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A Pilot Trial Examining African American and White Responses to Algorithm-Guided Smoking Cessation Medication Selection in Persons Living with HIV

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Abstract

Algorithm-based treatments (AT) may be an effective clinical tool to aid HIV clinicians in prescribing pharmacotherapy to increase smoking cessation among people living with HIV (PLWH). Initial results from AT indicated significant increases in abstinence self-efficacy and medication utilization and declines in cigarettes smoked per day across time. Given historical racial disparities, it is unclear if both African Americans and White smokers would benefit equally from this type of intervention. Thus, the aim of this study was to examine racial differences in response to AT guided smoking cessation for African American and White smokers living with HIV. One hundred PLWH smokers ($n = 100$) were randomized to receive either AT guided smoking cessation or Treatment as Usual (TAU) which consisted of instructing participants to talk to a provider about smoking cessation assistance when ready to make a quit attempt. Participants were African American (75%) and White (25%) and majority men (71%) who had never been married (56%). African Americans smoked fewer cigarettes and were more likely to smoke mentholated cigarettes compared to White smokers at baseline. African Americans increased their use of other tobacco products (cigars/cigarillos) over time relative to White smokers. A significant

Compliance with Ethical Standards

Conflict of interest All authors declare no conflict of interest.

Ethical approval All procedures performed in this study were approved by the University of Alabama at Birmingham's Institutional Review Board and was conducted in accordance with the ethical standards of APA.

Informed consent Informed consent was obtained from all individual participants included in the study.

interaction between race and quit goal was observed, with White smokers who reported complete abstinence as their goal having higher quit rates, while African Americans who reported a goal other than complete abstinence demonstrating higher quit rates. The increased use of cigars/cigarillos during quit attempts as well as having a goal other than complete abstinence should be considered when applying algorithm based interventions for PLWH African American smokers.

Keywords

HIV; Behavior; Smoking cessation; Intervention

Introduction

African Americans are disproportionately affected by HIV and are more likely to die from HIV-related complications as compared to Whites [1]. Fortunately, both African Americans and Whites living with HIV can expect to live longer than ever before because of the widespread availability of effective antiretroviral therapy (ART) in the United States, making HIV a more medically manageable chronic illness [2–4]. Despite improvements to ART, the mortality rate for people living with HIV (PLWH) is still higher for African Americans than the rate for Whites [1].

Tobacco use has emerged as a significant risk factor for increased mortality and the loss of life years in PLWH [5]. It is well-established that tobacco use is a risk factor for a variety of chronic diseases, including numerous cancers, heart disease, asthma, chronic obstructive pulmonary disease and myocardial infarction [6]. The smoking prevalence among PLWH is two–three times higher than the general population, at 50–70% [7–10].

With regard to race and ethnicity, the prevalence of cigarette smoking in the US is 19.8% among African American smokers compared to 18.1% of White smokers [11]. While the literature on HIV and tobacco use by race and ethnicity is sparse, previous research suggests that cigarette smoking is a serious problem for many African Americans [12]. These research studies point to several factors impacting African American's cessation efforts including: low quit rates in African Americans, individual factors associated to tobacco use, and the need to develop a tangible quit plan [13, 14].

Studies have indicated that high rates of poverty, low education, substance abuse, and mental illness may contribute to poor smoking cessation outcomes among African Americans [15–17]. Moreover, African American smokers carry a higher health burden from tobacco use compared to White smokers, because African American smokers are more likely to encounter barriers to smoking cessation than White smokers [17, 18]. The most common barriers to quitting among African American smokers include higher rates of smoking highly addictive mentholated cigarettes (versus non mentholated tobacco cigarettes) [19, 20]; having less access to adequate healthcare [21]; and under-utilization of pharmacotherapy for smoking cessation and nicotine replacement therapy (NRT) (i.e., gum, patches, nasal spray, inhalers, and lozenges) [17, 22]. For example, recent reviews of 64 scientific studies of tobacco cessation interventions (including 28 studies with a primary focus on African American smokers) found nicotine gum increased abstinence among

African American smokers (see Lung Health Study); however, three additional studies did not show an exclusive benefit in a predominately African American sample.

