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Factors Linked to Substance Use Disorder Counselors' (Non)Implementation Likelihood of Tobacco Cessation 5 A's, Counseling, and Pharmacotherapy

Tanja C. Laschober, Ph.D.[1,2], **Jessica L. Muilenburg, Ph.D.**[1,4], and **Lillian T. Eby, Ph.D.**[1,2,3]

[1]University of Georgia, 325 Psychology Building, Athens, GA 30602, USA

[2]Owens Institute for Behavioral Research, 325 Psychology Building, Athens, GA 30602, USA

[3]Industrial-Organizational Psychology Program, 325 Psychology Building, Athens, GA 30602, USA

[4]Department of Health Promotion and Behavior, 325 Psychology Building, Athens, GA 30602, USA

Abstract

Study Background—Despite efforts to promote the use of tobacco cessation services (TCS), implementation extensiveness remains limited. This study investigated three factors (cognitive, behavioral, environmental) identified by social cognitive theory as predictors of substance use disorder counselors' likelihood of use versus non-use of tobacco cessation (TC) 5 A's (ask patients about tobacco use, advise to quit, assess willingness to quit, assist in quitting, arrange for follow-up contact), counseling, and pharmacotherapy with their patients who smoke cigarettes.

Methods—Data were collected in 2010 from 942 counselors working in 257 treatment programs that offered TCS. Cognitive factors included perceived job competence and TC attitudes. Behavioral factors encompassed TC-related skills and general training. External factors consisted of TC financial resource availability and coworker TC attitudes. Data were analyzed using logistic regression models with nested data.

Results—Approximately 86% of counselors used the 5 A's, 76% used counseling, and 53% used pharmacotherapy. When counselors had greater TC-related skills and greater general training they were more likely to implement the 5 A's. Implementation of counseling was more likely when counselors had more positive attitudes toward TC treatment, greater general training, greater financial resource availability, and when coworkers had more positive attitudes toward TC treatment. Implementation of pharmacotherapy was more likely when counselors had more positive attitudes toward TC treatment, greater general training, and greater financial resource availability.

Conclusion—Findings indicate that interventions to promote TCS implementation should consider all three factors simultaneously as suggested by social cognitive theory.

Corresponding author: T.C. Laschober, 325 Psychology Building, Athens, GA 30602, USA, Phone: 706-521-0104; tanja@uga.edu..

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Keywords

smoking cessation; implementation research; substance abuse treatment

Introduction

Various Public Health Service (PHS) agencies, including the National Institute on Drug Abuse (NIDA), sponsor the clinical practice guideline for the treatment of tobacco dependence [1]. Since 1996, the clinical practice guideline recommends that clinicians use a number of evidence-based practices (EBPs) to promote and help patients achieve tobacco cessation (TC) [1]. These EBPs comprise the 5 A's (ask patients about their tobacco use, advise them to quit, assess their willingness to quit, assist them in quitting, arrange for follow-up contact), diverse types of individual and group counseling sessions, and nine types of pharmacotherapies including five nicotine replacement therapies (NRTs) (patch, gum, inhaler, lozenge, and nasal spray) as well as bupropion, varenicline, clonidine, and nortriptyline.

The use of these EBPs is important because between 65% and 87% of individuals seeking SUD treatment smoke [1,2], and there are well-known negative health consequences associated with smoking [1]. Additionally, EBPs are intended to guide clinicians' behaviors based on rigorous scientific evidence rather than what they think or "intuitively know" works best [3]. Unfortunately, there is a well-documented research-to-practice gap in substance use disorder (SUD) treatment. A report by the Institute of Medicine (2001) suggests that it takes about 17 years for EBPs to be routinely implemented in SUD treatment programs [4]. As a result, a number of efforts have been undertaken to narrow this gap, most notably by the NIDA [5].

