

DIFFERENCES IN SMOKING AND QUITTING EXPERIENCES BY LEVELS OF SMOKING AMONG AFRICAN AMERICANS

Background: Despite smoking fewer cigarettes per day than their White counterparts, African Americans have higher tobacco-related morbidity and mortality. Since most tobacco control efforts have focused on heavy smokers, little is known about smoking and quitting experiences of African-American occasional and light smokers.

Methods: We conducted a survey of 484 African-American smokers, which included: 104 occasional (smoked in ≤ 25 of last 30 days), 176 light (smoked 1–10 cigarettes per day (cpd)), 69 moderate (11–19 cpd), and 135 heavy (≥ 20 cpd) attending an inner-city clinic. The survey assessed their sociodemographic characteristics, smoking characteristics, and cessation experiences.

Results: Compared with moderate and heavy smokers, occasional and light smokers were, on average, younger, more likely to be female, and more likely to initiate regular smoking at an older age. Forty percent of occasional smokers used other tobacco products compared to 23.3%, 24.6%, and 27.4% for light, moderate, and heavy smokers, respectively. Motivation and confidence to quit were higher among occasional and light smokers. Interest in participating in a formal cessation program was equally high in all 4 groups (mean ranged from 7.6–8.0 on a scale of 1–10). The use of pharmacotherapy for smoking cessation was similar, and generally low, among all 4 groups.

Conclusions: High levels of motivation for smoking cessation exist among African-American occasional and light smokers. The interest of these lighter smokers in smoking cessation represents a window of opportunity to design programs for a group that has been excluded from most cessation interventions. (*Ethn Dis.* 2004;14:127–133)

Key Words: Occasional, Light, African Americans, Smoking Cessation

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INTRODUCTION

Despite considerable prevention and intervention efforts, approximately 50 million adults in the United States, about 6 million of whom are African Americans (AAs), continue to smoke cigarettes.^{1,2} Although recent studies suggest a decline in overall smoking prevalence and similar smoking rates for AAs and Whites (23.2% for AAs and 23.7% for Whites in 2000),³ prevalence rates for certain segments of the population, especially those individuals who are of lower socioeconomic status, remain considerably higher.⁴ Furthermore, the decline in smoking rate is not universal across all sub-populations of smokers, and is also not occurring at a rate sufficient to meet the 2010 national health objective, which is to reduce smoking rates among adults to 13%.⁵ The reasons why smoking rates may not be declining uniformly across all segments of the smoking population include known differences in smoking patterns in different sub-populations of smokers and possible differing treatment effectiveness across sub-populations of smokers. Differences also exist in levels of smoking (ie, light vs heavy) of Afri-

can-American and White smokers. Light smokers constitute a small proportion of the general population of smokers⁶ whereas the proportion is much higher in AAs. The third National Health and Nutrition Survey (NHANES III) reported that 65% of AAs smoke fewer than 15 cigarettes per day (cpd) compared to 35% for Whites.⁶ African-American smokers reported smoking an average of 15cpd compared to 25cpd for Whites.⁷ Despite smoking fewer cigarettes, AAs bear a disproportionate share of the health consequences of tobacco use compared to Whites and other US racial/ethnic groups. African Americans (AAs) have the highest incidence rates for all cancers combined, and the highest overall cancer mortality rates compared to other racial/ethnic groups.¹³ The lower rate of cigarette consumption among AAs is offset by their preference for high tar/nicotine (>1.0 mg nicotine/cigarette) and mentholated cigarettes, their tendency to inhale more deeply, their capacity to achieve higher net indexes of smoke inhalation, and their slower rate of nicotine metabolism.^{8–10} These factors increase tobacco-related health risks.¹¹

Although the prevalence of smoking among adults has decreased over the past few decades,² the proportion of light smokers (≤ 10 cpd) as a subset of smokers is increasing.¹² The increase in the proportion of light smokers as a subset of the smoking population is particularly evident in ethnic minorities.

