

NIH Public Access

Author Manuscript

Addict Behav. Author manuscript; available in PMC 2009 March 1.

Published in final edited form as:

Addict Behav. 2008 March ; 33(3): 412-421.

Adult smokers in Colombia: Who isn't giving it up

Carla L. Storr^{a,*}, Hui Cheng^b, Jose Posada-Villa^C, Sergio Aguilar-Gaxiola^d, and James C. Anthony^b

aDepartment of Mental Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD 21205, USA cstorr@jhsph.edu

bDepartment of Epidemiology, Michigan State University, College of Human Medicine, East Lansing, MI 48824, USA janthony@epi.msu.eduhcheng@epi.msu.edu

cColegio Mayor de Cundinamarca University, Bogotá, Colombia latos98@yahoo.com

dSchool of Medicine, University of California, Davis, Sacramento, CA 95817, USA sergio.aguilargaxiola@ucdmc.ucdavis.edu

Abstract

Without ongoing surveillance systems to assess tobacco product demand and exposure levels, many low and middle income countries monitor smoking via periodic cross-sectional surveys. In this article, we seek to update estimates for the prevalence of adult smoking in Colombia and contribute additional information useful for tobacco control initiatives. Data are from the 2003 Colombian National Study of Mental Health (NSMH). A national probability sample of 4,426 adults (age 18-65) was assessed via a computer-assisted interview. An estimated 49% of the adult population had smoked at least once in their lifetimes; one in three adults (31%) had smoked regularly. Nearly half of regular smokers had been able to quit (44%; 95% CI= 40-48). Several personal and smoking related characteristics were associated with failing to quit: being a younger age, employed as compared to being a homemaker, and a history of daily use. Quitters and non-quitters were equivalent with respect to sex, educational status, and age of smoking onset. In conclusion, our findings describe the characteristics of regular smokers in Colombia and identify subgroups of non-quitters that may help guide tobacco control activities.

Keywords

Epidemiology; Smoking prevalence; Cessation; Colombia; Hispanic

1. Introduction

Tobacco smoking accounts for roughly ten percent of deaths – i.e., due to diseases caused by smoking (Jha & Chaloupka, 1999), and globally, more than one in five cancer deaths are caused by smoking (Ezzati, Henley, Lopez & Thun, 2005). In the future, low and middle income countries are expected to see large increases in premature deaths and annual health care costs due to chronic diseases associated with tobacco smoking (Mathers & Loncar, 2006). To avert this continuation of the current trend, countries will attempt preventive actions to dissuade youths from starting to smoke tobacco products and also will provide brief interventions and

^{*}Corresponding author. 624 N Broadway 8th FL, Baltimore, MD, 21205, USA. Tel: +001 (410) 955-0422; FAX +001 (410) 955-9088. **Publisher's Disclaimer:** This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

other aids that encourage smokers to quit. Regular smokers who quit and limit the number of years they smoke should gain substantial benefits to health and well-being (Dresler, Leon, Straif, Baan, & Secretan, 2006; Peto et al., 2000). Those continuing to smoke experience personal health and economic burdens, which often extend to their families and to society at large (Auguston & Marcus, 2004; Hymowitz et al., 1997).

Latin American countries and people of Hispanic heritage have not escaped the health burdens associated with tobacco smoking (e.g., see Mathers & Loncar, 2006). Official statistics indicate that an estimated 1/4th to 1/3rd of Latin America's population aged 15 years and older are current tobacco consumers; there is variation in smoking prevalence by country, age, and for males versus females (Shafey, Dolwixk & Guindon, 2003). Nonetheless, governmental actions to control and regulate tobacco sometimes lag in this region as compared to other parts of the world. Moreover, in many countries, including Colombia, the context is one in which agricultural crops that yield psychoactive compounds (e.g., coffee and tobacco) have historically been an important part of the local economies. Cross-border smuggling of cigarettes was tolerated for years; cigarettes are sold in the streets and can be purchased one cigarette at a time (Euromonitor International, 2005). Based on survey data from 1999, approximately 19% of the adult population in Colombia were current smokers who had smoked more than 100 cigarettes during their lifetimes (Shafey, Dolwixk & Guindon, 2003). In another population sample study of residents living in the city of Bucaramanga, an estimated 18% of the individuals aged 11 years or older had smoked within the past month (Campo-Arias, Diaz-Martines & Rueda-Jaimes, 2004).