Perhaps due to all of the above, African Americans are less likely to have successful cessation outcomes compared to White smokers [23]. While the majority of smokers attempting to quit, underutilize or do not use any pharmacotherapy during quit attempts, African American smokers report lower usage of pharmacotherapy treatment than their White counterparts, despite the known efficacy of pharmacotherapies such as NRT, bupropion SR [24] and varenicline [25, 26]. In a population study of 29,537 participants examining quit attempts in the past year, researchers found that pharmacotherapy use was significantly lower among African American smokers (17%) compared to White smokers (29%) [22].

Algorithm-based interventions may be an effective clinical tool to help HIV clinicians identify an optimal treatment plan by identifying and prioritizing needed factors when considering prescribing pharmacotherapy to patients with HIV. Algorithm-based interventions are a sequence of adaptive treatment approaches to support clinicians in providing clinical care and treatment to their patients [27]. The majority of the proposed algorithms to help smokers quit have been designed for the general population of smokers [27–29], and none have been tested with any population of smokers with HIV. A recent pilot study of an algorithm treatment (AT) guided smoking cessation intervention compared to treatment as usual (TAU) resulted in more quit attempts and greater rates of reduction in smoking among a sample of 100 PLWH enrolled in AT guided smoking cessation [30]. In an effort to understand whether AT guided smoking cessation (as compared to TAU) will improve smoking cessation behaviors among African Americans and Whites living with HIV, the aim of this secondary analysis of the pilot study was to extend the AT guiding smoking cessation findings [30] by examining the interactions between race and treatment condition. Thus, the primary goal of this study was to determine if race influenced AT-guided smoking cessation outcomes in a sample of PLWH smokers. Overall, understanding how race may influence AT guided smoking cessation is important for HIV clinicians who provide smoking cessation interventions to PLWH smokers.

Methods

Participant Recruitment and Eligibility

One hundred and thirty four participants were screened from the University of Alabama at Birmingham (UAB) HIV clinic to participate in this smoking cessation pilot trial. One hundred and two provided informed consent, but two participants were excluded due to not currently smoking and not receiving HIV care at the clinic. Additionally, 22 participants were approached but declined to participate, and ten initially agreed to participate but did not complete the enrollment. Inclusion criteria included: (i) being at least 19 years of age (age of legal adulthood in Alabama); (ii) engaged in care at the HIV clinic and not anticipating changing clinics in the next 6 months; (iii) smoking at least five cigarettes per day and positive for cotinine; and (iv) living in an unrestricted environment that allowed smoking. Exclusion criteria included: (i) being pregnant or nursing; (ii) cognitive

impairment such that they cannot provide informed consent; or (iii) being non-English speaking.

Patients engaged in care at the clinic completed computerized patient-reported outcomes (PROs) every 6 months as part of routine care, including a question that queried current smoking status. Additional PROs including alcohol and substance use as well as HIV risk factors. Participants who indicated smoking during their last clinical visit PRO were approached by their medical provider to determine if they were interested in participating in this study. Research staff were present in the clinic 2 days per week to enroll participants and to conduct informed consent procedures privately. Participants who were interested in participating on days staff were not present in clinic were encouraged to call to set up a research appointment to enroll in the study. One hundred participants ($n = 100$) were randomized to receive either AT or TAU, which consisted of instructing participants to talk to a provider about assistance with smoking when ready to make a quit attempt.

Procedures

Participants were administered self-report assessments at baseline including demographic questions and questions about their smoking history. They completed several standardized smoking assessments including the Fagerström Test of Cigarette Dependence [31], the Minnesota Nicotine Withdrawal Scale [32] and the Questionnaire of Smoking Urges-Brief [33]. The Thoughts About Abstinence test [34, 35] assessed motivation, abstinence self-efficacy, and perceived difficulty of quitting using a Likert scale from 1 to 10. A fourth question assessed the participant's goal surrounding their smoking habits, including goals such as no changes in smoking, reducing smoking, quitting for a period of time, or complete abstinence. Participants expired air carbon monoxide (CO) using a Vitalograph CO monitor with a CO value of 5 ppm or less indicative of abstinence [36, 37].