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Furthermore, the decline in smoking rate is not universal across all sub-populations of smokers, and is also not occurring at a rate sufficient to meet the 2010 national health objective, which is to reduce smoking rates among adults to 13%.⁵

Sixty percent of Hispanic smokers and up to 50% of African-American smokers are classified as light smokers.¹³ Of particular note, despite smoking fewer cigarettes per day than Whites, AAs have higher than expected tobacco related morbidity and mortality.¹⁴

While tobacco control efforts have focused primarily on heavy smokers, there is growing interest to better understand light smokers. Many former heavy smokers may become light smokers, if they are unable or unwilling to completely stop smoking.¹⁵⁻¹⁸ The California Tobacco Survey found that 40% of occasional smokers were formerly heavy smokers, or abstinent one year prior and were considered to be in a transitional state associated with cessation.¹⁹ Other studies have found that the vast majority of light smokers are stable, maintaining their current smoking rates for a period ≥ 5 years.²⁰ The exclusion of light smokers from most smoking cessation programs is due in part to a number of presumptions. These presumptions include the view that light smoking is safer, there are fewer light smokers, and that light smokers do not need help to quit because they should not experience difficulty quitting.

Low levels of smoking, however, do not necessarily translate to less difficulty with smoking cessation, especially

among AAs. Despite lower levels of consumption, AAs have greater difficulty quitting than Whites; they make more attempts to quit yet are less successful in quitting.²¹ Additionally, despite fewer cigarettes per day, AAs are more likely than Whites to smoke within 10 minutes of waking—a marker for nicotine addiction.²¹

Due to the exclusion of light and occasional smokers from most tobacco control programs, little is known about interest in quitting smoking and experiences with smoking cessation among occasional and light smokers. Understanding motivation and smoking cessation experiences among these groups of smokers is an important step toward designing interventions for these subsets of smokers.

This study was conducted to examine differences in smoking and quitting experiences among African-American occasional, light, moderate, and heavy smokers attending an inner-city community health center. Specifically, we tested the hypothesis that occasional and light smokers will report greater motivation to quit but experience similar difficulty with quitting smoking compared to moderate and heavy smokers. Data were derived from a previously published study designed to examine smoking reduction practices among inner-city residents.^{22,23}

METHODS

Setting and Study Population

This study was conducted at an inner-city health center that has approximately 200,000 patient visits yearly through its clinics. The health center is based in a residential neighborhood and mostly serves a low-income, African-American population. Participants were recruited through clinic referrals and intercept interviews in the health center's lobby, clinics' waiting areas, and designated smoking areas. All surveys were conducted by trained study staff during

the hours of 8:30 am and 5:00 pm on weekdays between August and November 2000. Study eligibility criteria included: age ≥ 18 years, African-American, smoked a cigarette in the last 30 days, and smoked at least 100 cigarettes in one's lifetime. Eligible participants completed a survey instrument, an expired carbon monoxide (CO) test, and were reimbursed \$20 for their time. The CO test was performed before the survey was administered and participants were told the CO test was performed to verify self-reported smoking. Although no one was excluded based on their CO reading, this procedure was adopted to minimize over-reporting of smoking.

A total of 607 participants presented for enrollment in the study. Eighty-three percent were self-referred, having heard about the study from friends, other patients, or health center staff. The remaining participants were recruited through intercept interviews by study staff in the health center lobby or in designated smoking areas. Nine participants were excluded because of mental incompetence as measured by failure to complete the survey (3), or meet age (2) or smoking criteria (4). Because the present study is focused on AAs, analysis is limited to the 484 participants who identified themselves as African-American or Black. Details of recruitment and study procedures for the main study have been previously reported.^{22,23}

Measures

Sociodemographics: The demographic data collected in the survey included gender, education, marital status, age, income, and employment status.

Smoking Characteristics: These were assessed using previously published NIH-funded studies, the Center for Disease Control and Prevention, and other national studies.^{19,24} Participants were asked about current level of smoking and readiness to quit based on the transtheoretical stages of change.²⁵ Current smoking was assessed with the question "During the last 30 days, on

Table 1. Sociodemographic characteristics by smoking categories

	Total Sample N=484	Occasional N=104	Light N=176	Moderate N=69	Heavy N=135	Global P value (χ^2 or F)
Age in years, median (SD) ^{d*,e†}	41.0 (10.1)	40.0 (11.6)	39.0 (9.0)	41.0 (10.7)	42.0 (9.7)	.047
Gender, % female ^{b†,c*,d†,e†}	38.0	43.3	47.8	23.2	28.9	<.001
Marital status, % married	18.6	16.5	22.2	14.5	17.8	.458
Education, <High school	25.3	25.0	21.6	29.0	28.4	.457
Employment, % Employed	53.4	59.6	52.8	58.0	47.0	.220
Income, % <\$1200/month	59.4	60.2	58.9	56.7	60.8	.954

^a A significant pair-wise difference between occasional and light smokers.