In this article, we seek to update and shed new light on the estimated prevalence of adult smoking in Colombia, with an intent to contribute additional information that can be used to plan smoking prevention and cessation efforts. The epidemiological field survey data are from the Colombian National Study of Mental Health (NSMH), conducted in 2003 as part of the World Health Organization (WHO) World Mental Health Survey Initiative (WMHS; Demyttenaere et al., 2004). This report seeks to answer three basic epidemiologic questions: 1) How prevalent is smoking among adults in Colombia? 2) What characterizes a regular smoker?; and 3) Among regular smokers, which sociodemographic and smoking characteristics differentiate persistent smokers from those who have quit?

2. METHODS

2.1. Sample

In 2003, one of us (JP) directed the NSMH, starting with a stratified multistage clustered area probability sample of noninstitutionalized dwelling units in all urban areas of Colombia. Then a probability sample of adults dwelling unit residents (age 18-65 years) was drawn. Persons not speaking Spanish (Colombia's official language) were excluded. The overall survey participation level was 88%; 4,426 designated respondents completed the assessment.

2.2 Assessment procedures

Training and field procedures were standardized to the WMHS protocol (Demyttenaere et al., 2004). A fully structured diagnostic interview, the World Mental Health Composite International Diagnostic Interview (WMH-CIDI), was administered with aid of a laptop computer (Computer Assisted Personal Interviewing, CAPI). Verbal informed consent was obtained after each designated respondent received a written and oral description of the study goals and procedures, data uses and protections, and participant rights. The institutional review board of Fundacion para la Educación Superior (FES) Social Foundation approved and monitored the compliance of human subjects protection and obtaining informed consent.

Details about the WMHS initiative, sampling, and assessment methods are available elsewhere (Demyttenaere et al., 2004; Kessler & Ustun, 2004).

2.3. Measures

At the beginning of the CAPI assessment, a standardized screener question allowed respondents to designate their smoking status: "Are you a current smoker, ex-smoker, or have you never smoked?" Much later in the interview, as part of a tobacco module, individuals who had reported never smoking on the screener question were asked a few follow-up questions: "Have you ever smoked a cigarette, cigar, or pipe, even a single puff?" and if yes, "Was there ever was a period in your life lasting at least two months when you smoked at least once a week?" Individuals who smoked at least a puff or were identified as smokers from the screening question were classified as "ever-smokers" and asked how old they were the very first time they smoked. Regular smokers (e.g., those who smoked at least once a week for a two-month period ever in their lifetimes or who were smokers identified from the screening question) were asked questions about their smoking history and intensity, including how much they smoked in the year preceding the interview. "Persistent smokers" were individuals who indicated either that they were current smokers or they had smoked at least once in the past year. To be counted as one who had quit, a smoker was either an ex-smoker or had smoked at least once a week for two months, and had not smoked for at least one year prior to the survey assessment.

Covariates of special interest here were personal characteristics such as age and sex; marital status (sorted as: currently married or living together, never married, or no longer married); years of education [did not complete primary education, finished primary education (including those who did not complete secondary education), completed secondary education, some college, and college graduate]; employment status (the person's main social role at the time of the assessment): those not working, a student, homemaker, or retired, were classified as "other." Household income was assessed for participants selected to complete additional detailed questions about correlates. Income information was obtained for the entire household broken down by income of the respondent, the respondent's spouse, other family members, income from government assistance programs, and other income. After dividing the total income by the number of people in the household, a ratio of the income over the median income of the entire sample was used to categorized household income into four groups: low (a ratio of 0.5 or less), s low-average(0.5-1.0), high-average (1.0-2.0), and high (2.0 and above).

2.4 Data analyses

In an initial data step, we quantified the frequency of regular and persistent smoking, and examined smoker characteristics. For these analyses, proper inverse probability sampling weights and post stratification adjustments were applied (Korn & Graubard, 1999). Stata's survey estimation commands (SVY) were used to take into account the complex sampling design (Stata Corporation, 2005). Prevalence estimates from bivariate analyses enable us to discern patterned occurrence of smoking and to identify subgroups of potential intervention interest (e.g., those with large proportions of persistent smokers). In subsequent steps, we used logistic regression to differentiate regular smokers who had quit from those who continued to smoke, and to ascertain variables associated with a greater propensity to persist in smoking (i.e., to not quit). Odds ratio estimates gauged the strength of association linking each variable of interest with quitting or persistence of smoking. Covariate-adjusted odds ratio estimates are based on a multiple logistic regression model that held constant other individual characteristics. Robust variance estimates and confidence intervals (CI) were estimated using the Taylor Series method, as implemented in Stata to address clustering and weighting (Rogers, 1993). In this work, we present and interpret the width of the 95% confidence intervals, with the actual pvalues used as a gauge of the statistical uncertainty of the study evidence set at alpha=0.05.