Nonetheless, implementation of tobacco cessation services (TCS) is not extensive among SUD treatment clinicians almost two decades later [6-8]. This is true even when States put forth comprehensive tobacco policies and mandate the implementation of TCS in SUD treatment such as New York [9-13] and New Jersey [14,15]. Thus, questions remain regarding factors that curtail counselors' use of EBPs for TC even when the opportunity is there to intervene. The current study uses broad aspects from social cognitive theory to provide answers to these questions and contribute to a better understanding of counselors' (non)implementation of TCS in SUD treatment programs that offer TCS.

Implementation of Evidence-Based Tobacco Cessation Services

Research in SUD treatment shows relationships between the implementation of different evidence-based TCS and both counselor- and organization-level variables. However, prior research is limited by the examination of only certain aspects of the clinical practice guideline. For example, one study investigated only three aspects of counselors' use of the 5 A's (ask, advise, assess) [6] and another study examined only counselors' use of two types of TC counseling (individual, group) [7]. Both studies found positive associations with counselors' knowledge of the PHS guideline, perceived positive impact of TC on patients' recovery from SUDs, and perceived management support for TC.

Further, two studies longitudinally assessed the extent of implementation of TCS in SUD treatment programs affected by the New York State mandatory tobacco-free regulation. The first study found that the implementation of the 5 A's and guideline-recommended counseling services was related to various clinician-level variables [16]. The second study showed that the implementation extensiveness of two TCS (the 5 A's and guideline-recommended counseling services) was associated with diverse organization-level variables [10].

Current Study and Theoretical Framework

The current investigation goes beyond limitations of these previous studies by examining the implementation of the most comprehensive range of TCS recommended by the clinical practice guideline including the 5A's, counseling, and pharmacotherapy [1] in SUD treatment programs that offer TCS. Because these counselors have the opportunity to use TCS with their patients who smoke but may choose not to do so, we draw on broad aspects of social cognitive theory [17, 18] to gain a new perspective on factors that explain counselors' (non)implementation of these TCS with their patients who smoke cigarettes.

Previous studies have also not compared counselors who do use to counselors who do not use TCS. Instead, they have only looked at the relationship between various predictors and a continuum of TCS implementation among counselors who use TCS. Findings from previous studies provide an important understanding of factors that support or hinder TC implementation. However, research is needed to help explain counselors' non-use of TCS with their patients who smoke despite their treatment programs offering TCS.

Social cognitive theory suggests that human behavior, such as counselors' (non)implementation of TCS, is acquired and sustained through constant interaction between three broad factors—cognitive, behavioral, and environmental [17,18]. Additionally and despite these interactions, individuals have the ability to change and make decisions to pursue and meet their own goals and needs [17]. As such, understanding the relationship between these three factors and counselors' (non)implementation of TCS can provide opportunities for behavior interventions and behavior modifications.

Cognitive factors encompass the counselors' thinking, reasoning, and mental processes such as outcome expectations (e.g., attitudes and beliefs about TC treatment) and self-efficacy (i.e., perceived ability and perceived competence to implement TCS). Behavioral factors reflect the counselors' skills (e.g., treating tobacco dependence) and different types of training (e.g., formal education) to implement TCS. Finally, environmental factors contain social forces (e.g., coworkers, supervisors) and physical forces (e.g., financial resource availability to implement TCS) that are external to the counselor. These forces support, motivate, and provide opportunities for the implementation of TCS. Taken together, we hypothesize that counselors' likelihood of (non)implementation of the 5 A's, counseling, and pharmacotherapy for TC is predicted by cognitive factors (Hypothesis 1), behavioral factors (Hypothesis 2), and environmental factors (Hypothesis 3).

MATERIALS AND METHODS

Study Design and Sample

This study is part of the longitudinal Managing Effective Relationships in Treatment Services (MERITS III) project. MERITS III was funded by the NIDA for the purpose of investigating the effects that SUD treatment program processes and management practices have on the adoption, implementation, and sustainability of TCS in SUD treatment programs. The 2010 Substance Abuse and Mental Health Services Administration (SAMHSA) National Directory provided the sampling frame for MERITS III. The Directory included 11,153 SUD treatment programs that were licensed, certified, or otherwise approved for inclusion in the Directory by their State Substance Abuse Agencies. Treatment programs were located across the U.S. and included Federal, State, local government, and private facilities. All procedures were approved by the University of Georgia's Institutional Review Board.