^b A significant pair-wise difference between occasional and moderate smokers.

^c A significant pair-wise difference between occasional and heavy smokers.

^d A significant pair-wise difference between light and moderate smokers.

^e A significant pair-wise difference between light and heavy smokers.

[†] A significant pair-wise difference between moderate and heavy smokers.

* $P=.05$; † $P=.01$; ‡ $P=.001$.

the days that you smoked, on average how many cigarettes did you smoke per day?" This question was immediately followed by another question "How long have you smoked at this rate?" to assess duration of smoking. Participants were also asked about their use of other forms of tobacco (pipes, cigars, chewing tobacco, snuff).

Smoking-related Measures: These were assessed using measures from previous studies by the Center for Disease Control's Behavioral Risk Factors Surveillance Survey and the California Tobacco Survey.^{19,24} Consistent with these previous studies, participants were asked about age at first cigarette use and age when they started smoking regularly. Duration of smoking was calculated by subtracting the age at which regular smoking began from current age. Participants were also asked if they had used other forms of tobacco such as pipes, cigars, chewing tobacco or snuff in the past 30 days. Individuals were asked about both lifetime and past year quitting experiences in terms of number of attempts to quit smoking and the level of difficulty they experienced when they attempted to quit smoking. To ensure that current definitions were consistent with previous studies, a quit attempt was defined as not smoking a cigarette for at least 24 hours with the intention of quitting. Participants were also asked about methods they have utilized in past

attempts to quit smoking. These methods included the 5 FDA-approved pharmacotherapies such as nicotine gum, patch, spray, inhaler, and bupropion. Participants were also asked about non-pharmacological methods they have utilized to attempt to quit smoking. Non-pharmacological methods participants utilized in their attempt to quit smoking included: will power/on my own, prayer/God/spirituality, self-help materials, a formal program, gradual reduction, abrupt stop/cold turkey, and counseling from a healthcare provider.

Data Analysis

Since the main objective of the study was to examine differences among occasional, light, moderate, and heavy smokers, participants were recruited to ensure that our study would have a good distribution of participants in each of the 4 smoking categories. Because there are no widely accepted criteria for defining smoking levels in the literature, occasional smokers were defined as those who smoked ≤ 25 days of the last 30 days. This definition was adopted from the California Tobacco Survey.¹⁹ We defined light smokers as those smoking 1–10 cpd, because many smoking cessation studies exclude those smoking at this rate. Heavy smokers were categorized as those who smoked ≥ 20 cpd to be consistent with previous studies.²⁶ The remaining smokers who smoked

11–19 cpd were classified as moderate smokers.

Data were double entered into a Microsoft Access® database and statistical analyses were performed using SAS software (SAS User's Guide: Statistics, 6th ed, SAS Institute Inc, Cary, NC, 1990).

Categorical variables were summarized with percentages and continuous variables were summarized by means. The chi-square test was used to make global comparisons of categorical variables across 4 groups. Because continuous variables were not normally distributed, the non-parametric analysis of variance (ANOVA), Kruskal-Wallis, was used to make global comparisons of medians across the 4 groups. Pair-wise comparisons were made using χ^2 test for categorical variables and the non-parametric Wilcoxon test for continuous variables. For all analysis, P values less than .05 were considered statistically significant.

RESULTS

Table 1 highlights the sociodemographic characteristics of participants by the 4 smoking categories. Included in these groups were occasional, light, moderate, and heavy smokers. Occasional and light smokers on average were slightly younger and more likely to be female. Table 2 highlights smoking

