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Addressing Parental Smoking in Pediatrics and Family Practice: A National Survey of Parents

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ABSTRACT. *Background.* Parental smoking has been associated with increased rates of sudden infant death syndrome, low birth weight, otitis media, asthma, and decreased lung growth. No prior parent surveys have assessed national rates of screening and counseling for parental tobacco use in the context of their child's visit to primary care.

Objective. To assess and compare rates of pediatrician and family practitioner screening and counseling for parental smoking.

Design/Methods. Data were collected by telephone survey of households from July to September 2001. The sample is weighted by race and gender based on 1999 US Census estimates to be representative of the US population.

Results. Of 3566 eligible respondents contacted, 3002 (84%) completed surveys; 902 of those were parents who had a child seen by a pediatrician (62%) or family practitioner (38%) in the past year. About half of all parents who visited a pediatrician or family practitioner reported that they had been asked about household member smoking status (52% vs 48%). More parents who visited pediatricians had been asked if they had rules prohibiting smoking in the home than those who visited family practitioners (38% vs 29%). Of 190 (21%) parents who were smokers, fewer than half reported being counseled by either specialty about dangers of second-hand smoke (41% vs 33%) or risks of modeling smoking behavior (31% vs 28%). Similarly, fewer than half of parental smokers received advice to quit (36% vs 45%).

Conclusion. Overall rates of screening and counseling for parental smoking in pediatric and family practice are low. Despite some differences between specialties, significant opportunities exist to improve tobacco control activities in primary care settings that serve children. *Pediatrics* 2003;112:1146-1151; *smoking, tobacco, pediatrics, family practice, parent, smoking cessation, second-hand smoke, environmental tobacco smoke, tobacco control.*

ABBREVIATION. ETS, environmental tobacco smoke.

Child exposure to environmental tobacco smoke (ETS) is associated with low birth weight, sudden infant death syndrome, otitis media, respiratory tract infections, decreased lung growth, and childhood asthma.¹⁻³ The severity of respiratory tract disease increases in accordance with degree of exposure.⁴⁻⁶ Not surprisingly, exposure to ETS in the home has also been associated with increased adolescent smoking rates.⁷ In 1997, child ETS exposure created approximately \$1.97 billion dollars in attributable medical care for children.⁸ These health risks should be of significant concern to child health care providers, in particular, because 43% of children are subjected to ETS by household members.⁹ Unfortunately, a significant number of parents remain unaware of the range of detrimental effects that their smoking can have on their children's health.¹⁰ Both the American Academy of Pediatrics¹¹ and the American Academy of Family Physicians¹² advise that parents should be counseled as to the adverse effects of ETS on child health.

Finding appropriate and acceptable opportunities to intervene with parents who smoke is a challenge. Young adult parents may lack health insurance and often cannot identify a primary care provider.^{10,11} Parental smokers often see their child's health care provider much more frequently than their own,^{12,13} with an average of over four pediatric visits per year, and ten visits in the first 2 years of a child's life.^{14,15} Therefore, pediatricians are in a key position to influence parental smoking behavior in a repeated and consistent manner.

The general approach of screening smokers and advising them to quit has been shown to be an effective intervention in a variety of clinical settings and forms the first two steps of the effective 5 A's (ask, advise, assess, assist, arrange) treatment strategy for adult tobacco dependence.¹⁶ A few previous studies focusing entirely on counseling parents in the outpatient setting have shown small but significant cessation rates compared with controls^{17,18} or no effect.¹⁹ Other counseling interventions conducted among parental smokers during the postpartum period,²⁰⁻²² among parents of children with asthma,²³⁻²⁸ or in primary care settings²⁹⁻³¹ to try to reduce exposure to ETS have shown mixed results with use of both subjective and objective measures.³²

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Surveys have demonstrated that 79% to 93%^{33,34} of parental smokers agree that their child's pediatrician should provide smoking cessation advice, and 48% to 56% believe it is part of the pediatrician's job to advise parental smokers to quit.¹² Those who are counseled on tobacco use during visits with family practitioners report higher satisfaction with their care.³⁵

In this study we sought to determine national rates of pediatrician and family practitioner screening and counseling for both parental smoking and rules prohibiting smoking in the house and car.

METHODS

The Social Climate Survey of Tobacco Control was administered by a random digit dial telephone survey to households between July and September 2001. The sample was weighted by race and gender within each census region to be representative of the US population, based on 1999 US Census estimates. Once a household was contacted, the interviewer requested to speak with the person in the household aged 18 years or older who would be having the next birthday. Five attempts were made to contact selected adults who were not home.

