

Cognitive-Behavioral Treatment of Nicotine Dependence for a Female With a History of Alcohol and Respiratory Problems

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Abstract: This case study describes the effectiveness of cognitive-behavioral therapy for nicotine dependence among smokers with comorbid alcohol dependence and severe respiratory difficulties. Although clinical practice guidelines exist for the treatment of nicotine dependence, smokers with complicated psychological and medical histories remain resilient to recommended treatments. Successful smoking cessation programs for these patients require a comprehensive biopsychosocial assessment as well as a tailored treatment approach. A theoretical and empirically based rationale for cognitive-behavioral treatment is provided followed by the development of a case conceptualization, course of treatment, use of assessment data, and recommendations.

Keywords: smoking cessation; nicotine dependence; case study

1 THEORETICAL AND RESEARCH BASIS

An estimated 55.7 million Americans aged 12 and older (24.9%) report that they currently smoke cigarettes (U.S. Department of Health and Human Services [DHHS], 2000). Chronic cigarette smoking is associated with a number of serious medical illnesses including cancer, heart disease, stroke, complications of pregnancy, and chronic obstructive pulmonary disease (Fiore et al., 2000). Given the high rate of cigarette consumption and the health problems related to their continued use, it should come as no surprise that cigarette smoking is the number one preventable cause of death in the United States (Centers for Disease Control and Prevention [CDC], 2002). It has caused approximately 440,000 premature deaths in the United States annually and accounts for approximately \$157 billion in annual health-related economic losses (CDC, 2002).

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Smoking cessation, therefore, could prevent a large number of deaths each year and defer the onset of a large number of these terminal illnesses. Many smokers, however, find it difficult to stop using cigarettes, and this is confirmed by the staggering rate that ex-smokers relapse. Epidemiologic data suggest that more than 70% of current smokers in the United States have made at least one quit attempt, and approximately 46% try to quit each year (CDC, 1997). Regrettably, most of these efforts to quit are unsuccessful, and of the 17 million smokers who try to quit each year, fewer than 1 out of 10 actually succeeds (*Statement on Nicotine-Containing Cigarettes*, 1994).

For some time, a large body of research has shown that smoking cigarettes is addicting and that nicotine is the agent in cigarettes that leads to addiction (DHHS, 1988). In the scientific community, the terms *drug addiction* and *drug dependence* are synonymous in that both terms refer to the behavior of repeatedly ingesting mood-altering substances by individuals. According to the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition, text revision (*DSM-IV-TR*; American Psychiatric Association [APA], 2000), the essential features of nicotine dependence incorporate a combination of cognitive, behavioral, and physiological symptoms that play a role in an individual's continued use of a substance despite significant substance-related problems. Specifically, nicotine dependence comprises (Criterion 1) tolerance to nicotine as defined by a more intense effect the first time it is used during the day and the absence of nausea and dizziness with repeated intake; (Criterion 2) a well-defined withdrawal syndrome produced upon cessation of nicotine intake and use of nicotine to relieve or to avoid withdrawal symptoms; (Criterion 3) nicotine used in larger amounts or over a longer period of time; (Criterion 4) desire to quit or unsuccessful efforts to quit smoking; (Criterion 5) a great deal of time spent in smoking-related activities; (Criterion 6) giving up or reducing social, occupational, or recreational activities; and (Criterion 7) continued nicotine use despite harmful effects (APA, 2000). According to the *DSM-IV-TR*, a defined threshold must be met (3 of 7 symptoms) to warrant classification as nicotine dependent. In addition, the specifier "With Physiological Dependence" is indicated when there is evidence of tolerance, withdrawal, or both.

Despite the establishment of clinical practice guidelines for the treatment of nicotine dependence (Fiore et al., 2000), it remains a complex biobehavioral problem to treat. Many subgroups of cigarette smokers continue to be resilient to standard treatment recommendations and require tailored approaches before successful cessation can be achieved. For example, patients with certain medical conditions and psychopathological histories have been shown to be the most difficult to treat (Fiore et al., 2000). The current case study illustrates the need for tailored treatment for smokers with comorbid problems. Specifically, a history of alcohol problems and respiratory illnesses serve to complicate treatment for the patient presented in this case study.