Table 2. Smoking characteristics by smoking levels

	Occasional N=104	Light N=176	Moderate N=69	Heavy N=135	Global P value (χ^2 or F)
Cigarettes per day ^{1,a,b,c,d,e,f}	4.0 (5.0)	8.0 (2.3)	15.0 (2.0)	20.0 (6.5)	<.0001
Expired CO, ppm (SD) ^{1,a,b,c,d,e,f}	5.0 (9.6)	11.6 (8.4)	15.0 (9.9)	17.0 (11.6)	<.0001
Age of first cigarette, years (SD) ^{1,b*,c,d*,e,f}	16.0 (6.8)	16.0 (4.4)	15.0 (3.9)	14.0 (5.2)	<.0001
Age of regular smoking, years (SD) ^{1,a*,b,c,d,e,f}	20.0 (8.0)	18.0 (5.7)	17.0 (5.2)	17.0 (6.2)	<.0001
Lifetime smoking, years (SD) ^{1,b,c,d,e,f}	18.0 (11.9)	20.0 (10.4)	24.0 (11.4)	25.0 (10.8)	<.0001
Hours since last cigarette ^{1,a,b,c,d,e,f}	7.0 (158.1)	1.0 (13.5)	.75 (7.0)	0.5 (2.6)	<.0001
Years of smoking at current					
Smoked for ≥ 2 years at current rate, % ^{2,a,b,c,d,e,f}	54.81	71.02	82.61	90.37	<.0001
Compared to a year ago, do you now					
smoke . . . , % ^{a,b,c,d*,e,f}					<.0001
Fewer cigarettes?	62.50	39.08	21.74	14.18	
More cigarettes?	14.42	18.97	28.99	27.61	
About the same?	23.08	41.95	49.28	58.21	
Used other tobacco product in last 30 days, % ^{2,b*,c*}	40.4	23.3	24.6	27.4	.017

¹ Median (standard deviation).² Percent who answered "yes".^a A significant pair-wise difference between occasional and light smokers.^b A significant pair-wise difference between occasional and moderate smokers.^c A significant pair-wise difference between occasional and heavy smokers.^d A significant pair-wise difference between light and moderate smokers.^e A significant pair-wise difference between light and heavy smokers.^f A significant pair-wise difference between moderate and heavy smokers.* $P=.05$; + $P=.01$; † $P=.001$.

characteristics by smoking levels. Utilizing the definition given for the 4 groups, cpd showed a dose response. Years of smoking at the current rate also showed a dose response with occasional smokers smoking for a median of 2 years at their current rate. Both the ages of first cigarette use and regular smoking were highest for occasional smokers, while the years of entire smoking history was lowest for occasional smokers. A significantly higher proportion of occasional smokers have used other tobacco products in the last 30 days. The other 3 groups were not different in this aspect. Cigars accounted for more than 90% of other tobacco product use among all 4 groups of smokers. Nearly two-thirds of occasional smokers now smoked fewer cigarettes compared to one year ago. A step-down trend in this proportion was evident for the other 3 groups of smokers.

Table 3 highlights readiness to change, by smoking levels, with readiness to quit being highest among the occasional smokers and lowest among

heavy smokers. No difference was observed between the categories evaluating interest in participating in a formal program to help quit smoking.

Table 4 highlights the quitting experiences by smoking levels. No differences were indicated between the 4 groups in the number of lifetime quit attempts. Time since the most recent quit attempt by occasional smokers was shorter by almost one-fourth of that for heavy smokers for whom the median was about 2 years ago. Occasional and light smokers found their most recent quit attempts to be slightly easier than heavier smokers. Occasional, light, moderate, and heavy smokers were equally likely to have used pharmacotherapy methods including any of the 5 FDA approved medications to quit smoking (Table 5). The only differences in methods used were noted in the non-pharmacological methods utilized to quit smoking category. Occasional smokers were most likely to use will power/on my own, prayer, God, and spirituality, have received counseling

from a healthcare provider, and to have utilized gradual reduction as a quit technique.

DISCUSSION

This study shows a substantial variability in the smoking patterns of the 4 groups of smokers in this study. However, the variability was more pronounced among occasional and light smokers. For example, only 23% of occasional and 42% of light smokers respectively reported smoking about the same number of cigarettes compared to a year prior. This variability in smoking patterns of African-American occasional smokers was similar to findings among their White counterparts. The California Tobacco Survey¹⁹ found that occasional smoking was a transitional stage for many smokers. Our study suggests that the majority (nearly two-thirds) of occasional smokers have cut down on their smoking compared to a year ago. This supports findings from the Cali-

Table 3. Motivation to quit, quit attempts, and interest in participating in a cessation program by smoking levels

	Occasional N=104	Light N=176	Moderate N=69	Heavy N=135	Global P value (χ^2 or F)
Stages of change, % ^{c,†}					
Pre-contemplation	22.8	30.3	30.7	37.3	
Contemplation	36.6	42.9	43.5	45.2	
Preparation	40.6	26.8	25.8	17.5	
Quit attempts in past year ^{2,a†,b*,c‡,e*}	1.0 (15.7)	1.0 (10.5)	0.0 (17.1)	0.0 (2.0)	<.0001
Interest to participate in a formal smoking cessation program ^{2,3}	10.0 (3.23)	10.0 (2.85)	8.0 (2.83)	10.0 (2.82)	.460

