helplines or quitlines are effective (Owen, 2000; Wakefield & Borland, 2000). A simple referral requires very little effort from treatment professionals. National quitlines are available in Australia, Europe, Canada, New Zealand, and the United States where lines are available to the general public (Greaves, Horne, Poole, Jategaonkar, & McCullough, 2005).

Medication assistance can also be offered in addition to quitline referral. In a recent study performed at Veterans Health Administration sites in California, 1,345 primary care patients received a 30- to 45-minute counseling session from the California Smokers' Helpline, and offered medication management, and five follow-up telephone calls. At 6-month follow-up, 335 patients (11% of all referrals and 25% of participating patients) were abstinent (Sherman et al., 2008). The effectiveness of these quitlines has increased with the addition of free NRT (An et al., 2006; Cummings et al., 2006). Offering free NRT and multisession telephone support within a state tobacco quitline has increased outreach (Woods & Haskins, 2007), increased quit rates (Hollis et al., 2007; Tinkelman, Wilson, Willett, & Sweeney, 2007), and expanded access to NRT (Schillo et al., 2007).

13.6. Telephone support: aftercare

Tobacco cessation is strengthened by revisitation in aftercare programs (Metz et al., 2007; Sussman, 2002). Follow-up telephone calls are helpful (Stead, Lancaster, & Perera, 2006) and increase abstinence rates after discharge (Metz et al., 2007). Patients also appreciate being contacted after treatment for encouragement and support. When contacted after smoking cessation treatment, two thirds of smokers in a Veterans Affairs study who attempted to quit, but began smoking again, wanted to quit again right away, most requesting behavioral and pharmacological treatment (Fu et al., 2006).

14. Recommendations for substance abuse treatment clinicians

14.1. Offer smoking cessation to both patients and staff who smoke

Always offer tobacco cessation to substance abuse patients who smoke. Flexibility is helpful to tailor treatment to the individual patients' wishes and needs (Bowman, & Walsh, 2003). Whether patients who wish to quit smoking choose concurrent treatment during substance abuse treatment or choose to quit smoking after treatment, we should encourage and assist them whenever they feel ready.

Always offer tobacco cessation to treatment staff who smoke. A supportive workplace environment encourages staff in their attempts to quit smoking. It is important to communicate well with workers at the worksite, reflect their concerns, and promote an atmosphere of support for freedom from tobacco. They, like their patients, must also receive respectful communication that promotes understanding. Smoking cessation treatment of clinic staff may not only help the individual workers but also may strengthen the program. In small worksites, qualitative interviews have revealed that staff smokers expressed interest in incentive programs, contests, and NRT to help them quit (Tiede et al., 2007). In Canada, a successful smoking intervention was implemented for both patients and staff in an addiction

treatment center (Bernstein & Stoduto, 1999). The authors found that 55.6% of staff who smoked entered the smoking program during the first year of its implementation. This intervention used a choice-based philosophy and was strongly endorsed by staff and clients.

If an intervention results in a reduction in the number of cigarettes smoked, rather than complete cessation, it is a positive step with health benefits (Pisinger & Godtfredsen, 2007). In contrast, switching to lower tar cigarettes is not helpful and may be harmful (Gallus, Randi, Negri, Tavani, & La Vecchia, 2007; Gullu et al., 2007; Strasser, Lerman, Sanborn, Pickworth, & Feldman, 2007). Complete cessation is generally more successful (Cheong, Yong, & Borland, 2007). Successful efforts to quit tobacco increase the individual's sense of control and a more positive overall lifestyle.

Previous smoking cessation attempts may be beneficial to future success for anyone who tries to stop. A greater number of past quit attempts has been positively associated with readiness to quit in patients with alcohol use disorders (Joseph, Lexau, et al., 2004). With each attempt at smoking cessation, patients may develop coping skills that are useful in subsequent quit attempts. Longer duration of smoking abstinence during a prior quit attempt is associated with better short-term posttreatment smoking cessation outcome (Patten, Martin, Calfas, Lento, & Wolter, 2001).

An important preventive opportunity is provided in substance abuse care to intervene before individuals become heavily nicotine dependent. Some smokers in substance abuse treatment smoke regularly yet are not nicotine dependent (Frosch et al., 2000). In addition, many patients in substance abuse treatment are young, relatively new to tobacco use, and have not yet experienced the chronic effects of tobacco. Some actually initiate tobacco during or shortly after substance abuse treatment (Friend & Pagano, 2004). The substance abuse setting provides an opportunity for early identification and prevention of tobacco use.