3. RESULTS

3.1. Estimated smoking prevalence and smoking history

In Colombia, an estimated 49% of the adult population (age 18-65) had smoked at least once (95% *CI*=47-52). In 2003, one in three members of the adult population (31%, 95% *CI*=29-33) was or had become a regular smoker; 17% were current or persistent smokers (95% *CI*=16-19). Smoking was more common among males (e.g., the estimated prevalence of persistent smoking among all males was 24% versus 12% among all females) and there are twice as many males as females within each smoking status group. There were statistically robust age-related variations in the prevalence of ever smoking, as follows: 43-44% for 18-34 year olds; 48% for 35-44 year olds; 60-62% for 45-65 year olds (p<.001 from bivariate analysis). The mean age of smoking onset was 17.3 years for ever smokers and one year earlier for regular smokers (16.4 years, SD=0.2). Regular smokers smoked a mean of 11.5 cigarettes per day (SD=0.7), and had smoked for 11.0 years (SD=0.7).

3.2. Who continues to smoke and who has quit?

Just under half of the regular smokers had quit and had not smoked in the year prior to assessment (44%, 95% CI= 40-48). As shown in Table 1, whereas females were less likely to have become smokers, once regular smoking started, female smokers were just as likely as male smokers to keep smoking (OR=0.8, 95% CI=0.5-1.2, p=.211). Younger age is strongly associated with not quitting (i.e., continuing to smoke). For example, among younger adult regular smokers aged 18-44, nearly two-thirds had continued to smoke; among regular smokers 55 and older, 33% had continued to smoke. This is a statistically robust age related inverse association with the odds of continuing to smoke, even with statistical adjustment for all sociodemographic covariates understudy (OR=0.3, 95% CI=0.2-0.7, p=.002).

Neither marital status nor educational status had statistically robust associations with smoking cessation, once age and other covariates were held constant. There was little variation in current employment status, except for homemakers. Homemakers (female) who had smoked were twice as likely to have discontinued smoking as compared to smoking females who were working (OR=0.4, 95% CI=0.2-0.6, p=.001), even with adjustment for other sociodemographic characteristics.

Additional analyses explored whether the association with persistence of regular smoking (i.e., not quitting) varied by smoking history characteristics. With respect to the distribution of age of first smoke and continued smoking, a J-shaped pattern emerged, as shown in Table 2. Similar patterns were observed for age first smoked at least once a week for a two month period and age first smoked daily (data not shown in table). No associations with smoking cessation were found in relation to the quantity of cigarettes smoked per day. However, daily smokers, especially those with a history of smoking daily for 15 or more years, were more likely to persist in smoking (OR=2.5, 95% CI=1.4-4.6, p=.004).

4. DISCUSSION

In addition to its presentation of prevalence estimates for current smoking based upon a nationally representative sample of Colombian adults, this report sheds light on population subgroups of regular smokers who were more or less likely to have quit smoking. The main findings and their significance can be summarized in a few sentences. Subgroups of smokers can be identified by demographic and socioeconomic characteristics. For example, males outnumber females among smokers in Colombia. In addition, large proportions of current smokers are married, have less than a secondary education, and are employed. By comparing persistent smokers to former smokers who have not smoked in the past year, subgroups of

regular smokers less likely to quit were identified. Long term daily smoking was associated with failing to quit and there was an indication that this occurred even if one smoked only a few cigarettes per day. A later age of onset (starting to smoke after age 25) was associated with persistence of regular smoking. Among regular smokers, homemakers and persons age 55 and above were over-represented among the quitters.

Current smoking estimates from this survey are comparable to previous estimates from Colombia, despite different methodological approaches and smoking definitions. This study's prevalence estimate of 17% (OR=16%-19%) is quite concordant with the 18% and 19% estimates found in previous surveys (Campo-Arias, Diaz-Martines & Rueda-Jaimes, 2004; Shafey, Dolwixk & Guindon, 2003). In some countries, increased smoking prevalence among females often has offset decreased prevalence of smoking among males. However, in Colombia, males continue to outnumber female smokers at a ratio of 2:1; in 1999, 27% of males and 11% of females were current smokers (Shafey, Dolwixk & Guindon, 2003); based upon the present study the estimates were 24% and 12% respectively, a variation that is well within the limits of sampling variability.