¹ Percent who answered "yes" (N).² Median (standard deviation).³ Scale of 1–10 (1 = not interested at all, and 10 = extremely interested).^a A significant pair-wise difference between occasional and light smokers.^b A significant pair-wise difference between occasional and moderate smokers.^c A significant pair-wise difference between occasional and heavy smokers.^d A significant pair-wise difference between light and moderate smokers.^e A significant pair-wise difference between light and heavy smokers.^f A significant pair-wise difference between moderate and heavy smokers.* $P=.05$; † $P=.01$; ‡ $P=.001$.

fornia Tobacco Survey (CTS) that occasional smoking may be a transitional stage moving to smoking cessation. Nevertheless, other researchers have reported that lower levels of smoking can represent a long term-behavior.^{20,27} The findings from our study, as well as the CTS, suggest that occasional and light smokers are not homogeneous groups of smokers. Included in these groups are smokers at the initiation phase, former heavy smokers, as well as those with stable smoking patterns. The heterogeneity of occasional and light smokers creates unique challenges for tobacco control

programs. For example, cessation interventions that are effective for smokers at initiation and increasing their level of smoking may be ineffective for those with a stable smoking pattern. Occasional and light smokers who were formerly heavy smokers may also need different types of interventions. These challenges would likely have greater impact on progress of smoking cessation among AAs who represent a disproportionate number of occasional and light smokers in our society. Despite making more attempts to quit smoking on average in a given year than Whites, Af-

rican-American smokers are less successful in their cessation attempts.^{28,29} One factor that may contribute to lower success in cessation among AAs could be that interventions that are effective among heavy smokers have a differential effect among occasional and light smokers.

Our findings also suggested that occasional smokers consumed higher quantities of other tobacco products (primarily cigars) compared to the other 3 groups of smokers. Previous studies in this subset of smokers did not report on their use of other tobacco products; the

Table 4. Quitting experiences by smoking levels

	Occasional N=104	Light N=176	Moderate N=69	Heavy N=135	Global P value (χ^2 or F)
Has a doctor ever told you to stop smoking? ¹	51.0 (53)	52.3 (92)	56.5 (39)	57.8 (78)	0.671
Lifetime quit attempts ²	2.0 (11.6)	2.0 (8.2)	2.0 (6.1)	2.0 (5.7)	.222
Months ago since most recent quit attempt ^{2,a†,b‡,c‡}	6.0 (59.0)	18.0 (65.5)	24.0 (52.2)	22.5 (87.1)	<.0001
Days most recent quit attempt lasted ^{2,b†}	60.0 (452.4)	30.0 (571.8)	18.0 (593.3)	30.0 (573.7)	.068
How easy/hard was most recent quit attempt ^{2,3,b*,c*,d*,e*}	7.0 (3.2)	7.0 (3.0)	8.0 (2.8)	8.0 (3.3)	.022

¹ Percent who answered "yes" (N).² Median (standard deviation).³ Scale of 1–10 (1 = not interested at all, and 10 = extremely interested).^a A significant pair-wise difference between occasional and light smokers.^b A significant pair-wise difference between occasional and moderate smokers.^c A significant pair-wise difference between occasional and heavy smokers.^d A significant pair-wise difference between light and moderate smokers.^e A significant pair-wise difference between light and heavy smokers.^f A significant pair-wise difference between moderate and heavy smokers.* $P=.05$; † $P=.01$; ‡ $P=.001$.

Table 5. Methods used to quit by smoking levels

Have You Ever Used Any of These Methods to Help You Quit Smoking? % Yes	Occasional N=104	Light N=135	Moderate N=69	Heavy N=136	Global P value (χ^2 or F)
Will power/on my own ^{c†}	79.81 (83)	71.59 (126)	69.57 (48)	62.22 (84)	.031
Prayer/God/spirituality ^{d*,e*}	63.46 (66)	65.34 (115)	50.72 (35)	52.59 (71)	.045
Self-help materials	23.08 (24)	18.18 (32)	20.59 (14)	15.56 (21)	.501
Counseling from a health care provider ^{c†,e*}	16.35 (17)	11.93 (21)	13.04 (9)	5.19 (7)	.045
Gradual reduction ^{c†,e*}	77.88 (81)	71.02 (125)	68.12 (47)	59.26 (80)	.017
Abrupt stop/cold turkey ^{c*,f*}	71.15 (74)	60.23 (106)	72.46 (50)	56.30 (76)	.032

^a A significant pair-wise difference between occasional and light smokers.