MERITS III required eligible SUD treatment programs to provide SUD counseling services in a community setting. Veterans Administration (VA) programs, Halfway Houses, and programs that offered only methadone maintenance, DUI education, and detoxification were not eligible for participation. A random number generator was used to randomly select treatment programs from the Directory for potential participation. A brief screening phone call identified eligible treatment programs. Research assistants called eligible treatment programs to obtain a sample of programs where the program administrator agreed to participate in the study. Of the 1,599 eligible treatment programs that could be contacted, 1,006 program administrators participated (62.91% basic response rate).

Only program administrators who indicated that they offered TCS (N = 267) were asked to provide a list of all counselors who worked in their program. Counselors were contacted via e-mail and invited to either participate in an online survey or to complete a paper-and-pencil survey through the mail. Of the 2,005 eligible counselors identified by the program administrators, 1,044 completed a survey (N = 880 online, N = 164 mail; 52.07% response rate). Counselors were paid $50 for completing a survey. Relevantly we note that counselor and organizational characteristics of the current sample are generally comparable to studies conducted using large nationally representative samples [19-21] (results are available upon request from the first author).

For the purpose of the current study, only counselors who answered that they had experienced (i.e., encountered) 10 patients in their treatment program who smoked cigarettes were included in the data analysis. This criterion was necessary because (non)implementation likelihood of TCS was coded based on the follow-up question with how many of these last 10 patients they implemented the TC 5 A's, counseling, and pharmacotherapy. This resulted in a final sample of 942 counselors (90% of the full sample) who worked in 257 SUD treatment programs. Counselors who had experienced at least 10 patients who smoke compared to those without this experience were significantly younger (M = 44.58 and M = 48.88, respectively) and more likely to be licensed/certified (69.66% and 52.58%, respectively). There were no significant differences between the two groups regarding tenure in the current job, tenure as SUD counselor, gender, race, and education.

Dependent Variables

The 5 A's (non)implementation was assessed with five items [1]. Counselors were asked, "With how many of your last 10 patients (0-10 scale) did you at admission...ask if patient currently smokes, advise patient to quit smoking, assess patient willingness to quit, assist patient in quitting, and schedule smoking cessation follow-up contact?" The five items were summed and recoded as a dichotomous variable: 0 = *5 A's not implemented* if the summed score was 0 and 1 = *5 A's implemented* if the summed score was greater than 0.

TC counseling (non)implementation was assessed with four items [1]. Counselors were asked, "With how many of your last 10 patients (0-10 scale) did you...use individual counseling that focuses on social support, provide individual counseling that focuses on problem solving/skills training, have four or more individual counseling sessions available, and offer group counseling?" The four items were summed and recoded as a dichotomous variable: 0 = *TC counseling not implemented* if the summed score was 0 and 1 = *TC counseling implemented* if the summed score was greater than 0.

TC pharmacotherapy (non)implementation was assessed with nine items [1]. Counselors were asked, "With how many of your last 10 patients (0-10 scale) did you use...nicotine patch, nicotine gum, nicotine lozenge, nicotine nasal spray, nicotine inhaler, bupropion, varenicline, clonidine, and nortriptyline?" The nine items were summed and recoded as a dichotomous variable: 0 = *TC pharmacotherapy not implemented* if the summed score was 0and 1 = *TC pharmacotherapy implemented* if the summed score was greater than 0.

Independent Variables

Cognitive factors were measured with two scales including *counselor perceived job competence* [22] and *counselor attitudes toward TC treatment* [23]. Response options for both scales ranged from 1 = *strongly disagree* to 5 = *strongly agree*. Perceived job competence was measured by calculating the mean across three items (e.g., I have mastered the skills necessary for doing my job.). The counselor attitudes toward TC treatment scale was created by calculating the mean across four items (e.g., Smoking cessation counseling is as important as counseling about other drugs for patients in this treatment program.).