Figure 1 describes the algorithm treatment decision tree used to determine smoking cessation pharmacotherapy and was previously described [30]. Briefly, participants randomized to AT were asked a series of questions to determine appropriate pharmacotherapy selection. All AT participants were asked if they wanted to quit smoking today or within the next 30 days. Participants who responded "yes" were then asked if they would be willing to take a medication that would have to be taken orally twice daily. Participants who indicated a willingness to take medication were offered varenicline as the first line therapy. If varenicline use was contraindicated (e.g., severe renal impairment), bupropion was selected as the next pharmacotherapy choice. Single agent nicotine replacement therapy (NRT) (i.e., the nicotine patch), was offered as the next pharmacotherapy option. If NRT was not appropriate, participants were offered counseling alone. After 4 weeks, if participants had not quit, they were offered a short-acting form of NRT such as nicotine lozenges. AT participants continued to receive the selected pharmacotherapy for 12 weeks, regardless of their success with smoking cessation or reported use of the medication.

AT participants who indicated that they did not want to quit smoking in the next 30 days, were still offered active treatment in the form of NRT to use in situations in which they cannot smoke or to make practice quit attempts. For participants who have made a failed quit

attempt using single NRT, combination NRT in the form of patch and lozenge was suggested by the Algorithm. These participants also received the full 12 weeks of medication, even if they were not successful with cessation or reported not using the medication. Participants randomized to TAU were instructed to talk to their provider when they were ready to make a quit attempt. All participants (AT or TAU) received brief advice to quit smoking, a 5–10 min discussion on common strategies for quitting and were given a one-page handout with tips for cessation. All interventions were conducted by the same research assistant.

All participants returned for study assessments at weeks 2, 4, 8, 12 (end-of-treatment) and 16 (one-month follow-up). Research staff conducted all interventions and follow-up appointments. Participants were compensated up to \$130 across the four month time of the trial, plus a \$50 bonus if they attended all sessions.

Statistical Analyses

Demographics and smoking characteristics were analyzed using Chi square and ANOVA procedures, as indicated. Generalized estimating equations (GEE) were used to examine the impact of race across time for the outcomes of interest including changes in abstinence self-efficacy and cessation. Main effects of these variables and interactions were examined across racial groups. All analyses used an intent-to-treat approach with missing values and lost to follow-up coded as smoking.

Results

Baseline Comparisons Between Racial Groups

Participants were predominantly African American (75%) males (71%) who had never been married. About 70% reported having a high school or higher education. Over half (57%) reported previous treatment for a mental illness, while 69% reported previous substance use treatment. Almost half (49%) reported being men who have sex with men (MSM). No significant differences were found on these variables between racial groups (Table 1). No significant differences were found on attrition for race, intervention group, or abstinence goal. Overall, 84% of participants showed for their Week 16 appointment.

Table 2 presents the smoking characteristics of participants. Participants reported first smoking at age 16, becoming daily smokers at around age 19, and smoking about 16 cigarettes per day on average. Differences between the racial groups were found for average number of cigarettes smoked per day (cpd), highest number of lifetime cpd, and average number of cigarettes smoked yesterday, with African American smokers reporting smoking significantly fewer cigarettes across all of these domains compared to White smokers. African Americans were more likely to smoke menthol cigarettes (92%) as compared to White smokers (36%).

Medication Use and Adherence

No racial differences were found with respect to the type of initial prescription participants received (Table 2). However, racial differences were found for adding lozenges to the initial nicotine patch for African American and White smokers (100 and 25%, respectively);

varenicline (20 and 71%, respectively); and bupropion (25 and 0%, respectively; $p = 0.013$). No racial differences were observed for medication adherence.

Cessation Readiness and Use of Other Tobacco Products

GEE models testing motivation to quit, abstinence self-efficacy, and difficulty of quitting were examined. While no significant interactions were found for race on difficulty of quitting or motivation, a significant interaction was found between treatment and race for abstinence self-efficacy, such that White participants reported higher self-efficacy when in the AT group, as compared to TAU ($M = 8.70$ vs. $M = 6.79$; $p < 0.001$). African American participants reported similar levels of self-efficacy, regardless of treatment group ($M = 8.68$ vs. $M = 8.52$; $p = 0.324$; see Fig. 2; Table 3). No significant change in self-efficacy across time was found between African Americans and White smokers.

Participants reported on their use of other, non-cigarette, and tobacco products (e.g. cigars/cigarillos) at every visit. No differences were found between racial groups on their use of other tobacco products at baseline. However, a significant interaction of race and time for use of tobacco products was shown on GEE such that African Americans increased their use of other tobacco products over time relative to White smokers (Fig. 3; Table 4). In particular, little cigars/cigarillos were used during 78% of the time that another tobacco product was used, with no racial differences found on the type of other tobacco used. Only one participant reported the use of electronic cigarettes.