Prior research suggests that individuals with a history of alcohol problems compared with people without alcohol problems are less likely to quit smoking (Hays et al., 1999; Kalman, 1998; Sussman, 2002). Reasons for lower quit rates may result from lower

motivation (Kalman et al., 2001), lack of an adequate recovery time from alcohol use (Kalman, Tirsch, Penk, & Denison, 2002), and elevated affective disturbance either prior to the quit attempt (Hitsman et al., 2002) or following cessation (Patten, Martin, Calfas, Brown, & Schroeder, 2000). For example, smokers with histories of alcohol problems experience substantially more nicotine-withdrawal-related negative affect as compared with people without alcohol problems (Patten et al., 2000). This, combined with the fact that withdrawal symptoms associated with smoking cessation is one of the main reasons that smokers relapse (Gross & Stitzer, 1989), makes smokers with alcohol histories even more susceptible to relapse.

Interestingly, individuals with histories of substance dependence may not present for treatment until much later in life when medical problems often complicate the treatment process. For example, a variety of respiratory problems is either exacerbated by or results from years of cigarette smoking (CDC, 1999). Current treatment efforts for patients with respiratory problems have been either nonexistent or ineffective. At best, approximately 50% of smokers entering emergency rooms for respiratory problems are advised to quit, and only 9% of those advised were offered assistance in their quit attempts (Bock et al., 2001). Furthermore, physicians only tend to advise patients with the most severe respiratory problems to quit smoking (Ossip-Klein et al., 2000), and respiratory therapists have been shown to be unequipped to adequately provide smoking treatment (Stevens, Glasgow, Hollis, & Mount, 2000). Given that smoking cessation has been shown to improve lung functioning (Emmons, Weidner, Foster, & Collins, 1992), there is a need for health care providers to address and treat smoking behavior among respiratory patients. Moreover, respiratory patients with complicated psychological profiles, such as those with a history of alcohol problems, may require individualized treatment.

2 CASE INTRODUCTION

This case depicts the treatment of nicotine dependence using cognitive-behavioral strategies. The client (who will be referred to by the pseudonym Betty) was a 67-year-old, single, Caucasian female who was referred by her primary care physician for individual smoking cessation treatment. Betty reported a history of alcohol abuse but noted that she was sober for the past 7 years. In addition, Betty reported that she suffered from numerous medical problems including chronic bronchitis, asthma, and emphysema. These medical concerns significantly affected Betty's independence and caused her to rely heavily on a motorized scooter for community mobility. Betty lived in an apartment by herself and reported that she had very little local, social support; however, she did indicate that she had several relatives that lived out of state that she talked to via phone on a weekly basis. Betty reported a 55-year smoking history, smoking her first cigarette at the age of 12, and progressed to daily cigarette smoking by the age of 14. At her heaviest use,

she reported smoking two packs (40 cigarettes) per day; however, at the start of treatment, she reported smoking about one and a half packs per day. Betty reported that she had tried, unsuccessfully, to quit smoking many times in her life but noted that she could recall four occasions where she “seriously” tried to quit.

3 PRESENTING COMPLAINTS

Betty presented with complaints of having “no control” over her smoking behavior and a strong desire to quit smoking. She also reported that her health was “failing” and that her physician would not perform “a necessary medical procedure” unless she quit smoking. Betty reported developing tolerance very early on in her smoking history, as indicated by an absence of nausea and dizziness with repeated intake, despite regular use of significant amounts of nicotine (Criterion 1). She also noted that if she went more than 2 hrs without a cigarette, she would experience a number of withdrawal symptoms including depressed mood, irritability, restlessness, anxiety, difficulty concentrating, and insomnia (e.g., waking up several times during the evening to smoke; Criterion 2). Betty reported that she regularly had to plan more trips to purchase cigarettes, which was difficult and time-consuming for her given her lack of mobility, because she ran out of cigarettes before she anticipated (Criterion 3 and Criterion 5). As noted earlier, Betty reported four occasions in the past where she made “serious” quit attempts utilizing group smoking cessation programs, nicotine replacement patches, and stopping “cold turkey.” She made it clear to the therapist that she did not want to use nicotine replacement patches this time because when she used them last she had “vivid, disturbing dreams.” Betty noted that all of her quit attempts led only to temporary smoking cessation, with her longest period of abstinence being a little more than 1.5 years (Criterion 4). Finally, Betty continued to smoke cigarettes despite her multiple medical concerns, which were directly related to her smoking (Criterion 7).