Previous studies have indicated demographic characteristics associated with serious quit attempts as well as remaining abstinent (Hatziandreu et al., 1990; Levy, Romano & Mumford, 2005; Tucker, Ellickson, Orlando & Klein, 2005). Among smokers, increasing age is a good predictor of quitting (Hatziandreu et al., 1990; Hyland et al., 2004; Levy, Romano & Mumford, 2005; McWhorter, Boyd & Mattson, 1990). Often, those with higher socioeconomic status (income, education) and those who smoke fewer cigarettes per day are more likely to stop smoking (Levy, Romano & Mumford, 2005; McWhorter, Boyd & Mattson, 1990). Lower cessation among females has been reported to be largely driven by the type of tobacco product smoked, as males may quit cigarettes, but when all tobacco products are considered, malefemale differences have no longer been observed (Hyland et al., 2004; Hymowitz et al., 1997). In the U.S., nearly half of smokers attempting to quit have been successful on their own using a "cold turkey" approach (Fiore et al., 1990). Yet not everyone will quit even when cessation programs are made available. For example, Fiore and colleagues found only 24% of North American smokers using a cessation program were able to successfully quit (Fiore et al., 1990). Clearly, a selection process is at work, in that those entering formal cessation programs will tend to have more serious smoking involvement.

Smoking prevalence has been found to vary by occupation in the USA and the European Union and associated countries (Bang & Kim, 2001; McCurdy et al., 2003). Working class occupations or 'blue-collar' workers are more likely to smoke and have been found to be less successful in quitting as compared to other workers (Barbeau, Krieger & Soobader, 2004; Siahpush, Heller & Singh, 2005). Other work related factors found to influence smoking and smoking cessation include shift work, physical and mental demands., job control (van Amelsvoort, Jansen & Kant 2006; Sanderson, Ekholm, Hundrup & Rasmussen, 2005) as well as work place policies that permit smoking at the worksite (Gerlach et al., 1997). Identifying occupational groups with high smoking prevalence among those working in Colombia may assist in targeting worksite based tobacco control programs, as the workplace offers a potentially effective venue for tobacco prevention programs.

Knowledge of the distribution of characteristics of the active persistent smokers aids in identifying groups within the population for which antismoking messages might be targeted, and alerts clinicians to patients to be screened for brief interventions and perhaps nicotine replacement therapies. There is reason for vigilance with respect to smoking in Colombia: in a 2001 survey, the prevalence of tobacco use among Colombian adolescents age 12-18 has been estimated at 30% with no male-female differences (PAHO, 2005). A comprehensive tobacco prevention and control initiative (e.g., with new price policies and cessation programs)

Addict Behav. Author manuscript; available in PMC 2009 March 1.

may be needed to counter persistent industry efforts to market tobacco products to young people in Colombia.

A few strengths and limitations merit attention. Strengths include aspects of the study design (representative community samples of adult residents, standardized interview, high quality control) and the use of information from several questions, including information on the length of cessation (no smoking in the prior year) to differentiate persistent and former smoking status. In these analyses, use of specific types of tobacco products (e.g., cigarette, pipe, or cigar) were not taken into account. The classification of smokers into subgroups, such as 'current' and 'regular' involves some complexities. For example, a classification that includes everyone who ever initiated smoking (including a puff) may overestimate the number of smokers for cessation planning purposes, as many may have only experimented once. A classification that defines a smoker as someone smoking once a week for two months captures people whose consumption pattern reflects repeated continuous use; and these smokers may be a more viable target for cessation initiatives. Classifications based on specified frequency and quantity levels that correlate with tobacco dependence (e.g., daily use and smoking 20+ cigarettes) may not be applicable for every country as economic and other environmental factors also influence smoking patterns. Bioassays (e.g., salivary cotinine) were not used to validate self-reported smoking status.

In conclusion, our findings describe the characteristics of adult smokers in Colombia and identify subgroups of persistent smokers. This evidence should be helpful as a guide for tobacco control activities and smoking cessation campaigns. Smokers can be encouraged to limit their intake via restrictions on smoking in public places such as health care, educational, or governmental facilities, and public transportation. They also can be helped via increased dissemination of brief intervention expertise and more widespread distribution and subsidies for low cost nicotine replacement or alternative pharmacotherapies. In addition to preventing the initiation of tobacco smoking among youth people, strategies that will eradicate or reduce tobacco consumption among regular smokers in Colombia are necessary to reduce the burden of societal costs attributable to smoking-related premature death and disability.