14.2. Provide training for staff to help patients with tobacco cessation

Effective tobacco counseling for recovering alcohol and drug patients is extremely important given their increased health risks (McIlvain & Bobo, 1999). Counselors who work in substance abuse already have expertise in helping people with addiction problems. Their expertise will benefit the smoking client. Counselors can still benefit from evidence-based information to assist smoking patients in their care. However, the treatment staff will need more than didactic information in their training. They will need clear and accurate feedback from a coach regarding their performance (Miller et al., 2006). In a review of effective training methods for tobacco intervention in undergraduate medical education, Spangler,

George, Foley, and Crandall (2002) concluded that enhanced instructional methods, like the use of patient-centered counseling, standardized patient instruction, role playing, or a combination of these, are more effective for teaching tobacco intervention than lecture.

Training for staff could be requested from national associations that deal with the chronic results of smoking such as the American Lung Association, Cancer Society, or Heart Association. Training with practice in MI could be requested from the international Motivational Interviewing Network of Trainers available at: http://www.motivationalinterview.org/training/trainers.html.

14.3. Offer a menu of options to patients, staff, and policy makers about how and when to stop smoking

Although more research is needed to identify the most effective techniques for increasing smoking cessation in those who are recovering from other substance misuse, we already have many tools we can use to enhance the care of these patients.

14.3.1. Timing: concurrent versus subsequent

Although several studies have demonstrated the feasibility of treating nicotine dependence in people with substance use disorders, there is still some debate as to whether tobacco treatment should be delivered simultaneously with or subsequent to treatment for other substances (Kodl, Fu, & Joseph, 2006). We believe, pending further scientific information, that it is reasonable to help patients whenever they tell us they wish to stop smoking. Patient preference must guide the decision about whether to address these issues concurrently (American Psychiatric Association, 2006). Smoking cessation should be offered during substance abuse treatment, as well as after substance abuse treatment. One concern about delayed treatment is that significantly fewer clients begin delayed treatment than begin concurrent treatment (Joseph, Willenbring, Nugent, & Nelson, 2004; Kalman et al., 2001). First, offer concurrent treatment. One may also offer delayed treatment. It would be unwise, however, to delay offering any treatment until completion of treatment for other substances. Delaying to offer smoking cessation treatment may result in missed opportunity and in no treatment for some patients who would have desired to attempt concurrent cessation. In addition, postponing an offer may be easily ignored later, especially given the underfunded and overwhelmed conditions of many treatment centers.

Within the framework of MI, patient autonomy suggests the importance of a menu of options to support smoking cessation. If they are willing to try smoking cessation during substance abuse treatment, patients should be encouraged and be provided the opportunity. If patients return to smoking, they frequently are willing to make another quit attempt soon after reinitiation

(Joseph, Rice, An, Mohiuddin, & Lando, 2004). Choice can be also provided for another opportunity to stop smoking after treatment for other substances.

We respect patients' readiness or lack of readiness to quit smoking. They can be encouraged to consider quitting after treatment for other substances. Our door can be kept open. Support must be expressed for their ability to accomplish smoking cessation, and an opportunity should be provided for the patient to arrange future smoking cessation treatment. Delayed treatment also works (Martin et al., 1997). In a study by Hurt et al. (2005), delayed treatment (NRT patch) in nondepressed patient smokers in sustained full remission from alcoholism was successful at 8 weeks.

Many providers feel unable to offer smoking cessation to their patients because they are under funded, understaffed, and overwhelmed with responsibilities. A menu of options to help counselors promote patient smoking cessation is listed below.

Menu of options

- 5As (Ask, Advise, Assess, Assist, and Arrange +1 {Affirm})
- Motivational interviewing
- Psychotherapy
- Physical exercise program
- Nutritional program
- Pharmacological options
- Bupropion
- o Nicotine replacement
- Gum
- Patch
- Nasal spray
- Inhaler
- Lozenge
 Ouitling parti
- Quitline participation
- Follow-up aftercare
- Partnering with organizations with existing treatment for smoking cessation
- o The American Cancer Society
- The American Lung Association
- o Others

15. Conclusion

Multilevel (clinical, program, and system) changes may be needed to fully address the problem of tobacco use among alcohol- and other drug-abusing patients (Ziedonis et al., 2006). This provides us with opportunities to support diffusion of innovative and evidence-based practices.

Health care professionals have a window of opportunity when they are treating patients for other substance misuse to assist them with smoking cessation. Effective smoking cessation treatments are available. The integration of nicotine dependence treatment into substance abuse care is believed to increase patients' sense of mastery that targets all addictive substances and focuses on positive lifestyle changes (Sussman, 2002). Our recommendation is to integrate smoking cessation into substance abuse treatment programs, providing synergistic benefit.

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