^b A significant pair-wise difference between occasional and moderate smokers.

^c A significant pair-wise difference between occasional and heavy smokers.

^d A significant pair-wise difference between light and moderate smokers.

^e A significant pair-wise difference between light and heavy smokers.

^f A significant pair-wise difference between moderate and heavy smokers.

* $P=.05$; † $P=.01$; ‡ $P=.001$.

reason for this omission is not clear. High level of consumption of other tobacco products could be a factor in the occasional smokers' ability to maintain low-level cigarette smoking since they may obtain nicotine from more than one tobacco product. While reduced cigarette smoking would suggest lower health risk for individuals who smoke occasionally, their actual health risk could be higher due to consumption of tobacco from other sources. The difficulty in quitting experienced by some occasional smokers may also be because their total tobacco consumption is higher than that suggested by the number of cigarettes smoked.

Occasional and light smokers seemed more motivated to quit smoking than heavier smokers. This finding is consistent with reports from other studies.^{27,30} However, despite their high motivation and multiple quit attempts, these 2 groups of smokers reported experiencing difficulty with quitting, although to a lesser degree than heavier smokers. Some

studies have found that "chippers," those who smoked ≤ 5 cpd, did not show any signs of nicotine withdrawal symptoms when abstinent from smoking.^{26,31} The current study included 6–10 cpd smokers (not included in "chippers") who may have greater difficulty quitting than "chippers." Also, previous studies which included "chippers" were limited to Whites who differ in their smoking patterns and nicotine metabolism from AAs in the current study.^{6,32}

The authors of this study found it interesting that all 4 groups of smokers were equally likely to have tried pharmacological therapy to help them quit. This finding is subject to more than one interpretation. One theory may suggest that lighter smokers are willing to use pharmacotherapy. Recommending pharmacotherapy for these lighter smokers is a logical next step since they have experienced difficulty in quitting despite high usage of non-pharmacological methods. On the other hand, use of pharmacotherapy may have preceded occasional or light smoking status. Participants were not asked whether their experience with pharmacotherapy was as a light or heavy smoker.

The present study is limited by its reliance on self-reporting and thereby subject to recall bias or false reporting. The infrequent smoking by occasional smokers could make participant's recall

of their smoking behavior less accurate than for heavy smokers. Some discrepancies in the answers to questions about prior smoking history were also evident. For example, 55% of occasional and 71% of light smokers reported smoking at their "current rate" for 2 or more years, yet only 23% of occasional and 42% of light smokers reported smoking the same number of cigarettes compared to a year prior. These discrepancies may be due to a number of reasons. First, both responses are subject to recall bias which may vary between individuals. Confirming self-reporting responses with friends or relatives may improve the accuracies of these reports. Second, smoking at "current rate" may have been interpreted differently to mean either number of cpd smoked or number of days in which participants smoked. However, the magnitude and consistency of group differences observed on many measures do not suggest significant distortions or obvious biases. Our study also could not definitively assess the proportion of occasional smokers who may have smoked daily in the past or directly examine the number of cigarettes reduced by former heavy smokers. Nevertheless, our findings about previous year's smoking history provided some indication that a sizeable proportion of occasional smokers have smoked at a higher rate in the past. Future studies may find it useful to dif-

... all 4 groups of smokers were equally likely to have tried pharmacological therapy to help them quit.

ferentiate stable occasional smokers from those in transition (former heavy or former light smokers). Having a better understanding of the various subsets of occasional smokers would facilitate developing cessation interventions for occasional smokers. This study may also be strengthened by biochemical validation of self-reported smoking, such as salivary cotinine. Finally, the present study was a convenient sample of smokers that may not be representative of smokers in general.

In conclusion, occasional and light smokers seem highly motivated to quit and are interested in participating in programs to help them quit. Contrary to commonly held opinions that quitting should be easy for these lighter smokers, many individuals who fall into this group of smokers experience difficulty remaining abstinent from smoking. Given this challenge, research is needed to develop and test effective interventions for occasional and light smokers. Because of sporadic patterns of smoking for many occasional and light smokers, not everyone in these groups would be candidates for pharmacological interventions. Controlled studies are therefore needed to identify the profile of occasional and light smokers who will benefit from pharmacotherapy. African Americans represent the substantial proportion of light smokers. Effectively intervening in this population would be a positive step towards reducing health disparities from tobacco-related diseases between White and minority populations.

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