Child Health Care Clinicians' Use of Medications to Help Parents Quit Smoking: A National Parent Survey

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Child Health Care Clinicians' Use of Medications to Help Parents Quit Smoking: A National Parent Survey

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ABSTRACT. *Background.* **Smokers who use cessation medications when they attempt to quit double their likelihood of success. No prior survey has assessed the acceptability to parents of receiving smoking cessation medication prescriptions in the context of their child's primary care visits.**

Objective. **To assess acceptability to parents of receiving smoking cessation medication prescriptions and to compare that with the reported rate of actually receiving smoking cessation medication prescriptions in the context of the child's health care visit.**

Methods. **Data were collected through a national random-digit dial telephone survey of households from July to September 2003. The sample was weighted according to race and gender, on the basis of the 2002 US Census, to be representative of the US population.**

Results. **Of 3990 eligible respondents contacted, 3010 (75%) completed surveys; 1027 (34%) of those were parents. Of those parents, 211 (21%) were self-identified smokers. One half would consider using a smoking cessation medication and, of those, 85% said that it would be acceptable if the child's doctor prescribed or recommended it to them. In contrast, of the 143 smoking parents who accompanied their child to the doctor, only 15% had pharmacotherapy recommended and only 8% received a prescription for a smoking cessation medication. These results did not vary according to parent age, gender, race, or child age.**

Conclusions. **Child health care clinicians have low rates of recommending and prescribing cessation therapies that have proved effective in other settings. The recommendation or provision of cessation medications would be acceptable to the majority of parents in the context of their child's health care visit.** *Pediatrics* **2005; 115:1013–1017;** ***smoking, tobacco, pediatrics, family practice, parent, smoking cessation, secondhand smoke, environmental tobacco smoke, tobacco control, nicotine replacement medication.***

ABBREVIATION. SCS-TC, Social Climate Survey of Tobacco Control.

Child health care clinicians are in a unique and important position to address parental smoking, because of their regular multiple contacts with parents and the harmful health consequences to their patients. Each year, >5000 children die as a result of tobacco exposure, which represents 3 times the number of deaths caused by all childhood cancers combined.[1,2] In addition, smoking-related materials are the leading cause of fire-related deaths, accounting for ~250 child deaths each year.[1,3] Facilitating long-term parental smoking cessation may be a useful approach to decrease children's morbidity resulting from parents who smoke.

Helping parents quit smoking is now a recognized priority of child health care clinicians.[4] According to the 2000 Public Health Service Treating Tobacco Dependence Guideline, use of smoking cessation medication approximately doubles quit rates in a variety of clinical settings. Indeed, provision of smoking cessation medication is an important component of the effective 5 A's (ask, advise, assess, assist, and arrange) treatment strategy for adult tobacco dependence.[5] However, parental attitudes about receipt of medication from child health care clinicians and national rates of recommending and prescribing smoking cessation medication have never been established.

Young adult parents may not have health insurance, and many do not have an adult primary care clinician.[6,7] Parents often see their child's health care clinician much more frequently than their own,[8,9] with several pediatric visits per year, on average, and 10 visits in the first 2 years of life.[10,11] Parental smokers are disproportionately poor and underserved, making access to their own primary care even more tenuous.[12] In this national survey, we sought to determine parental attitudes about child health care clinician provision of smoking cessation medications and to assess the reported delivery of evidence-based tobacco treatments to parents, including recommending and prescribing smoking cessation medications.

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METHODS

Survey Design

The Social Climate Survey of Tobacco Control (SCS-TC) was administered to households through a random-digit dial telephone survey between July and September 2003. The sample was weighted according to race and gender within each census region, to be representative of the US population, on the basis of 2002 US Census estimates. Once a household was contacted, the interviewer requested to speak with the person in the household ≥18 years of age who would be having the next birthday. Five attempts were made to contact selected adults who were not home. The institutional review board at Mississippi State University reviewed and approved this project on June 30, 2003. Informed consent was obtained orally as part of the introduction to the telephone interview, by trained interviewers.