Measures

The Social Climate Survey of Tobacco Control is an annual cross-sectional survey that examines beliefs, practices, and knowledge of tobacco control across seven 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 were developed and chosen based on previously validated tobacco control surveys. A panel of tobacco control researchers then reviewed the items, which included selections from the Behavioral Risk Factor Surveillance System,³⁶ the Tobacco Use Supplement: Current Population Survey,³⁷ and modified items from the California Adult Tobacco Surveys.

Analysis

χ^2 procedures were used to compare differences between pediatricians and family practitioners in the reported delivery of tobacco control screening and counseling to parents. No cells had an expected frequency of <5. Associations were considered significant at the $P < .05$ level. Multivariate logistic regression models controlling for region, gender, race, age, education, rural/urban residence, and smoking status were specified to examine differences between pediatrician and family practitioner delivery of services.

RESULTS

Of the 3566 eligible respondents who were contacted, 3002 (84%) completed surveys. The study sample included the 902 parents who had a child seen by a pediatrician (62%) or family practitioner (38%) in the past year. Table 1 gives the demographic characteristics of the survey sample. Overall, 21% of the sample of parents smoked, with 26% of parents who saw a family practitioner smoking and only 18% of parents who saw a pediatrician smoking. Compared with parents who saw a family practitioner for child health care, parents who saw a pediatrician for child health care tended to be more frequently from the Northeast and were more ethnically diverse, younger, more highly educated, and more urban.

Table 2 shows that approximately half of all parents who visited a pediatrician or family practitioner were asked about household member smoking status in the past year (52% pediatricians vs 48% family practitioners; $P = .24$). More parents who visited pediatricians were asked if they had rules prohibiting smoking in the home than those who visited family practitioners (38% pediatricians vs 29% family practitioners; $P = .003$).

TABLE 1. Demographic Characteristics of Survey Sample

Variable	Total Sample (N = 902) %	Families Visiting	
		Family Practitioner (N = 332) %	Pediatrician (N = 570) %
Region			
Northeast	19.0	13.9	21.9
Midwest	22.4	27.7	19.3
South	37.0	37.3	36.8
West	21.6	21.1	21.9
Smoking status			
Nonsmoker	78.9	74.0	81.8
Smoker	21.1	26.0	18.2
Gender			
Male	41.3	41.3	41.3
Female	58.6	58.7	58.5
Race			
White	83.9	87.9	81.4
African American	16.1	12.1	18.6
Age			
18-24 y	14.1	10.9	16.0
25-44 y	68.3	65.9	69.8
45-64 y	17.1	23.0	13.7
>64 y	0.4	0.3	0.5
Education			
<12 y	3.7	4.5	3.2
High school graduate	33.1	39.0	29.7
Some college	26.2	27.2	25.6
College graduate	37.0	29.3	41.5
Residence			
Urban	76.5	69.5	80.5
Rural	23.5	30.5	19.5

TABLE 2. Bivariate and Multivariate Results for Tobacco Screening of All Parents Who Saw a Family Practitioner or Pediatrician

Measure	Total Sample (N = 902)* %	Families Visiting		P Value	Adjusted Odds Ratio for Families Visiting Pediatricians, Family Practitioners as Reference Group‡ (95% CI)
		Family Practitioner (N = 332) %	Pediatrician (N = 570) %		
Asked if anyone in the household smokes	50.6	48.0	52.1	NS	1.18 (0.88–1.60)
Asked if smoking is allowed in the house	34.6	28.7	38.2	.003	1.66 (1.19–2.30)
Asked if smoking is allowed in the car	21.7	15.3	25.5	.001	1.90 (1.29–2.81)

NS indicates not significant.

* Number of responses to each specific question ranged from N = 843 (93%) to N = 860 (95%).

‡ Adjusted odds ratio controls for geographic region, parent age, education, race/ethnicity, smoking status, gender, and rural/urban residence. CI indicates confidence interval; FP, family practitioner.

Table 3 shows that among the 190 smoking parents surveyed, approximately half were asked about household member smoking status (52% pediatricians vs 45% family practitioners, $P = .30$). More smoking parents who visited pediatricians were asked if they had rules prohibiting smoking in the home than were those who visited family practitioners (49% pediatricians vs 33% family practitioners; $P = .036$). Rules prohibiting smoking in the family vehicle were assessed less frequently for both specialties (28% pediatricians vs 14% family practitioners; $P = .029$). Just over one-third of smoking parents were counseled on the dangers of child ETS exposure (41% Pediatricians vs 33% family practitioners; $P = .28$). Approximately one third of smoking parents were counseled on the risks of modeling smoking behavior (31% pediatricians vs 28% family practitioners; $P = .74$) and approximately one third of smoking parents were advised to quit smoking (36% pediatricians vs 45% family practitioners; $P = .28$).