Smoking Cessation

No differences were found between the racial groups on quit rates over time on GEE. At Week 2, African American smokers had slightly higher CO-verified quit rates (22.7 vs. 8%; $\chi^2 = 2.62$, $p = 0.11$) although this was not statically significant. However, an interaction was found between racial groups and treatment goals on smoking abstinence on GEE such that White smokers who reported complete abstinence as their goal had higher cessation rates compared to White participants with another goal ($M = 21\%$ vs. $M = 4\%$; $p = 0.004$). Conversely, African American smokers who reported another goal in mind had slightly higher quit rates than when they had the goal of complete abstinence only ($M = 27\%$ vs. $M = 20\%$; $p = 0.026$; see Fig. 4; Table 5).

Discussion

The aim of this study was to examine racial differences in response to AT guided smoking cessation for African Americans and Whites living with HIV. Despite reporting significantly lower smoking rates and receiving AT guided smoking cessation pharmacotherapy, African Americans, at most clinical visits, were more likely than Whites to use other tobacco products. For example, use of little cigars/cigarillos was more prevalent among African Americans than Whites.

We found differences between African American and White participants in both the AT guided smoking cessation and TAU groups. While we did not observe racial differences in motivations reported to quit smoking, we observed that White smokers demonstrated higher self-efficacy in the AT guided smoking cessation group compared to the TAU group.

Compared to Whites, African Americans reported greater difficulty maintaining complete abstinence when abstinence was their only goal. Additionally, African Americans had better outcomes than White smokers if they reported a goal other than abstinence. This finding is in contrast to previous literature on smokers, which suggests that intention to quit is related to successful smoking cessation, although intentions to quit have been demonstrated to change within short periods of time [38, 39]. It is possible that African American smokers' intentions to quit fluctuated more than White smokers, with African Americans initially not intending to quit and then changing their intentions during the study. Our findings suggest that consideration of race/ethnicity; reporting another goal other than complete abstinence; and substituting tobacco products beyond cigarettes are critical factors that influence smoking cessation outcomes. Another finding from the study was that racial differences were not observed in medication adherence for both racial groups.

There are established differences between African Americans and Whites with respect to smoking treatment. It is well documented that health disparities such as HIV, substance abuse and mental illness, are higher among African Americans than Whites, and those disparities influence the efficacy of smoking cessation treatment in both of these racial groups [40–42]. Several studies have found that African Americans are less likely to receive advice to quit smoking by providers [43, 44]. Another study on smoking among rural African Americans demonstrated disparities in receiving cessation treatment [45]. In this study, when clinicians follow AT and provided a tailored pharmacotherapy intervention to all smokers, regardless of race, African Americans show higher abstinence rates relative to Whites [30]. To our knowledge, this is the first study to examine the impact of AT guided smoking cessation by race conducted among smokers engaged in care for their HIV disease.

Results from the present study have important clinical implications. Taking into consideration such factors as an individual's race/ethnicity; reporting a goal other than complete abstinence; and exploring other types of tobacco products used beyond cigarettes is critical to maximize smoking cessation treatment. Additionally, the higher prevalence of using mentholated cigarettes and little cigars/cigarillos in this study among African Americans than Whites living with HIV requires HIV care providers to consider how other tobacco products may impede cessation. Although this is the first study that used an AT guided smoking cessation for PLWH smokers, future interventions may also consider assessing goals other than abstinence and other tobacco products in racially and ethnically diverse PLWH smokers [46].

Notwithstanding the important racial differences described here, the results of this trial also add significantly to the recent intervention development work identifying brief sustainable smoking cessation programs that can be supported in HIV primary care settings [47–49]. As PLWH continue to reap the benefits of effective antiretroviral treatments, PLWH smokers are at greater risk for a variety of chronic diseases, including numerous cancers related to cigarette smoking and other tobacco products [6]. In addition, smoking continues to be linked to poorer HIV disease management and health outcomes [50]. As such, the development of effective brief smoking cessation interventions that can be sustained in HIV primary care settings is a public health priority, as many people living HIV may not have access to other cessation programs.

