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Recommended Citation

Delva, Jorge; Tellez, Marisol; Finlayson, Tracy L.; Gretebeck, Kimberlee A.; Siefert, Kristine; Williams, David R.; and Ismail, Amid I., "Cigarette Smoking Among Low-Income African Americans: A Serious Public Health Problem" (2005). *College of Nursing Faculty Research and Publications*. 846.
https://epublications.marquette.edu/nursing_fac/846

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American Journal of Preventive Medicine, Vol. 29, No. 3 (October 2005): 218-220. [DOI](#). This article is © Elsevier and permission has been granted for this version to appear in [e-Publications@Marquette](#). Elsevier does not grant permission for this article to be further copied/distributed or hosted elsewhere without express permission from Elsevier.

Cigarette Smoking Among Low-Income African Americans: A Serious Public Health Problem

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Abstract

Background

This study examines the current prevalence of cigarette smoking and the number of cigarettes smoked in a community-based sample of 1021 low-income African-American men and women.

Methods

Participants were selected using a two-stage, area probability sample design. Data were collected in 2002–2003 in face-to-face interviews and analyzed in 2005. All data and analyses were weighted to account for the complex sampling design.

Results

Fifty-nine percent of men and 41% of women were current smokers, with younger individuals apparently initiating smoking at an earlier age than older individuals.

Conclusions

The high prevalence of cigarette use provides further evidence that the excess burden of tobacco-related disease among low-income African-American families may be on the rise. This is of great concern, and if confirmed by further research, indicates an urgent need for preventive intervention.

Introduction

Considerable progress has been made toward reducing tobacco use in the United States, and recent trends show a continuous decline in prevalence.¹ However, such positive trends mask the substantial burden of tobacco-related morbidity and mortality that persists among low income, less-educated, and underserved racial/ethnic minority populations.^{2, 3, 4, 5} In contrast to the recent decline in prevalence and incidence of cigarette use among younger populations and non-racial-ethnic minorities, cigarette use among low-income African Americans appears to remain high and unchanged when compared to earlier years.^{6, 7⁸} This disparity is of great concern, as tobacco use is the single largest preventable cause of death and has a disproportionate impact on African Americans. In this article we provide estimates of current cigarette use among a large randomly selected community-based sample of low-income African-American men and women residing in the 39 poorest census tracts in Detroit, Michigan.

Methods

Study Sample

The study was conducted by the Detroit Center for Research on Oral Health Disparities, one of five Centers funded by the National Institute of Dental and Craniofacial Research to reduce oral health disparities. The sample includes 1021 African-American men ($n=55$) and women ($n=966$) who are participating in a community-based randomized clinical trial (RCT) aimed at improving the oral health of African-American children and their primary caregivers. Overall, the response rate for the 1021 families who met the inclusion criteria for participation (household income below 250% of the 2000 poverty level, had a child aged <6 years, and signed consent to participate in the RCT) was 60.6% and takes into account the contact rate for noncontacted and unoccupied households. The response rate for those actually contacted excluding unoccupied households was 60.3%, and the refusal rate was 26.2%.

Sampling, Recruitment, and Screening

The sample was selected using a two-stage area probability sample design. In the first stage, 1526 census blocks in the study area were the primary sampling units. These blocks were combined into 118 segments that contained ≥ 100 households per segment. In the second stage, all housing units in these segments were listed. A total of 12,655 housing units were selected with probabilities inversely proportionate to size. The combination of proportionate to size selection across the two stages yielded an equal chance of selection for all households in the study area. For a period of 1 year, the project's research staff, individuals hired from the community where participants would be recruited knocked on the doors of the randomly selected households to screen for potential participants. Screening questions were administered at the doorstep. Families who qualified and were interested in participating were immediately scheduled to visit the Dental Assessment Center (DAC). In addition to dental examinations and lead screening tests, participants were administered a battery of questions about oral and general health status and beliefs, access to care, nutrition, and psychosocial and environmental factors that might potentially influence their oral health. The entire visit lasted an average of 3 hours.

Measures

The present study analyzes RCT baseline data collected in 2002 and 2003. **Current cigarette smoking** and **number of cigarettes currently smoking** are based on questions from NHANES III.⁹ Participants who answered yes to smoking ≥ 100 cigarettes in their life and who positively answered yes to the subsequent question, "Do you smoke cigarettes now?", were coded as current smokers; all others were coded as noncurrent smokers. To determine the number of cigarettes smoked (continuous measure), respondents were asked, "On average, how many cigarettes do you smoke a day?" Participants were also asked, "For how many years have you been smoking?" Demographic characteristics included age, annual family income, and educational level.

Data Analysis

The statistical program Stata, version 8.0 (Stata Corp, College Station TX, 2003), was used in 2005 to obtain weighted estimates of each of the smoking variables, and to account for design effects in variance estimation resulting from the complex sampling design.