Measures

The SCS-TC is an annual cross-sectional survey that examines beliefs, practices, and knowledge of tobacco control across 7 social institutions, including family and friendship groups, education, workplace, government and political order, health and medical care, recreation, leisure, and sports, and mass culture and communication. Questions for the 2003 SCS-TC used in this study were developed and chosen by the investigators on the basis of previously validated tobacco control surveys. The exact set of questions used in this study has not been used previously as a whole and therefore has not been validated in this context. A panel of tobacco control researchers reviewed all of the items, which included selections from the Behavioral Risk Factor Surveillance System[13] and the Tobacco Use Supplement to the Current Population Survey[14] and modified items from state Adult Tobacco Surveys. Health Plan Employer Data and Information Set measures adapted for the child health care setting were used to assess provision of the 5 A's.[15] The data reported in this article are a subset of the data derived from the overall SCS-TC. Respondents were informed that they could refuse to answer any question. The interviewer did not explicitly read a "don't know" option for questions. Interviewers recorded all "don't know" and "refused to answer the question" responses.

The 5 A's

Parents who had accompanied their child to a pediatrician or a family practitioner in the past 12 months responded to the questions, "Please tell me which of the following things your pediatrician or family practitioner has done in the past 12 months: (1) asked if anyone in the house smokes, (2) asked if smoking is allowed in the house, (3) asked if smoking is allowed in the family vehicle, (4) discussed the dangers of secondhand smoke, or (5) discussed the increased risk that children of smokers will become smokers." Parents who smoked and who had accompanied their child to a pediatrician or a family practitioner in the past 12 months were asked the following additional questions: "Please tell me which of the following things your pediatrician or family practitioner has done in the past 12 months: (6) advised you to quit smoking, (7) recommended medication to help you stop smoking, (8) actually prescribed medication to help you stop smoking, (9) referred you for any additional services related to your smoking, such as a quitline, a local program, or a website, or (10) actually enrolled you in any of these services."

Sociodemographic Variables

The SCS-TC included several items to assess demographic factors. Gender and race (white or nonwhite) were coded as dichotomous variables. Age and education were recoded to 4 levels (Table 1). Region was coded to 4 levels, on the basis of the 4 census regions (Northeast, Midwest, South, and West).

Current Smoking

Two questions from the Behavioral Risk Factor Surveillance System were used to assess the current smoking status of respondents. Respondents were asked, "Have you smoked at least 100 cigarettes in your entire life?" Respondents who reported that they had were then asked, "Do you now smoke cigarettes every day, some days, or not at all?" Respondents who reported that they had smoked at least 100 cigarettes and currently smoked every day or some days were categorized as current smokers.

TABLE 1. Demographic Characteristics of Survey Sample

Variable	Total Sample (N = 1027) Valid, %*
Region	
Northeast	18.3
Midwest	21.6
South	37.6
West	22.5
Smoking status	
Nonsmoker	78.6
Smoker	21.4
Gender	
Male	46.3
Female	53.7
Race	
White	72.5
Nonwhite	27.5
Age	
18–24 y	13.9
25–44 y	57.7
45–64 y	26.7
>64 y	1.7
Education	
<12 y	7.3
High school graduate	27.4
Some college	26.9
College graduate	38.3
Residence	
Urban	76.9
Rural	23.1
Physician	
Family practitioner	25.1
Pediatrician	46.2
No visit to child's clinician in past year	28.6

* Percentages of questions in this question set answered by the 1027 parents ranged from 99% to 100%.

Parental Smoker Attitudes

Parents who smoked were asked the following questions. (1) "When you are ready to quit smoking, would you consider using a medication such as a patch, pill, or gum to help you quit?" (2) "Would it be acceptable if your child's doctor prescribed or recommended this medication for you?"

Analysis

In exploratory analyses, we used χ^2 procedures to compare differences with respect to region, gender, race (white versus nonwhite), age, education, residence (rural versus urban), and physician type (pediatrician versus family practitioner) for the following outcome variables: (1) parental attitudes about use and delivery of cessation medication and (2) rates of recommendation and prescription of cessation medication by child health care clinicians. Associations were considered significant at the $P < .05$ level. In our analyses, we treated "don't know" and "refused to answer the question" responses as missing data. The percentage of questions answered in each question set is reported in the footnotes of each data table.

We also explored the same control variables with tobacco control service delivery outcomes for parental smokers who accompanied the child to the health care setting. Associations were considered significant at the $P < .05$ level. Multivariate logistic regression models controlling for gender, race, age, and education were specified to examine regional and rural versus urban differences in parental attitudes and delivery of services.

RESULTS

Of the 3990 eligible respondents who were contacted, 3010 (75%) completed surveys. The study sample included 1027 parents, of whom 730 had

accompanied a child to the child health care clinician in the past year. Table 1 presents the demographic characteristics of the survey sample. Overall, 21% of the sample of parents smoked, ie, 23% of parents whose child saw a family practitioner and 18% of parents whose child saw a pediatrician.