4 HISTORY

Betty grew up in a rural southeastern state along with her younger brother. She reported that some of her fondest childhood memories revolved around spending time with her grandfather during the summer months when she was not in school. Specifically, she mentioned that she was frequently asked to roll cigarettes for her grandfather, who did not have the dexterity to roll his own. As a reward, Betty’s grandfather would give her a couple of cigarettes for herself. By the age of 14, Betty was smoking on a daily basis and reports that she was not punished for this behavior because both of her parents “approved” of her smoking as they were “heavy smokers” themselves. She also noted that it was commonplace for her as well as her peer group to smoke in public because “no

one cared if kids smoked because everyone smoked” and “no one knew smoking was bad for you at the time.” Betty graduated high school when she was 18 years old and joined the military. While on duty, Betty reported that she began to drink alcohol and, like her smoking, this progressed to heavy, regular use very rapidly. Betty reported that while on duty she did not drink; however, when she was on leave, she drank to excess.

Betty retired from the military after 20 years of service and moved to the West Coast. Given that her military pension made her financially self-sufficient, she decided not to seek out employment. Instead, she volunteered her time to different political campaigns and maintained a relatively leisurely lifestyle. Although smoking and drinking to a heavy degree for more than 20 years, Betty reported that she did not seem to suffer from “bad health” or “get into any trouble.” At the age of 59, Betty noted that one of her closest friends died in a car accident. About this time, Betty reported that her drinking became “out of control” and she became “irresponsible” as evidenced by getting into trouble with the law (e.g., driving under the influence, public intoxication). As a result of her legal problems, Betty was referred to a residential treatment center for her alcohol problems. She noted that the program was “intense;” however, the program did not emphasize quitting smoking (in fact they actually discouraged it). While in treatment, it was discovered that Betty was suffering from numerous respiratory problems. Once she completed her treatment program for alcohol dependence, she moved into an assisted living facility and her health continued to decline. Within a couple of years, her respiratory problems progressed to the point that she needed a motorized scooter for community mobility. Betty reported that her physicians encouraged her to quit smoking as it was “killing her,” and she made numerous quit attempts with limited success. She reported that being abstinent from alcohol was “easy” in comparison to quitting smoking. When she presented for treatment with the current therapist, she had been abstinent from alcohol for 7 years and was referred by her primary care provider.

5 ASSESSMENT

In addition to a standard clinical interview designed to assess Betty’s smoking history, smoking topography, and motivation for change, the Fagerström Test of Nicotine Dependence (FTND; Heatherton, Kozlowski, Frecker, & Fagerström, 1991) was administered to assess level of nicotine dependence. Carbon monoxide (CO) levels were taken as well to biochemically validate self-reported smoking abstinence. Both of these measures are described below.

MEASURES

The FTND is a six-item self-report questionnaire designed to assess various components of smoking behavior including an estimate of daily intake, difficulty in refrain-

ing, and other aspects related to the pattern of intake. The FTND is one of the most widely used scales for the measurement of nicotine dependence. Potential scores on the FTND range from 0 to 10 with higher scores indicative of greater dependence. The FTND exhibits moderate internal consistency and acceptable construct validity (Pomerleau, Carton, Lutzke, Flessland, & Pomerleau, 1994).

Measurement of CO is used to assess whether a person is abstinent from smoking. The individual is asked to exhale completely into a handheld unit after taking a deep breath and holding it for 20 s. CO levels, which are elevated in the lungs from smoked tobacco products, indicate tobacco use within the past 24 hrs. The standard indication of tobacco use has been CO levels above 8 to 10 ppm (SRNT Subcommittee on Biochemical Verification, 2002).

6 CASE CONCEPTUALIZATION

Betty had a smoking history of more than 50 years; however, it was not until her health problems significantly affected her independence that she became motivated to quit. She reported four prior “serious” quit attempts but noted that she never sought out treatment from a professional. Betty’s case was conceptualized as a complex biopsychosocial phenomenon affecting her physically, behaviorally, emotionally, and cognitively. Given Betty’s preference to avoid nicotine replacement therapy (NRT), treatment employed behavioral strategies to first reduce her nicotine intake and then teach her relapse prevention strategies she could use, once she had quit, to remain abstinent. Cognitive strategies were also employed to point out her erroneous thinking patterns regarding what would happen to her when she did quit (e.g., “The cravings for a cigarette will make me go crazy”) as well as what it would mean to her social life (e.g., “The few friends I have smoke and if I quit, I will not have any friends”) and replace them with more adaptive thoughts (e.g., “The cravings to smoke will pass if I wait them out” and “My friends will be supportive of my quit attempt and may even want to try and quit themselves”).