Acknowledgements

The Colombian National Study of Mental Health (NSMH) has been supported by the Ministry of Social Protection, and the work of the Principal Investigator for field work now is supported by Colegio Mayor de Cundinamarca University. The analyses, primary composition, and preparation of this manuscript were funded by the United States National Institute on Drug Abuse (R01DA016558 and K05DA015799) and research funds provided by Michigan State University. The survey discussed in this article was carried out in conjunction with the World Health Organization World Mental Health (WMH) Survey Initiative. We thank the WMH staff for assistance with instrumentation, fieldwork, and data analysis. These activities were supported by the United States National Institute of Mental Health (R01MH070884), the John D. and Catherine T. MacArthur Foundation, the Prizer Foundation, the US Public Health Service (R13-MH066849, R01-MH069864, and R01 DA016558), the Fogarty International Center (FIRCA R01-TW006481), the Pan American Health Organization, Eli Lilly and Company, Ortho-McNeil Pharmaceutical, Inc., GlaxoSmithKline, and Bristol-Myers Squibb. A complete list of WMH publications can be found at http://www.hcp.med.harvard.edu/wmh/.

References

- Augustson E, Marcus S. Use of the current population survey to characterize subpopulations of continued smokers: a national perspective on the "hardcore" smoker phenomenon. Nicotine & Tobacco Research 2004;6:621–629. [PubMed: 15370158]
- Bang KM, Kim JH. Prevalence of cigarette smoking by occupation and industry in the United States. American Journal of Industrial Medicine 2001;40:233–239. [PubMed: 11598969]
- Barbeau EM, Krieger N, Soobader MJ. Working class matters: socioeconomic disadvantage, race/ ethnicity, gender, and smoking in NHIS 2000. American Journal of Public Health 2004;94:269–278. [PubMed: 14759942]

Addict Behav. Author manuscript; available in PMC 2009 March 1.

- Campo-Arias, A.; Díaz-Martínez, LA.; Rueda-Jaimes, GE. Anxiety and depressive symptoms among smokers: a population study; Medunab. 2004. p. 4-8. Available in English, http://editorial.unab.edu.co/revistas/medunab/pdfs/r719_op_1.pdf
- Demyttenaere K, Bruffaerts R, Posada-Villa J, Gasquet I, Kovess V, Lepine JP, et al. Prevalence, severity, and unmet need for treatment of mental disorders in the World Health Organization World Mental Health Surveys. Journal of the American Medical Association 2004;291:2581–2590. [PubMed: 15173149]
- Dresler CM, Leon ME, Straif K, Baan R, Secretan B. Reversal of risk upon quitting smoking. Lancet 2006;368(9533):348–349. [PubMed: 16876647]
- Euromonitor International. Tobacco in Colombia. May. 2005 Retrieved May 21 2007, from http://www.euromonitor.com/Tobacco_in_Colombia
- Ezzati M, Henley SJ, Lopez AD, Thun MJ. Role of smoking in global and regional cancer epidemiology: current patterns and data needs. International Journal of Cancer 2005;116:963–971.
- Fiore MC, Novotny TE, Pierce JP, Giovino GA, Hatziandreu EJ, Newcomb PA, et al. Methods used to quit smoking in the United States. Do cessation programs help? Journal of the American Medical Association 1990;263:2760–2765. [PubMed: 2271019]
- Gerlach KK, Shopland DR, Hartman AM, Gibson JT, Pechacek TF. Workplace smoking policies in the United States: results from a national survey of more than 100,000 workers. Tobacco Control 1997;6:199–206. [PubMed: 9396104]
- Hatziandreu EJ, Pierce JP, Lefkopoulou M, Fiore MC, Mills SL, Novotny TE, et al. Quitting smoking in the United States in 1986. Journal of the National Cancer Institute 1990;82:402–406. [PubMed: 2154585]
- Hyland A, Li Q, Bauer JE, Giovino GA, Steger C, Cummings KM. Predictors of cessation in a cohort of current and former smokers followed over 13 years. Nicotine Tobacco Research 2004;6(Suppl 3):S363–369. [PubMed: 15799599]
- Hymowitz N, Cummings KM, Hyland A, Lynn WR, Pechacek TF, Hartwell TD. Predictors of smoking cessation in a cohort of adult smokers followed for five years. Tobacco Control 1997;6(Suppl 2):S57– 62. [PubMed: 9583654]
- Jha, P.; Chaloupka, FJ. Curbing the epidemic: governments and the economics of tobacco control. Washington DC: International Bank for Reconstruction and Development, World Bank; 1999.
- Kessler RC, Ustun TB. The World Mental Health (WMH) Survey Initiative Version of the World Health Organization (WHO) Composite International Diagnostic Interview (CIDI). International Journal of Methods Psychiatric Research 2004;13:93–121.
- Korn, EL.; Graubard, BI. Analysis of Health Surveys. Wiley Series in Probability and Statistics. New York, NY: Wiley Interscience; 1999.
- Levy DT, Romano E, Mumford E. The relationship of smoking cessation to sociodemographic characteristics, smoking intensity, and tobacco control policies. Nicotine & Tobacco Research 2005;7:387–396. [PubMed: 16085506]
- Mathers, CD.; Loncar, D. Projections of global mortality and burden of disease from 2002 to 2030; PLoS Medicine. 2006. p. e442http://dx.doi.org/10.1371/journal.pmed.0030442
- McCurdy SA, Sunyer J, Zock JP, Anto JM, Kogevinas M. European Community Respiratory Health Survey Study Group. Smoking and occupation from the European Community Respiratory Health Survey. Occupational and Environmental Medicine 2003;60:643–648. [PubMed: 12937184]
- McWhorter WP, Boyd GM, Mattson ME. Predictors of quitting smoking: the NHANES I follow-up experience. Journal of Clinical Epidemiology 1990;43:1399–1405. [PubMed: 2254778]
- Pan American Health Organization (PAHO). Health Analysis and Information Systems Area Regional Core Health Data Initiative. Washington DC: Technical Health Information System; 2005.
- Peto R, Darby S, Deo, Silcocks P, Whitley E, Doll R. Smoking, smoking cessation, and lung cancer in the UK since 1950: combination of national statistics with two case-control studies. British Medical Journal 2000;321:323–329. [PubMed: 10926586]
- Rogers WH. Regression standard errors in clustered samples. Stata Technical Bulletin 1993;13:19– 23.Reprinted in Stata Technical Bulletin Reprints, vol. 3, 88–94