Of 211 parental smokers, one half ($N = 106$) would consider using a medication to help them quit and 126 (59.7%) thought it would be acceptable for the child's doctor to prescribe or recommend this medication. Among the 106 smokers who would consider using medication to quit smoking, the vast majority 85% ($N = 90$) thought it would be acceptable for the child's doctor to prescribe or recommend this medication.

Table 2 shows tobacco control service delivery among all 730 parents (smokers and nonsmokers) who accompanied the child to the health care setting in the past year. Consistent with our previous work, we found low rates of screening for tobacco use (48.5%) and for the presence of rules prohibiting smoking in the home (34.8%) and car (25.5%).[16] Among the 143 smokers who accompanied the child to the health care setting in the past year, we found similarly low rates of screening and found that only 38% were advised to quit, whereas 15% had a medication recommended to help them quit (Table 3). Of the 143 smokers, 7% were actually prescribed a medication by their child's clinician to help them quit and very few were referred for or enrolled in any additional service to help them quit.

In bivariate analyses, no statistically significant difference in parental smoker attitudes about cessation medication use was found according to region, rural versus urban, race, age, or education. However, more women than men (66% vs 53%, $P = .04$) thought it was acceptable to have the child's doctor prescribe or recommend a cessation medication for them. Low rates of actual medication recommendation or prescription prevented meaningful bivariate analysis according to specialty or other variables.

Among smokers who accompanied a child to the child health care setting in the past year, more nonwhites than whites were screened for tobacco use (65.6% vs 43.5%, $P < .0001$), asked if smoking was allowed in the house (46.1% vs 30.5%, $P < .0001$), asked if smoking was allowed in the family vehicle (33.9% vs 22.5%, $P < .002$), and discussed dangers of secondhand smoke (42.4% vs 25.0%, $P < .0001$). Small cell size did not permit detailed comparison of racial categories. In multivariate logistic regression models controlling for gender, race, age, and education, no regional or rural versus urban differences in parental attitudes and delivery of services to smokers were found.

TABLE 2. Tobacco Control Service Delivery to Parents Who Accompanied a Child to a Health Care Setting

General Screening and Counseling ($N = 730$)	Valid, %*
Asked if anyone in the house smokes	48.5
Asked if smoking is allowed in the house	34.8
Asked if smoking is allowed in the family vehicle	25.5
Discussed the dangers of secondhand smoke	29.7

Group includes all smokers and nonsmokers who accompanied a child to a child health care setting in the past year.
* Percentages of questions in this question set answered by the 730 parents ranged from 96% to 97%.

TABLE 3. Tobacco Control Service Delivery to Smokers Who Accompanied a Child to a Health Care Setting

Ask, Advise, Assist, Arrange for Smokers ($N = 143$)	Valid, %*
Asked if anyone in the house smokes	51.2
Asked if smoking is allowed in the house	43.1
Asked if smoking is allowed in the family vehicle	34.8
Discussed the dangers of secondhand smoke	24.0
Discussed the increased risk that children of smokers will become smokers	29.0
Advised you to quit smoking	38.3
Recommended medication to help you quit smoking	15.0
Actually prescribed medication to help you quit smoking	7.1
Did you actually pick up this medication?	6.5
Refer you for any additional services related to your smoking	3.0
Actually enroll you in any of these services	1.2

Group includes all smokers who accompanied a child to a child health care setting in the past year.
* Percentages of questions in this question set answered by the 143 parents ranged from 98% to 100%.

DISCUSSION

This survey of a national sample of US adults found low rates of smoking cessation medication recommendation and prescription to parental smokers in the context of child health care visits. The majority of parents said it would be acceptable for the pediatrician to recommend or prescribe these medications. This study is the first to examine attitudes of parental smokers toward cessation medication use and the first national study looking at recommendation and provision of cessation medication in the context of the child health care setting.