Given that smoking cigarettes involves several biobehavioral processes of drug dependence, including nicotine reinforcement, the initiation and maintenance of this dependence may be supported by other actions of nicotine (DHHS, 1988). For example, when asked why she smoked cigarettes, Betty reported that they helped her to “think better,” “deal with stress,” and, when she was younger, keep her body weight “under control.” These beliefs likely contributed to the initiation and maintenance of Betty’s habit as well as her relapses when she attempted to quit. These beliefs had to be challenged while at the same time reducing her nicotine intake.

For Betty (as for most others), cigarette smoking was an orderly behavioral and pharmacologic process that involved the maintenance of desired levels of nicotine in the body. As a result, the first stage of treatment was to get her to learn as much as possible

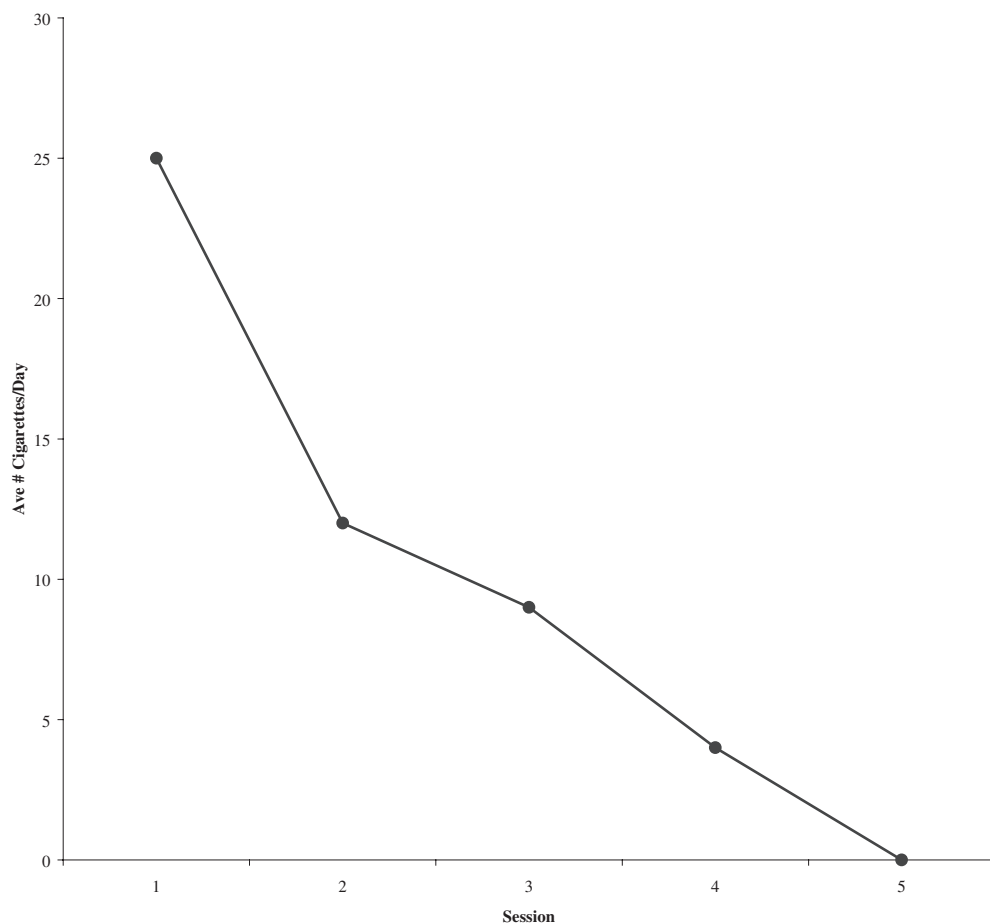


Figure 1. Betty's Average Daily Cigarette Consumption

about her smoking habit so that she could reduce her nicotine intake and eventually quit smoking. Hence, treatment focused on systematically reducing the number of cigarettes Betty smoked each week (see Figure 1). As can be seen from the figure, Betty did an excellent job of reducing her smoking intake, with the largest reduction coming between Weeks 1 and 2. During this time period, Betty noted that it was easy to cut many of her daily cigarettes out because she “did not need them.” As the reduction in her smoking behavior continued during Weeks 3 to 5, Betty reported greater difficulty as each cigarette “meant so much.”