Addict Behav. Author manuscript; available in PMC 2009 March 1.

Storr et al.

- Sanderson DM, Ekholm O, Hundrup YA, Rasmussen NK. Influence of lifestyle, health, and work environment on smoking cessation among Danish nurses followed over 6 years. Preventive Medicine 2005;41:757–760. [PubMed: 16081152]
- Shafey, O.; Dolwixk, S.; Guindon, GE., editors. Tobacco Control Country Profiles. 2. Atlanta, GA: American Cancer Society; 2003.
- Siahpush M, Heller G, Singh G. Lower levels of occupation, income and education are strongly associated with a longer smoking duration: multivariate results from the 2001 Australian National Drug Strategy Survey. Public Health 2005;119:1105–1110. [PubMed: 16085150]
- Stata Corporation. Stata statistical software: Release 9. College Station, TX: Stata Corporation; 2005.
- Tucker JS, Ellickson PL, Orlando M, Klein DJ. Predictors of attempted quitting and cessation among young adult smokers. Preventive Medicine 2005;41:554–561. [PubMed: 15917052]
- van Amelsyoort LG, Jansen NW, Kant I. Smoking among shift workers: More than a confounding factor. Chronobiology International 2006;23:1105–1113. [PubMed: 17190698]

					Estimated prevalence ^d of	Estimates of persista regula	unce of smoking a ır smokers	nongst
	Total sample (n=4426)	Ever smokers ^a (n=2171) Estimated prevalence ^d	Regular smokers ^b (n=1323) Estimated prevalence ^d	Persistent smokers ^c (n=782) Estimated prevalence ^d	persistent smokers ^{c} among regular smokers ^{b}	Unadjusted ^e Odds ratio (95% CI)	Adjusted ¢J Odds ratio (95% CI)	p- value
Gender Female Malo	2726 1700	38.7 (35.9-41.5) 22 1 (56 7 55 4)	21.0 (19.0-23.1)	11.5 (10.0-13.2)	54.8 (49.2-60.3)	1.0	1.0	1100
Made Age at interview	1/00	(4.00-1.00) 1.20	(0.04-0.40) 0.74	(4.02-4.17)	(c.10-8.UC) 2.0C	1.1 (0.8-1.4)	(7.1-C.U) &.U	117.0
18-24 years	872	43.8 (39.7-48.1)	22.7 (19.5-26.2)	15.3 (12.6-18.4)	67.3 (58.1-75.3)	1.0	1.0	
25-34 years	1128	42.5 (39.2-45.9)	21.5 (18.7-24.7)	14.0 (11.6-16.8)	65.0 (54.8-74.0)	$0.9\ (0.6-1.5)$	1.0(0.7-1.8)	0.655
35-44 years	1166 730	47.9 (42.8-53.1) 60.0 (54.7-65.1)	31.1 (27.0-35.5)	18.9 (15.5-22.8) 73 1 (10 0-76 7)	60.8 (54.0-67.2) 53 3 (46 4-60 0)	0.8(0.5-1.2)	1.0(0.6-1.6)	0.930
55-65 years	530	61.6 (56.3-66.7)	47.5 (42.0-53.0)	15.9 (12.3-20.3)	33.5 (26.1-41.7)	0.2 (0.2-0.4)	0.3 (0.2-0.7)	0.002