Behavioral factors were assessed with the *counselor TC-related skills* index [24,25] and *counselor general training* scale [26]. Counselor skills were measured with 26 items (e.g., Cigarette smoking is the single most preventable source of premature morbidity and mortality. Nicotine gum can be used to help patients cut down the number of cigarettes they smoke. Smoking increases the risk of developing lung cancer). Response options were 0 = *false* and 1 = *true*. The index was created by summing the number of *true* responses. Counselor general training (not specific to TC) was measured with four items (e.g., My treatment program holds regular in-service training.). Response options ranged from 1 = *strongly disagree* to 5 = *strongly agree*. The scale was created by calculating the mean across the four items.

External factors were appraised with two scales comprised of *TC financial resource availability* [27] and *coworker attitudes toward TC treatment* [23]. Response options for

both scales ranged from 1 = *strongly disagree* to 5 = *strongly agree*. TC financial resource availability (e.g., In this treatment program, money has been readily available to support activities related to smoking cessation with patients.) was created by calculating the mean across four items. Coworker attitudes toward TC (e.g., My coworkers are in agreement that the provision of a comprehensive range of smoking cessation interventions should be an integral function of this treatment program.) were created by calculating the mean across five items.

Control Variable

Counselor smoking status was added as a control variable to all analyses because previous studies showed a relationship with TCS delivery in SUD treatment programs [6,28,29].The item was coded 0 = *counselor does not smoke* and 1 = *counselor smokes*.

Data Analyses

Descriptive statistics and correlation analyses were run to examine cognitive, behavioral, and environmental factors, and counselors' (non)implementation likelihood of the TC 5 A's, counseling, and pharmacotherapy. The hypotheses were tested separately for each TCS using logistic regression models with nested data (SAS PROC GENMOD) using the logit link function and method of generalized estimating equations (GEEs). These statistical models were selected because of the dichotomous dependent variables and the nested structure of the data (counselors nested within treatment programs). The intraclass correlation coefficients (ICCs) showed that 22% of the variance for the 5 A's implementation, 15% of the variance for the TC counseling implementation, and 36% of the TC pharmacotherapy implementation was explained by within treatment program nesting. The generally accepted rule is that ICCs greater than 10% indicate the need to account for the nested structure of the data [30]. Data were analyzed using SAS 9.3.

RESULTS

Counselor and Treatment Program Characteristics

Table 1 shows that the majority of counselors were White (74.76%), licensed and/or certified (69.66%), females (69.52%), and almost half held at least a master's degree (48.30%). Counselors were on average 44.58 years old, worked as SUD counselors 7.61 years, and in their current position 5.58 years. Also indicated in Table 1 is that most treatment programs were nonprofit organizations (79.38%) and accredited (53.31). Levels of care provided included outpatient only (47.08), residential only (26.07), and a mix of outpatient and residential (26.85).

Descriptive Statistics and Correlations

As displayed in Table 2, 86.41% of counselors implemented the TC 5 A's, 75.69% implemented TC counseling (75.69%), and 53.18% implemented TC pharmacotherapy with patients who smoke. Counselors reported an average of 4.11 perceived job competence (1-5 scale), 3.57 attitudes toward TC treatment (1-5 scale), 18.90 TC-related skills (0-26 scale), 1.52 general training (1-5 scale), 2.89 TC financial resource availability (1-5 scale), and 3.33 coworker attitudes toward TC treatment (1-5 scale). About 21% of counselors were

smokers. Table 2 further shows that intercorrelations among study variables ranged from ±. 01 to .43, thus, indicating no multicollinearity concerns.