Previous statewide surveys demonstrated that child health care clinicians have particularly low rates of implementing effective interventions with parents who smoke.[17,18] In a population-based survey of pediatricians practicing in urban areas in California, pediatricians reported low rates of the strategies shown to be most successful, such as setting a quit date (18%), prescribing nicotine replacement therapy (13%), providing nurse-mediated counseling (10%), and scheduling a follow-up visit or telephone call (5%).[19] In addition, low rates of screening and counseling for parental smoking were demonstrated in a national sample.[16]

Despite clear recommendations from the American Academy of Pediatrics and the American Academy of Family Physicians highlighting the importance of tobacco screening and counseling activities at every well child visit,[20,21] child health care clinicians cite numerous barriers, including lack of time, lack of confidence in their ability to give smoking cessation advice, and concern about negative reactions from parents.[17,18,22] In 1 study, 45% of pediatricians surveyed thought that parents' lack of interest in quitting smoking was a barrier to parental smok-

ing cessation counseling, and 39% thought that parents would ignore their advice.[19] Some pediatricians mentioned lack of skills (26%), reimbursement (20%), and negative reactions from parents (20%) as other barriers.[19] Another study found that 69% of pediatricians surveyed thought that prescribing or recommending nicotine replacement therapy was the responsibility of another clinician.[23]

A large majority of smokers tend to give higher satisfaction ratings to pediatric clinicians who address their smoking and offer help.[8,22,24,25] Most parents think that it is the responsibility of the pediatrician to counsel them on matters that affect their child's health and that pediatricians ought to do more counseling regarding smoking cessation.[8,22,26]

Nicotine replacement therapy is a safe, effective, smoking cessation medication, even among patients with cardiovascular disease,[27,28] patients with pulmonary disease,[29] elderly patients,[30] and concurrent smokers.[31,32] Many insurance carriers and 71% of Medicaid plans[33] now cover nicotine replacement therapy; therefore, a prescription from the child health care clinician makes this an available, low-cost option for many parents who smoke. One study demonstrated the feasibility of addressing parental smoking in an outpatient pediatric clinic with nicotine replacement medication for parents.[34] In that study, parental cessation outcomes were encouraging but difficult to interpret because of lack of a control group. A current controlled study is addressing how to optimize implementation of the US Public Health Service tobacco treatment guideline within child health care settings.

Advocating for smoke-free homes and cars, although beneficial, would not, by itself, guarantee that children are protected from the harmful effects of secondhand smoke.[35] Even if all parents complied, which is unlikely, smoke-free homes and cars would not prevent the harm from a child's prenatal exposure to maternal cigarette smoking, reduce the greater risk of smoking initiation among children in families where a parent continues to smoke, or prevent expenditure of family resources on cigarettes instead of essential child needs.[36] Parental smoking cessation, in combination with smoke-free homes and cars, has the potential to dramatically reduce adolescent smoking rates.[37–40] Indeed, a parent who quits smoking will add an average of 7 years to his or her life,[41] improve the health of the spouse, eliminate the majority of secondhand smoke exposure of the children, reduce tobacco-related poor pregnancy outcomes, eliminate the greatest cause of house fire-related deaths, and improve the financial resources of the family.[36]

This study had several limitations. This survey relied on parental reports of what occurred in the primary care office up to 1 year previously. This report might not be an accurate assessment of what actually took place, because parents may forget or misremember details of their encounters with their child's physician over time. Several studies examining adults' recall of counseling services, including smoking services, found systematic bias toward over-reporting,[42–45] whereas 1 study found systematic under-reporting of services.[46] Another study showed that patient recall of advice to quit, 2 to 3 months after the index visit, was similar to that documented through audiotape analysis.[47] However, patient surveys remain an important way to obtain information on service delivery because physicians themselves tend to overestimate the rate at which they perform preventive counseling.[48] Because an average of 4 visits to the child health care provider occur each year,[10] we cannot estimate what occurred at any particular visit with respect to tobacco control. The average time interval between visit and survey was not ascertained. The small sample size prevented robust bivariate and multivariate analyses, but the random representative sample makes the exploratory findings of possible white versus nonwhite differences useful for hypothesis generation for future studies.

CONCLUSIONS

Provision of medication by child health care providers to treat parental tobacco dependence is low, despite clear evidence assembled in numerous clinical settings to support this type of assistance for adults who smoke. Low rates of medication assistance for parental cessation contradict the expressed attitudes of the majority of parents who would consider using medication to help them quit smoking. Efforts should focus on determining how the child health care system can facilitate the delivery of effective treatments to parents who smoke, including the medications that can double their chances of successful quitting. In the meantime, this study suggests that, to maximize acceptance of smoking cessation medications, clinicians might first ask whether parents would consider using a medication to help them quit. When the answer is yes, then a large majority of parents (85%) consider it appropriate for the child health care clinician to offer that medication.

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