While cutting down on her cigarette consumption, Betty did an excellent job of identifying her maladaptive cognitions regarding her smoking behavior and, with some practice, became quite proficient at replacing those thoughts with more adaptive ones. During this time, Betty also employed stimulus control to minimize the reinforcement properties of smoking. Specifically, Betty was asked to find a location that would serve as

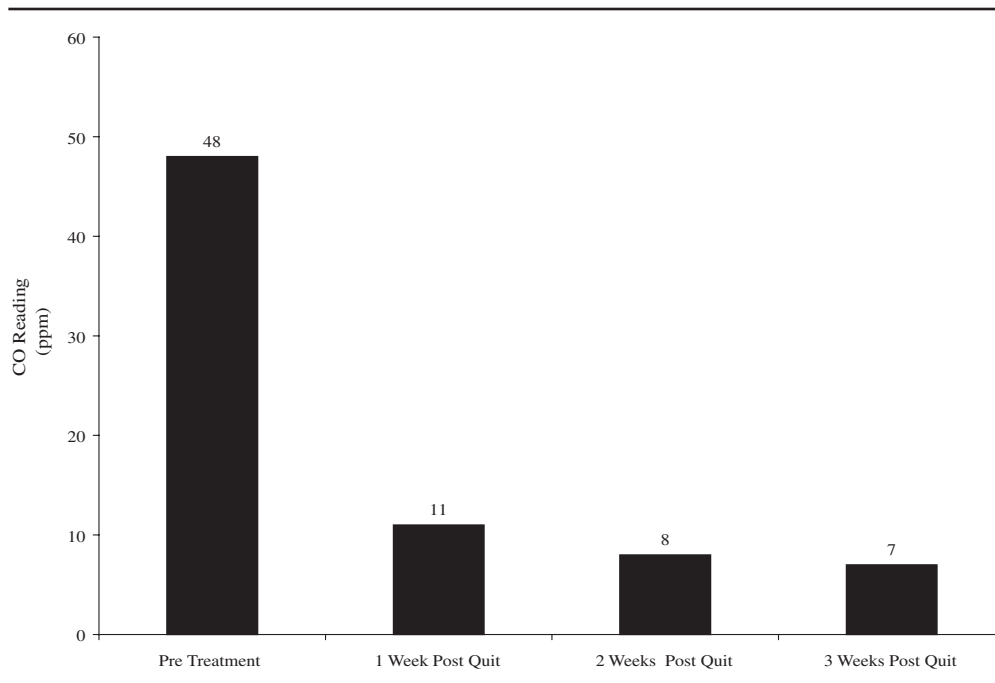


Figure 2. Betty's CO Readings Before and After Quitting

the only place she could smoke and could do nothing else while in that place, a strategy derived from classical conditioning (Pavlov, 1927). Classical conditioning occurs when nicotine administration (unconditioned stimulus) produces psychological and physiological states (unconditioned response) that are repeatedly paired with neutral stimuli (conditioned stimulus) such as talking on the phone or watching television. In other words, when Betty smoked cigarettes while engaging in other activities, the reinforcing properties of nicotine eventually became conditioned to these environmental stimuli (Iwamoto, Fudala, Mundy, & Williamson, 1987; Rose & Levin, 1991). Over time, the repeated pairings between these once neutral stimuli and nicotine administration produced a conditioned response that initiated and maintained Betty's tobacco-use behavior (Rose & Levin, 1991).

Once she quit, it was essential that Betty see improvements in her physical health because her health problems were a strong motivating factor in her wanting to quit smoking in the first place. As a result, Betty's CO measure taken during the first treatment session was compared to her CO measures taken during Weeks 6 to 8 (see Figure 2). It was explained to Betty that this decrease was representative of the CO levels in her blood dropping and the oxygen levels in her blood increasing. This change was directly related to her health status by illustrating that CO reduces the ability of the blood to carry oxygen, which makes the heart work harder, thickens the blood, and raises the risk of stroke and atherosclerosis. Also, given Betty's chronic respiratory problems, it was

explained that CO further deprives the heart of oxygen, potentially leading to angina and heart attack. Finally, Betty reported that during Weeks 6 to 8 of treatment her “circulation was better” as evidenced by the fact that her hands and feet did not get as cold as they did previously. She was also encouraged by the fact that at her most recent appointment with her physician he noted that her blood pressure and heart rate were dropping to “more normal” levels.