Marital Status ⁸								
Married/	2521	50.3 (47.3-53.2)	33.4 (30.8-36.2)	17.6 (15.7-19.8)	52.7 (47.6-57.7)	1.0	1.0	
Summer	614	51.6 (46.4-56.7)	35.6 (30.1-41.6)	18.3 (14.0-23.6)	51.4(40.6-62.1)	1.0 (0.6-1.5)	1.2 (0.7-2.0)	0.555
No longer married								
Never married	1291	47.0 (43.3-50.5)	24.6 (22.1-27.2)	16.1 (13.8-18.6)	65.4 (57.6-72.4)	1.7 (1.1-2.6)	1.2 (0.8-1.9)	0.338
Income,	0 7		JE 1 (31 1 30 3)		20 0 / 21 0 20 0/	15/0025		0120
	741	(1.0-0.10) (20.10)	25 0 (20 2 11 41 7)	(7.61-0.71) 2.61	(9.60-0.1C) 9.00	(0.7 - 6.0)	1.2 (0.0-2.2)	0.019
LUW-average High-average	202 476	58 1 (52 6-63 4)	40.2 (35.2-45.4)	20.0 (13.3-24.9) 22.2 (18.3-26.7)	20.0 (42.3-03.0) 55 2 (45 9-64 2)	(1.2.1.2.1.2.1.2.1.2.1.2.1.2.1.2.1.2.1.2	(c - 1 - 0) = 0.1	0.499
High income	601	49.7 (44.9-54.5)	33.7 (28.7-39.0)	16.9 (13.2-21.4)	50.2 (41.1-59.2)	1.0	1.0	001-00
Missing	2045	48.6 (45.3-51.8)	28.4 (25.6-31.4)	16.0 (13.6-18.7)	56.3 (50.1-62.4)	1.3(0.8-2.0)	1.1 (0.7-1.9)	0.592
Education ^g								
None/	778	55.2 (50.2-60.1)	41.0 (36.5-45.6)	23.8 (20.2-27.8)	58.2 (50.6-65.4)	1.4 (0.8-2.7)	1.9 (1.0-3.9)	0.059
some primary	1735	51.4 (47.5-55.3)	32.1 (29.0-35.5)	16.8 (14.6-19.3)	52.3 (45.7-58.8)	1.1 (0.6-2.1)	1.2 (0.6-2.4)	0.569
Finished primary	010	15 0 (11 1 50 3)	05 0 /01 5 00 5/		28 0 140 4 22 12			0 200
Finished secondary	948	(6.06-1.14) 8.64	(0.67-0.12) 6.02	14./ (11./-18.2)	(1.00-47.64) 0.80	1.4 (0.8-2.0)	1.2 (0.0-2.4)	880.0
Some college	563	45.6 (40.1-51.3)	27.9 (23.6-32.7)	17.5 (14.2-21.4)	62.7 (53.3-71.2)	1.7 (0.8-3.6)	1.4 (0.6-3.2)	0.374
College graduate	402	45.0 (38.5-51.8)	26.0 (20.5-32.3)	12.8 (9.4-17.2)	49.3 (35.8-62.9)	1.0	1.0	
Employment		EA 4 (51 5 57 3)			50 J (53 1 53 J)	01	0	
Student	194	42.2 (32.9-52.2)	19.6 (12.4-29.6)	19.9 (11.0-22.2)	76.0 (56.288.4)	2.3 (0.9-5.7)	1.0 1.6(0.6-4.1)	0.302
Homemaker	1136	36.4 (32.4-40.7)	22.2 (18.9-25.8)	9.4 (7.5-11.7)	42.5 (34.5-51.0)	0.5(0.4-0.8)	0.5(0.3-0.8)	0.006
Retired	98	61.2 (47.3-73.5)	54.0 (40.7-66.9)	14.7 (7.9-25.8)	27.3 (15.7-43.1)	0.3(0.1-0.6)	0.6(0.2 - 1.3)	0.191
Other	474	50.9(43.8-58.0)	32.5 (26.8-38.9)	21.5 (16.7-27.1)	66.0 (56.4-74.3)	1.4(0.9-2.1)	1.3(0.8-2.0)	0.299

Addict Behav. Author manuscript; available in PMC 2009 March 1.

Note:

 a Ever smokers include anyone who initiated smoking, including just a puff.