Likelihood of Tobacco Cessation Services (Non)Implementation: Cognitive, Behavioral, and Environmental Factors

Table 3 displays the results of the logistic regression models with nested data for all three TCS. Regarding the TC 5 A's (column 1), compared to non-implementers, implementation was 1.16 times more likely when counselors had greater TC-related skills (B = .14) and 1.49 times more likely when counselors had greater general training (B = .40). Implementation of TC counseling (column 2), compared to non-implementers, was 1.98 times more likely when counselors had more positive attitudes toward TC treatment (B = .39), 1.87 times more likely when counselors had greater general training (B = .46), 1.59 times more likely when programs had greater financial resource availability for TC (B = .24), and 1.98 times more likely when coworkers had more positive attitudes toward TC treatment (B = .36). Finally, implementation of pharmacotherapy (column 3), compared to non-implementers, was 1.55 times more likely when counselors had more positive attitudes toward TC treatment (B = . 44), 1.28 times more likely when counselors had greater general training (B = .25), and 1.60 times more likely when programs had greater financial resource availability for TC (B = . 47). The control variable, counselor smokes, was only significantly negatively related with TC 5 A's implementation (B = -.59). Smokers were 1.80 times less likely to implement the 5 A's.

Discussion

This study investigated the relationship between counselors' likelihood of (non)implementation of the 5 A's, counseling, and pharmacotherapy for TC and cognitive factors, behavioral factors, and environmental factors as proposed by social cognitive theory [17,18] in SUD treatment programs that offer TCS. Counselor reports show that approximately 86% of counselors implement the 5 A's, 76% implement counseling, and 53% implement pharmacotherapy with their patients who smoke. We further find that behavioral factors predict the likelihood of (non)implementation of all three TCS and cognitive and environmental factors also predict the likelihood of (non)implementation of counseling and pharmacotherapy.

Cognitive Factors and Likelihood of (Non)Implementation of TCS

We find that cognitive factors, specifically counselors’ attitudes toward TC treatment but not their perceived job competence, predict both counseling and pharmacotherapy (non)implementation likelihood. These findings suggest that interventions aimed at behavior modification should focus on educating counselors about the benefits of TC in general and in conjunction with treatment for other addictions. For example, research shows that TC is associated with greater abstinence from alcohol and other drugs, lower use of other substances, and less risk of relapse [31-34]. Additionally, counselors need to be made aware that the majority of SUD patients (70% to 80%) want to quit smoking [35] and can successfully quit smoking [36].

However, we find no relationship between the cognitive factors and the 5 A's (non)implementation likelihood. One explanation for this finding may be because the 5 A's, unlike counseling and pharmacotherapy, are simpler and quicker to implement. They only consist of five brief questions that are asked at admission, which may not require much training or additional time. Thus, although we see a greater extent of the 5 A's implementation overall compared to other types of TCS, there is no significant (non)implementation likelihood difference based on counselors' attitudes toward TC treatment. This speculation may also explain why we observe no significant relationships between environmental factors and the likelihood of the 5 A's (non)implementation.

Another interesting finding pertaining to the 5 A's (non)implementation likelihood is the significant relationship with the control variable, counselors' smoking status. This is in contrast to findings regarding (non)implementation likelihood of counseling and pharmacotherapy where the relationship is consistently non-significant. Counselors who smoke are less likely to implement the 5 A's than counselors who do not smoke. Ziedonis and colleagues (2006) in a literature review also noted staff smoking as a major barrier to TC among patients because some counselors consider smoking a way to establish a therapeutic alliance with their patients [29].

Subsequently, an area of behavior modification to boost the implementation of the 5 A's is the promotion of TC among counselors. For instance, counselors should be provided with TC-related resources and motivated by other counselors, clinical supervisors, and the SUD treatment program to quit smoking to more effectively aid their patients' overall recovery. In addition, tobacco-free indoor and outdoor policies could be mandated because they are found to decrease staff smoking [12,15].

Behavioral Factors and Likelihood of (Non)Implementation of TCS

Findings from our study show that behavioral factors, especially counselors' general training, are consistently predicting the (non)implementation likelihood of the 5 A's, counseling, and pharmacotherapy. The 5 A's (non)implementation likelihood is further predicted by counselors' TC-related skills. Prior research shows that counselors often lack training in general and understanding of TC, which acts as an impediment to the use of TCS [29]. Additionally, Laschober and Eby (2013) found a positive association between counselors' utilization of TC-related training resources (e.g., on-line tobacco training, tobacco recovery exchange website) in SUD treatment programs that are required to implement tobacco-free policies and implementation perceptions of TCS [13].