Results

The prevalence of current cigarette smoking for the entire sample was nearly 42%. For men it was 59.3%, and for women 41.0%, with adult and older participants having a significantly higher prevalence than those aged < 21 years of age (Table 1). A significantly higher proportion of participants without a high school education smoked (50.7%) than those with a high school degree (33.5%) and those with some college education (36.7%). Older participants and those without a high school education smoked considerably more cigarettes per day.

Table 1. Cigarette use by demographic characteristics in a community-based randomly selected sample of 1021 African-American men and women

Characteristic	<i>n</i>	% current smokers (SE)	Average cigarettes smoked per day (SD)	Average years has smoked (SD)
Total	1021	41.8 (0.02)	9.2 (7.1)	9.0 (7.7)
Gender				
Female	966	41.0 (0.02)*	9.1 (7.1)	9.0 (9.2)
Male	55	59.3 (0.05)	10.1 (7.2)	9.0 (7.6)
Age (years)				
14–20	124	26.9 (0.05)	8.3 (5.7)	4.7 (3.6)
21–30	549	41.5 (0.03)	8.5 (6.4)	6.3 (3.9)
31–40	235	46.1 (0.04)	9.8 (6.8)	10.9 (6.6)

41+	113	50.3 (0.05)*	12.0 (9.8)**	20.6 (9.8)***
Level of education				
<12	374	50.7 (0.03)	10.0 (8.0)	8.2 (6.5)
12	87	33.5 (0.04)	8.2 (5.1)	9.2 (6.3)
>12	559	36.7 (0.03)**	8.5 (6.3)**	9.8 (8.9)
Family income in past 12 months (\$)				
<10,000	448	45.0 (0.03)	9.2 (7.7)	9.3 (7.9)
10,000–19,999	282	38.7 (0.03)	9.2 (6.3)	8.8 (7.3)
20,000–29,999	166	41.6 (0.03)	9.2 (6.0)	8.5 (7.8)
30,000–39,999	125	37.4 (0.05)	9.1 (7.5)	9.5 (8.2)

Note: Percents are weighted and standard errors account for the design effects introduced as a result of the complex sampling design. Averages are weighted and are based on respondents who indicated that they are current smokers.

SD, standard deviation; SE, standard error.

* $p < 0.05$ (bolded);

** $p < 0.01$ (bolded);

*** $p < 0.001$ (bolded).

Although data on first use were not available, adult and older participants appeared to have initiated smoking at a later age than younger ones. Individuals aged 31 to 40 and those ≥ 41 years, on average, reported smoking for approximately 11 and 20 years, respectively. This suggests that they have been smoking since their late teens and early 20s. However, the younger cohorts, those aged 14 to 20 and 21 to 30 years, reported smoking for about 5 to 6 years, suggesting initiation in their early teens.

Discussion

The findings of this study point to what may be a more recent phenomenon, that African-American men and women may now be initiating cigarette use at a younger age. Recent studies suggest that while the prevalence of cigarette use among African-American youth remains lower than that of other groups, the incidence rate may have surpassed that of whites and other racial/ethnic groups.¹⁰ Given that tobacco companies have made it a priority to more aggressively market their products to African Americans, this would not be surprising.⁴

The study findings must be viewed within the following limitations. Because the data on cigarette use are part of a larger study requiring 3 hours to collect the data necessary to meet its primary aims, it was not possible to obtain more detailed information on history, patterns, and consequences of cigarettes use. Also, the question about current use did not specify a 30-day period, potentially introducing bias in the estimate of current prevalence as the interpretation of current use may differ among respondents. However, the high prevalence of current cigarette use reported by respondents argues against social desirability, and participants made statements that point, at least anecdotally, to the widespread use of cigarettes in low-income communities, such as “Everybody I know smokes” or “So many people smoke in our communities.”

Despite these limitations, the study has a number of strengths. The sample is unique in that it is based on a stratified random sample that represents one of the most impoverished and disadvantaged populations living in large U.S. cities. Moreover, the sample includes African-American men and women at different developmental stages, from late adolescence to adulthood.

Conclusion

Although the proportion of the general population that smokes cigarettes is decreasing, the findings presented here point to an important and disturbing disparity—the large proportion of low-income African-American men and women who currently smoke cigarettes, a phenomenon that seems quite stable. The present study highlights the urgent need for the public health field to pay greater attention to preventing and reducing cigarette smoking among vulnerable populations that do not appear to be benefiting from current interventions.

This study was supported with funding from the National Institute on Dental and Craniofacial Research (grant U-54 DE 14261-01), the Delta Dental Fund of Michigan, and the University of Michigan's Office of the Vice President for Research.

No financial conflict of interest was reported by the authors of this paper.

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