 $\boldsymbol{b}_{}$ Regular smokers are individuals currently smoking, as well as self-identified former smokers.

 $^{\rm C}$ Persistent smokers were currently actively smoking in the year prior to assessment.

NIH-PA Author Manuscript

1 alder NIH-PA Author Manuscript

NIH-PA Author Manuscript

Adult tobacco smoking in Colombia, 2003: Selected personal characteristics by smoking status.

 $^d\mathrm{Prevalence}$ estimate and 95% confidence interval.

"These odds ratios convey the strength of association linking each sociodemographic variable with the odds of continuing to smoke (i.e., not quitting), once regular smoking occurred.

 $f_{\rm Adjusted}$ for all other sociodemographic variables listed in this table.

 g Reflect current status at the time of interview.

 \hbar Estimate based on the subsample for which income was assessed.

_
~
_
_
~
D
-
~
\rightarrow
-
<u> </u>
0
0
_
\sim
5
0
<u>ш</u>
-
<u> </u>
S
č.
\mathbf{O}
-
0
<u> </u>

 Table 2

 Adult tobacco smoking in Colombia, 2003: Selected smoking history characteristics of regular smokers.

			Current sm	oking status	Estimates of persistanc	e of smoking amongst regular	smokers
	п	Regular smoker ^a	Former/Quit	Persistent ^b	Unadjusted ^c Odds ratio (95% CI)	Adjusted ^{c,d} Odds ratio (95% CI)	p-value
Age first smoked							
ages <12	213	15.4	14.5	16.1	1.1 (0.6-1.9)	1.4 (0.8-2.6)	0.265
ages 13-15	352	27.4	28.4	26.6	0.9 (0.6-1.4)	1.0 (0.6-1.6)	0.959
ages 16-18	436	33.7	32.9	34.3	1.0	1.0	
ages 19-21	171	13.1	13.2	13.1	1.0 (0.6-1.5)	1.2 (0.7-1.9)	0.498
ages22-25	82	5.3	6.8	4.1	0.6(0.3-1.1)	0.8(0.4-1.6)	0.550
ages 26 and above	56	3.8	2.9	4.6	1.5(0.6-4.0)	2.8 (1.1-7.4)	0.038
Missing	13	1.2	1.3	1.2	0.9 (0.2-4.7)	1.1 (0.2-6.8)	0.924
Days per year smoked ^e							
1-99 days	06	7.1	7.2	7.0	1.0	1.0	
100-299 days	71	5.1	4.1	6.0	1.5(0.6-4.0)	1.4 (0.5-3.8)	0.451
300-365 days	608	45.3	36.8	52.0	1.4(0.7-3.0)	1.7 (0.9-3.4)	0.103
Never smoked once a week for	554	42.5	51.9	35.1	0.7(0.4-1.4)	0.7(0.4-1.4)	0.313
at least two m onths							
Cigarettes smoked per day ^{e}							
<u>1</u> -2	166	11.7	8.6	14.3	1.0	1.0	
3-9	243	18.2	14.0	21.6	0.9 (0.5-1.6)	1.1(0.7-1.9)	0.650
10-19	175	13.0	12.1	138.0	0.7 (0.4 - 1.3)	0.8(0.4-1.5)	0.455
20 or more	186	14.1	14.0	14.1	0.6(0.3-1.1)	0.8(0.4-1.4)	0.390
Never smoked once a week for	553	43.0	51.4	36.3	0.4 (0.3-0.6)	0.5(0.3-0.8)	0.002
at least two m onths							
Years of daily smoking							
1-2 years	159	13.0	11.4	14.3	1.0	1.0	
3-9 years	185	12.4	12.6	12.3	0.8(0.4-1.6)	0.9(0.4-1.8)	0.731
10-14 years	81	7.0	7.6	6.4	0.7 (0.3 - 1.5)	0.7 (0.3 - 1.6)	0.462
15 or more	267	19.5	13.4	24.4	1.4(0.8-2.6)	2.5 (1.4-4.6)	0.004
Never smoked daily	631	48.1	54.9	42.6	0.6(0.4-1.1)	0.7 (0.4-1.2)	0.158
Note:							

 a Regular smokers are individuals currently smoking, as well as self-identified former smokers.

Addict Behav. Author manuscript; available in PMC 2009 March 1.

 $\boldsymbol{b}_{\text{Persistent}}$ smokers were actively smoking in the year prior to assessment.

^cThese odds ratios convey the strength of association linking each smoking history variable with the odds of continuing to smoke (i.e., not quitting), once regular smoking occurred.

d Adjusted for sociodemographic variables.

 e When smoking the most.