Behavior interventions should promote counselor training, knowledge, and skills through a variety of venues (e.g., clinical supervisors, workshops, webinars, online training). Importantly, interventions need to include hands-on experiences, theoretical knowledge, and practical skills. This is important according to social cognitive theory because of the continuous interaction between cognitive, behavioral, and environmental factors and the impact on counselors' behaviors. For example, counselors may understand that tobacco causes cancer but may lack the necessary skills to treat tobacco dependence. In turn, increased training and skills are related to more positive attitudes toward the treatment of

tobacco dependence [29] and greater likelihood of TC counseling and pharmacotherapy implementation as shown in the current study.

Environmental Factors and Likelihood of (Non)Implementation of TCS

We further find that environmental factors, particularly treatment programs' TC-related financial resource availability, predict the implementation of TC counseling and pharmacotherapy. SUD treatment programs tend to have limited financial resources in general and for TC treatment in specific [29]. For instance, reimbursement for TC is frequently difficult [1] and TCS for staff and patients are often not reimbursable, especially pharmacotherapy [29]. However, the clinical practice guideline recommends that both counseling and pharmacotherapy are used to increase patients' chances of achieving TC [1]. Research also shows that lack of financial resources is related to the availability of diverse TCS in treatment programs [37], which in turn is related to counselors' implementation of TCS with patients who smoke [38].

Finally, coworker attitudes toward TC treatment also predict counselors' (non)implementation of TC counseling. In other words, coworkers can influence each other's behaviors not only through actual role modeling but also through their beliefs, perceptions, and attitudes toward TC treatment. This phenomenon of coworker influence has been documented in other fields regarding turnover [39], work attitudes, withdrawal, role perceptions, and role effectiveness [40]. Consequently, behavior interventions need to target all staff including clinical supervisors, counselors, other clinicians (e.g., doctors, nurses), and administrators and focus on correcting misperceptions about the treatment of TC, particularly with patients receiving treatment for other SUDs.

Limitations and Conclusions

The subsample of SUD treatment programs offering TCS, although drawn from a large random sample of SUD treatment programs, may limit generalizability. For instance, implementation of TCS may be higher in our sample compared to programs that do not offer TCS. However, as mentioned earlier, counselor and treatment program characteristics of the subsample were similar to findings from other large nationally random samples [19-21]. As a result, we are reasonably assured that our findings may apply to other, similar SUD treatment programs. A further limitation may be the unequal distribution of implementers to nonimplementers despite the large sample sizes, making comparisons more challenging. Additionally, it is plausible that counselors over- or under-reported their implementation of TCS with patients who smoke. Future research would benefit from studies of actual counselor behaviors, patient reports of TCS received, and insurance records for billed TCS to gain multiple perspectives on the implementation of TCS. Finally, often only one of the two scales used to measure each factor was significant. This suggests a need for future research to investigate a variety of other cognitive, behavioral, and environmental factors that may predict TCS (non)implementation likelihood.

In conclusion, this study adds to the TCS implementation literature by comparing counselors who do and counselors who do not use TC 5 A's, counseling, and pharmacotherapy with their patients who smoke cigarettes in treatment programs that offer TCS. Findings indicate

that the three broad factors proposed by social cognitive theory predict (non)implementation likelihood of TC counseling and pharmacotherapy and to a lesser extent the 5 A's. As a result, interventions to increase TCS implementation should pay particular attention to addressing the interaction between the cognitive, behavioral, and environmental factors and counselors' (non)implementation behaviors. In particular, interventions should focus on increasing positive and correcting negative staff attitudes toward TC treatment, promoting education such as general and TC-specific training among counselors, and making available TC-related financial resources to SUD treatment programs.