This study had several limitations. As this was a pilot study, the sample size was small, particularly for white smokers, and the population only comprised two racial and ethnic groups. Also, the sample was taken from one clinic, and recruitment was limited to this site. Furthermore, we did not ask the participants to rate their clinical interaction to determine whether prejudice or bias influenced their clinical experiences in AT guided smoking cessation [51]. Other factors such as social support, coping ability, and experience of discrimination should also be considered as possible variables in predicting the interaction of cessation readiness and treatment by race/ethnicity. Taken together, the findings of this study have important practical implications for providers in HIV care clinics. Encouraging HIV providers to utilize AT guided smoking cessation for assistance in prescribing appropriate pharmacotherapy treatment over TAU approaches can improve the health outcomes and reduce treatment biases among African American and White smokers living with HIV.

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Fig. 1.
Algorithm-guided treatment for smoking cessation

Fig. 2. Interaction between treatment and race for abstinence self-efficacy ($N = 100$). Number of cigarettes smoked per day and menthol use were included as covariates. *AT* algorithm treatment; *TAU* treatment as usual

Fig. 3. Racial differences on use of other tobacco products across time (N = 100). Number of cigarettes smoked per day and menthol use were included as covariates. *Wk* Week

Fig. 4. Interaction between race and abstinence goal for quit status for CO 5 ppm. Number of cigarettes smoked per day and menthol use were included as covariates

Table 1

Demographic Characteristics (N = 100)

Variable	Total (n = 100)	White (n = 25)	Africa American (n = 75)	P value
Age, M (SD)	46.2 (8.7)	44.9 (7.2)	46.8 (8.6)	0.319
Treatment group, (%)				
Algorithm	50	56	48	0.488
Treatment as usual	50	44	52	
Sex (%)				
Male	71	72	71	0.899
Female	29	28	29	
Marital status (%)				
Never married	56	56	56	0.833
Married	10	8	11	
Divorced/separated	27	32	25	
Widow	7	4	8	
Education level (%)				
<HS	30	20	33	0.430
HS/GED	30	32	30	
>HS	40	48	37	
Received mental health treatment (%)				
Yes	57	68	53	0.200
No	43	32	47	
Received substance abuse treatment (%)				
Yes	69	64	71	0.533
No	31	36	29	

Age comparison with treatment group was calculated using ANOVA while all other comparisons were done using Chi Square analyses

SD standard deviation, *HS* high school, *GED* general educational development

Table 2**Baseline Smoking Characteristics (N = 100)**

Variable	Total (n = 100)	White (n = 25)	African American (n = 75)	P-value
Age of first smoking, M (SD)	16.0 (6.7)	15.9 (7.8)	16.1 (6.3)	0.904
Age at onset of daily smoking, M (SD)	19.5 (6.9)	18.3 (7.1)	19.8 (6.8)	0.344
Average CPD, M (SD)	16.0 (8.9)	19.7 (9.1)	14.7 (8.6)	0.015
Highest CPD, M (SD)	21.2 (11.2)	25.3 (10.0)	19.8 (11.3)	0.034
Number of cigarettes smoked today, M (SD)	5.5 (5.5)	6.8 (5.4)	5.1 (5.5)	0.185
Number of cigarettes smoked yesterday, M (SD)	14.4 (8.7)	18.2 (9.4)	13.1 (8.1)	0.010
CO level (ppm), M (SD)	18.0 (11.6)	19.7 (13.1)	17.4 (11.1)	0.392
FTCD (baseline), M (SD)	5.1 (2.1)	5.6 (2.0)	4.9 (2.1)	0.168
QSU (baseline), M (SD)	40.3 (17.4)	43.7 (18.3)	39.1 (17.1)	0.258
HHWS (baseline), M (SD)	12.8 (8.0)	12.8 (7.6)	12.8 (8.2)	0.970
Total number of years smoking, M (SD)	26.9 (11.0)	25.8 (9.6)	27.3 (11.5)	0.569
Number of past quit attempts, m (SD)	2.8 (10.6)	1.7 (2.4)	3.2 (12.2)	0.539
Longest quit (months), M (SD)	15.5 (25.1)	12.4 (19.7)	16.5 (26.7)	0.482
Last time tried to quit (months), M (SD)	19.8 (50.5)	26.1 (64.5)	17.6 (45.2)	0.470
Difficulty of last quit attempt ^a , M (SD)	5.6 (2.2)	5.6 (2.3)	5.6 (2.2)	0.985
Percentage of family who smoke, M (SD)	39.7 (36.7)	41.5 (39.2)	39.1 (36.0)	0.780
Percentage of friends who smoke, M (SD)	57.0 (34.8)	56.3 (36.5)	57.2 (34.5)	0.906
Average amount spent on cigarettes (weekly in dollars), M (SD)	\$33.9(51.8)	\$50.8 (96.4)	\$28.3 (21.9)	0.064
Abstinence goal (%)				
Complete abstinence	66	64	67	0.807
Some other goal	34	36	33	
Thinking about quitting smoking (%)				
Within 30 days	73	60	77	0.164
Within 6 months	26	40	22	
No, not considering quitting	1	0	1	
Family member has medical problems related to smoking (%)				
Yes	27	28	27	0.503
No	58	64	55	
Do Not Know	15	8	18	
Family member died from smoking (%)				
Yes	32	40	29	0.442
No	55	44	59	
Do Not Know	13	16	12	
Personal medical problems from smoking (%)				
Yes	23	28	22	0.803
No	65	60	66	
Do Not Know	12	12	12	
Currently living with a smoker				