7 COURSE OF TREATMENT AND ASSESSMENT OF PROGRESS

During Betty’s intake session, she was asked to exhale into a CO monitor to obtain a baseline CO level as well as complete the FTND. Results revealed a CO reading of 48 ppm (indicating that she was indeed a heavy smoker) and an FTND score of 9 (indicating that she was quite dependent on nicotine). In addition to these measures, a detailed account of her smoking history and quit attempts was obtained via clinical interview. In sum, Betty reported smoking her first cigarette at the age of 12 and progressed to daily cigarette smoking by 14. She noted that when she was smoking at her heaviest rate she smoked two packs (40 cigarettes) per day but was currently smoking 25 cigarettes daily. Betty reported that she had tried unsuccessfully to quit smoking many times in her life but noted that she could recall four occasions where she made “a serious attempt” to quit utilizing nicotine replacement patches and stopping “cold turkey.” She noted that her previous quit attempts resulted in temporary cessation with her longest period of abstinence being a little more than 1.5 years. She also noted (on scales of 1 to 10) that she had a strong desire to quit smoking (10), that it was very important that she quit smoking (10), but that she was only somewhat confident of her ability to quit (5).

By the end of the intake session, Betty agreed to attend weekly sessions for the next 8 weeks. Betty and the therapist collaboratively planned to systematically reduce her nicotine intake and have her learn as much as possible about her smoking behavior (e.g., when she smoked, where she smoked, and why she smoked) during the first 4 weeks of treatment. A quit date was set for week 5, and during weeks 6 thru 8 it was decided that the focus of treatment would be on issues related to relapse prevention. Betty left the intake session with two homework assignments: (a) attempt to reduce smoking intake by 10% during the week, and (b) keep a written record of her smoking behavior. Specifically, before smoking a cigarette, Betty was asked to write down the time of day, any emotions she was feeling at the time, and the situational circumstances that occurred just prior to her smoking.

Betty presented for her second session on time and indicated that she successfully reduced her smoking intake and kept accurate records of her smoking behavior. She was eager to report that by the end of the week she was able to reduce her smoking to 12 cigarettes per day (a far greater reduction than the agreed on 10%). She also noted that she wanted to smoke more frequently than she actually did; however, she “got sick” of writ-

ing down all the requested information before each cigarette. She noted that by being made more aware of her habit, she was able to cut out many of the cigarettes that she did not “really need.” She also indicated that in reducing her smoking intake, she learned that the “cravings” that she had to smoke throughout the day would not “last forever” and in fact passed rather quickly, most times within 10 to 15 min. After praising Betty on the progress she had made during the past week, the therapist, along with Betty, reviewed the smoking record sheets that she had completed in an attempt to identify commonalities in her smoking behavior. Examination of the smoking record sheets revealed that Betty smoked most often after eating a meal and during times of perceived stress. In an attempt to aid Betty during these difficult times, urge control strategies were discussed.

One of the keys to success in smoking cessation is learning how to get through urges or cravings to smoke. Given that Betty had already learned how to get through some of her urges to smoke, the therapist enlisted her help to get a sense of what worked for her during the past week. Betty noted that if she just waited long enough, her urge to smoke would go away (although she was quick to point out that the urges would return). Building on Betty’s success, the therapist noted that delaying smoking may not work in all situations and taught her a number of other urge control strategies that might prove useful in situations where delaying smoking was too difficult. The therapist outlined five basic strategies that Betty could pull from her so-called toolbox when faced with difficult urges including (a) delaying smoking, (b) escaping from situations or events that may contribute to the urge, (c) avoiding situations where the temptation to smoke may be too great, (d) distracting herself by thinking about or doing other things that she enjoys doing, and (e) substituting something else for a cigarette, such as sugarless gum, candy, or sunflower seeds (all of these strategies can be remembered by the simple yet appropriate acronym DEADS). The therapist encouraged Betty to continue doing what worked for her the previous week and to try some of the other strategies that were taught when the urge to smoke surfaced. For homework, Betty was again encouraged to reduce her smoking by 10%. In addition, the therapist encouraged Betty to pick a smoking place in her home where she usually did not smoke and did not engage in other activities such as talking on the phone, socializing, eating, watching television, or reading mail. It was suggested that she only smoke in this place with the idea being that she would not associate smoking in this place with any other kind of activity. Also, it would mean that she would have to stop what she was doing to smoke a cigarette.