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Table 1

Counselor and Treatment Program Characteristics

Variables	***f (%)* or *M (SD)***
Counselor Characteristics (*N* = 942)	
White, yes [*f (%)*]	696 (74.76)
Licensed/certified, yes [*f (%)*]	651 (69.66)
Female, yes [*f (%)*]	650 (69.52)
Master's degree or higher, yes [*f (%)*]	455 (48.30)
Age/years [*M (SD)*]	44.58 (12.42)
Tenure as counselor/years [*M (SD)*]	7.61 (7.09)
Tenure in current job/years [*M (SD)*]	5.58 (5.71)
Treatment Program Characteristics (*N* = 257)[1]	
Non-profit, yes [*f (%)*]	204 (79.38)
Accredited, yes [*f (%)*]	137 (53.31)
Level of care [*f (%)*]	
Outpatient only	121 (47.08)
Residential only	67 (26.07)
Mix of residential and outpatient	69 (26.85)

Note.

[1]All treatment programs offered tobacco cessation services.

Table 2

Descriptive Statistics of and Correlations among All Study Variables

Variables	*f(%)* or *M (SD)*	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Tobacco Cessation Services (TCS) Implemented (*f, %*)											
1. 5 A's, yes	814 (86.41)	1.00	.43***	.22***	.05	.11**	.16***	.17***	.05	.12***	−.10**
2. Counseling, yes	713 (75.69)		1.00	.21***	.09**	.18***	.08*	.25***	.12**	.19***	−.09**
3. Pharmacotherapy, yes	501 (53.18)			1.00	.04	.13***	.05	.19***	.20***	.11***	−.01
Cognitive Factors (*M, SD*)											
4. Perceived Job Competence[1]	4.11 (.59)				1.00	.12***	.08**	.10***	.02	.14***	.01
5. Counselor TC Treatment Attitudes[1]	3.57 (.56)					1.00	.12***	.16***	.05	.53***	−.13***
Behavioral Factors (*M, SD*)											
6. Counselor TC-Related Skills[2]	18.90 (2.62)						1.00	.08*	−.02	.06	−.07*
7. Counselor General Training[1]	1.52 (1.10)							1.00	.21***	.25***	.00
Environmental Factors (*M, SD*)											
8. TC Financial Resource Availability[1]	2.89 (.79)								1.00	.17***	.01
9. Coworker TC Treatment Attitudes[1]	3.33 (.63)									1.00	−.11***
Control Variable (*f, %*)											
10. Counselor Smokes, yes	195 (20.99)										1.00

Note.

[1]Scale of 1-5

[2]Index of 0-26.

*p<.5

**p<.01

***p<.001.

Table 3

Likelihood of (Non)Implementation of Tobacco Cessation Services (TCS): Cognitive, Behavioral, and Environmental Factors

	TC 5 A's			TC Counseling			TC Pharmacotherapy		
Variable	***B***	***SE B***	***e^B^***	***B***	***SE B***	***e^B^***	***B***	***SE B***	***e^B^***
Cognitive Factors									
Perceived Job Competence[1]	.09	.14	1.09	.17	.14	1.56	.03	.12	1.03
Counselor TC Treatment Attitudes[1]	.14	.21	1.15	.39**	.15	1.98	.44**	.17	1.55
Behavioral Factors									
Counselor TC-Related Skills[2]	.14***	.04	1.16	.05	.03	1.12	.03	.03	1.03
Counselor General Training[1]	.40***	.08	1.49	.46***	.08	1.87	.25**	.08	1.28
Environmental Factors									
TC Financial Resource Availability[1]	.06	.15	1.06	.24*	.12	1.59	.47***	.11	1.60
Coworker TC Treatment Attitudes[1]	.24	.21	1.28	.36*	.16	1.98	−.05	.14	0.95
Control Variable									
Counselor Smokes	−.59*	.26	1.80	−.37	.21	1.04	.05	.19	1.06

Note. e^B = exponentiated B (odds ratio).

[1] Scale of 1-5

[2] Index of 0-26.

* $p<.5$

** $p<.01$

*** $p<.001$.