Variable	Total (n = 100)	White (n = 25)	African American (n = 75)	P-value
Yes	61	56	63	0.554
No	39	44	37	
Use of menthol cigarettes (%)				
Yes	78	36	92	<0.001
No	22	64	8	
Other tobacco products used (%)				
Cigars/cigarillos	26	32	24	0.430
Smokeless/chew/snus	9	8	9	0.840
Pipes	6	8	5	0.627
Initial AT pharmacotherapy				
Varenicline	36	52	29	0.649
Bupropion	10	9	12	
Single NRT	42	31	44	
Combination NRT	12	8	15	
Any abstinence across time				
Yes	38	24	43	0.096
No	62	76	57	
Medication adherence (>80% prescribed doses taken)				
Yes	43	43	43	1.00
No	57	57	57	

^a1–7 scale; 1 not difficult; 7 very difficult, *AT* algorithm treatment, *TAU* treatment as Usual, *CPD* cigarettes per day, *CO* carbon monoxide, *FTCD* fagerstrom test of cigarette dependence, *QSU* questionnaire of smoking urges, *HHWS* Hughes–Hatsukami withdrawal scale ANOVAs were calculated for comparisons between continuous variables

Table 3

GEE Results for racial differences on abstinence self-efficacy (N = 100)

Parameter	B	OR; (95% CI)	P-value
Race (White)	−0.04	0.96 (0.47–1.98)	0.919
Treatment (control)	−0.13	0.88 (0.52–1.49)	0.630
Race × treatment	−1.43	0.24 (0.07–0.85)	0.027

Menthol and Number of Cigarettes Smoked Per Day were added as covariates in the Model

Treatment Algorithm versus Control; *Race* White versus African American

Table 4

GEE Results for racial differences and use of other tobacco products (N = 100)

Parameter	B	OR; (95% CI)	P-value
Race (White)	−0.11	0.90 (0.14–5.97)	0.913
Baseline	0.17	1.19 (0.40–3.52)	0.756
Week 2	0.87	2.39 (1.16–4.95)	0.019
Week 4	0.95	2.58 (1.15–5.79)	0.021
Week 8	1.31	3.69 (1.43–9.49)	0.007
Week 12	0.52	1.68 (0.70–3.99)	0.244
Race × baseline	−0.63	0.53 (0.04–7.32)	0.637
Race × Week 2	−1.25	0.29 (0.11–0.78)	0.014
Race × Week 4	0.28	1.32 (0.23–7.45)	0.756
Race × Week 8	−1.41	0.25 (0.09–0.66)	0.005
Race × Week 12	0.25	1.28 (0.27–6.18)	0.759

Menthol and number of cigarettes smoked per day were added as covariates in the model

Race = White versus Non-White

Table 5

GEE results for racial differences and abstinence (N = 100)

Parameter	B	OR; (95% CI)	P-value
Race (White)	2.21	9.11 (2.30–36.06)	0.002
Goal (Other than Abstinence)	1.83	6.22 (1.21–32.03)	0.029
Race × Goal	−2.31	0.10 (0.02–0.61)	0.01

Menthol and Number of Cigarettes Smoked Per Day were added as covariates in the Model

Race = White versus Non-White

Goal complete abstinence versus another goal