During Weeks 3 and 4 of treatment, Betty was able to reduce her smoking to nine and four cigarettes per day, respectively, using the strategies discussed above. In anticipation of the Week 5 quit date, most of Session 4 was centered on preparing Betty for her quit attempt. She was instructed to have her last cigarette no later than before she went to bed the night before she was to attend her fifth session. That evening, she was also encouraged to “seek out and destroy” all the cigarettes that remained in her apartment to be sure that there would not be cigarettes readily available to her when she woke up the next morning. She was also educated about what types of withdrawal symptoms (e.g.,

depressed mood, irritability, anxiety) she might expect so that they would not catch her “off guard.” In addition, detailed plans were made outlining how she would deal with her cravings to smoke so that she had a plan of attack if a craving surfaced. She was also encouraged to start thinking about ways to reward herself once she quit.

During the fifth session, Betty was not as animated as she had been the previous 4 weeks of treatment. She reported that she had not smoked a cigarette since before she went to bed the previous evening; however, she noted that she “really wanted one.” The therapist reinforced Betty for all her hard work and reminded her that her cravings would pass and the intensity and frequency of the cravings would dissipate over time. The remainder of the session was spent discussing the health benefits she could expect over the next several weeks (e.g., decrease in sinus congestion and increase in overall energy level). Finally, Betty was informed that she might slip during the course of the next week and smoke a cigarette. She was told that if this happened, it was normal and that she should look at it as a slip and not a total relapse. She was encouraged to get back to being smoke-free after the slip rather than give herself permission to smoke as many as she wanted and view her efforts as a failure.

Sessions 6 through 8 began with Betty’s exhaling into the CO monitor to show her that her CO levels were decreasing, thereby increasing the amount of oxygen that was circulating throughout her body. Her readings were 11, 8, and 7, respectively. In addition, these sessions centered on ways in which she could prevent relapse. Betty had done exceptionally well and did not experience a slip during these 3 weeks. Betty and the therapist worked on anticipating difficult situations and planned ahead how she would cope with these situations. Betty was particularly concerned about what she would do in stressful situations as they were bound to arise in the future. It was discussed how she could take a time-out—removing herself from the situation, taking deep breaths, and/or thinking of something fun she had recently done—rather than smoke. At the end of Session 8, Betty was commended for her hard work, given information about local support groups (should she feel the desire for additional help), and was scheduled for two booster sessions 1 and 3 months later.

8 COMPLICATING FACTORS

Betty’s course of treatment was generally smooth, and she quickly grasped the significance of how biological, cognitive, and behavioral factors contributed to and maintained her addiction to nicotine. During Weeks 5 to 7 of treatment, however, Betty noted that she had difficulty sleeping and an increase in coughing. Both of these symptoms are common among individuals who quit smoking, yet they were problematic for Betty in their own ways. Given that Betty was sleeping less, there were more hours of the day that she had to actively cope with her cravings to smoke. Given that Betty spent the vast majority of her time in her apartment (due to her lack of mobility), she had to work with

the therapist to come up with a number of creative, distracting activities for herself. She noted that if she could do things where she used her hands she would be less inclined to smoke. As a result, Betty picked up a number of new hobbies including knitting, putting together puzzles, and completing crossword puzzles.

The increase in coughing that Betty experienced during this time was potentially more serious. Given that Betty suffered from a number of respiratory problems, including chronic bronchitis and emphysema, she was quite alarmed one evening when she found herself coughing uncontrollably. She believed that the coughing was due to a decline in her health status and called an ambulance to take her to the hospital. The emergency room physician gave her a thorough checkup as well as aerosol therapy and sent her home once the coughing was under control. Betty reported that the stress associated with that event led to intense cravings for a cigarette. She was relieved to learn that the coughing she was experiencing was actually a positive health outcome in that it represented her lung's increased ability to remove phlegm and the recovery of her lung's defense mechanisms.

9 FOLLOW-UP

As noted above, Betty was scheduled for two booster sessions 1 and 3 months after her eighth treatment session. At the 1-month follow-up appointment, Betty reported that she had one "slip" during the holidays as she was caught off guard by her "emotions." She noted that she recognized what she was doing and immediately put out the cigarette and did not allow herself to smoke again. She noted that she repeatedly reminded herself of her hard work and told herself that she refused to "go back to square one." She also noted that this "slip" was a "reality check" and reminded her that she should not get overconfident about her progress and that she had to continue to work on her addiction to nicotine. She stated that she "would be lying" if she said she did not want a cigarette, but that the cravings were not occurring as often and when they did they were not as severe. Betty was praised by the therapist and encouraged to "keep her guard up." At the three follow-up sessions, Betty reported that she had not "slipped" again and reported that her energy levels were up, and it looked as though her physician was considering performing the medical procedure that she needed.

10 TREATMENT IMPLICATIONS OF THE CASE

Nicotine dependence remains one of the most preventable causes of death and illness within the United States (CDC, 2002). Despite this fact, smoking rates have been constant over the past decade. It has been suggested that the majority of today's smokers are more difficult to treat because they possess comorbid factors that make smoking

extremely rewarding (Fiore et al., 2000). Unfortunately, it may take physical ailments suffered many years later before such smokers become motivated enough to quit smoking. The present case study reflects one such person who smoked for more than 50 years, had a history of alcohol problems, and presented with respiratory illnesses that reduced her mobility.

In general, the treatment approach presented in this case study underlies the importance of tailoring treatment for people who are not responsive to standard smoking treatment recommendations. For example, Betty attended group smoking cessation treatments in the past with no success at continued abstinence. Her lack of achieving prolonged abstinence may have resulted from prior treatments not being able to adequately address her unique needs. Betty also refused to take recommended pharmacotherapies such as NRT. Because smoking treatments have primarily focused on developing efficacious pharmacological adjuncts with and without cognitive-behavioral strategies (e.g., Lichtenstein, 1997; Lichtenstein & Glasgow, 1992), particularly for smokers with complex profiles (Fiore et al., 2000), the present case also illustrates the need for innovative cognitive-behavioral treatments for those who are either unable or choose not to use pharmacotherapy. Last, many patients with respiratory problems are not identified as often and do not receive proper smoking treatment (Bock et al., 2001). The underrepresentation of respiratory patients receiving smoking treatment may also reflect health care providers' inadequate resources for such efforts. As such, this case further highlights the importance of referring difficult-to-reach and difficult-to-treat patients for tailored interventions.

11 RECOMMENDATIONS TO CLINICIANS AND STUDENTS

A common practice within smoking treatment efforts is to apply boilerplate smoking cessation and maintenance techniques to all people presenting with issues related to nicotine dependence. The present case study illustrates the need for tailoring an intervention to a smoker who had a long smoking history and who presented with comorbid problems that further complicated treatment efforts. Betty's case showed that medical conditions and substance abuse histories should be taken into consideration when treating nicotine dependence. As such, an innovative treatment plan was developed to assist Betty with her cessation efforts. Many aspects of this plan are highlighted below and serve as recommendations for health care providers as well as students.

The first recommendation revolves around issues related to the need for comprehensive biopsychosocial assessments. For example, without an appreciation for the role comorbid alcohol problems play in the development and maintenance of nicotine dependence, therapists may underestimate or not expect the onset of excessive withdrawal symptoms. Knowing that individuals with prior histories of alcohol dependence might experience unusually intense withdrawal symptoms (Patten et al., 2000), and that

these symptoms are the prime suspect for relapse (Gross & Stitzer, 1989), enhanced the clinician's ability to develop targeted coping skills that helped Betty prolong her abstinence. In addition, Betty's negative reaction to taking pharmacotherapy as an adjunct to smoking cessation was important to identify before developing a treatment protocol. Without taking this into consideration, the therapist may have inadvertently administered NRT, which may have led to noncompliance issues, premature dropout, and/or quick relapse.

The second recommendation addresses issues related to the development of tailored interventions for nicotine dependence and the timing of such interventions. In Betty's case, it was not until she suffered from severe respiratory problems that she became motivated to seriously seek treatment. Her situation beckons our reevaluation of when to identify patients for smoking cessation. Consistent with guidelines (Fiore et al., 2000), it is recommended that encouragement to stop smoking and active assistance in helping patients stop smoking should occur whenever a patient reports that he or she smokes regularly.

Last, the present case demonstrates to students that continuous assessment throughout the treatment process is important for maintaining abstinence among smokers with complex medical and psychological histories. There are two incidences where this issue was particularly relevant. The first example was when Betty suffered from coughing fits after quitting. Because she suffered from severe respiratory problems, the stress of the coughing led to strong desires to resume smoking. The cognitive restructuring of this event helped maintain Betty's high motivation for abstinence and further prolonged her quit attempt. The second example was the use of consistent assessments of Betty's CO levels where the therapist used her decreasing CO levels to reinforce abstinence.

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