Tables 2 and 3 also present the results of logistic regression analysis. For parents who smoke and for those who do not, logistic regression analysis indicated that pediatricians asked if smoking was allowed in the house or in the family car more frequently than family practitioners, after controlling for geographic region, parental age, education, ethnicity, smoking status, gender, and rural or urban residence.

DISCUSSION

This study demonstrated low national rates of screening and counseling for parental smoking in

pediatrics and family practice. Only half of all parents surveyed were screened for the presence of household smokers and only about one third of parental smokers were counseled about the dangers of child ETS exposure or the risks associated with modeling smoking behavior. The low rates of screening about smoking prohibitions inside the home (35%) and the car (22%) are particularly disturbing, given the child morbidity and mortality associated with ETS. Clear recommendations from the American Academy of Pediatrics and the American Academy of Family Physicians highlight the importance of these screening and counseling activities at every well child visit.^{38,39}

Previous regional surveys administered specifically to pediatricians have attempted to quantify levels of pediatrician screening and counseling for parental tobacco use. A Vermont study found that 94% of pediatricians surveyed advised at least 60% of their parental smokers to quit, whereas a study in Maine found that 91% of pediatricians reported that they advised their parental smokers to quit.^{12,40} In Massachusetts, pediatricians reported on average that they advised most parental smokers to stop.⁴¹ There is little information on screening and counseling practices at the national level; however, one study found that 96% of pediatricians reported “sometimes” or “always” screening for ETS exposure.⁴² In this same study, pediatricians reported advising parents to quit smoking 53% of the time and encouraging parents “to not smoke around the child” 32% of the time.⁴² These statistics may be elevated, however, because physicians tend to over-

TABLE 3. Bivariate and Multivariate Results for Screening and Counseling of Parental Smokers Who Saw a Family Practitioner or Pediatrician

Measure	Total Sample (N = 190)* %	Families Visiting		P Value	Adjusted Odds Ratio for Families Visiting Pediatricians, Family Practitioners as Reference Group‡ (95% CI)
		Family Practitioner (N = 86) %	Pediatrician (N = 104) %		
Asked if anyone in the household smokes	48.9	44.6	52.5	NS	1.41 (0.73–2.72)
Asked if smoking is allowed in the house	42.0	33.3	49.0	.036	2.00 (1.04–3.87)
Asked if smoking is allowed in the car	21.7	13.9	27.7	.029	2.48 (1.09–5.64)
Counseled on dangers of child ETS exposure	37.6	32.9	41.2	NS	1.58 (0.80–3.10)
Counseled on risks of modeling smoking behavior	30.0	28.2	31.4	NS	1.22 (0.60–2.45)
Advised to quit smoking	40.0	44.9	36.3	NS	0.71 (0.37–1.38)

CI indicates confidence interval; NS, not significant.

* Number of responses to each specific question ranged from N = 180 (95%) to N = 184 (97%).

‡ Adjusted odds ratio controls for geographic region, parent age, education, race/ethnicity, gender, and rural/urban residence.

estimate their own screening practices.⁴³ A recent national study found very low rates of physician-reported tobacco counseling even during child sick visits that were potentially tobacco-influenced, although it was a broad survey that was not specific to tobacco control issues.⁴⁴ This study is the first to assess, by parent report, national rates of pediatrician and family practitioner screening and counseling for both parental smoking and rules prohibiting smoking in the house and car.

Two recent reports that summarize the current state of the tobacco control literature conclude that simple advice from a physician is effective in promoting long-term cessation.^{16,45} The rate of physician's advice to smokers has now become a quality assurance measure for managed care health plans⁴⁶; however, no such incentive has been placed on counseling parental smokers by pediatricians and family practitioners. Recent studies indicate that parental report of their own smoking as a source of children's exposure correlates well with biological measures of smoke exposure, suggesting that providers can obtain important and accurate information about the harmful exposure of children.⁴⁷⁻⁴⁹ Most parental smokers welcome counseling advice given by pediatricians.^{12,33,34} Actually getting parents to quit smoking will reduce or eliminate the child's exposure to ETS in the home and will reduce the chances that the child grows up to be a smoker.^{50,51} However, many adults will not be ready to make a quit attempt at any given visit,⁵² so the repeated messages afforded by the multiple contacts with the child health care provider may be important for optimal parental cessation efforts.

The presence of rules prohibiting smoking in the home has been shown to reduce child ETS exposure^{53,54} and is associated with significantly lower adolescent smoking rates.^{7,55,56} A survey conducted in Ontario, Canada found that, although 43% to 70% of adults agree that smoking should be restricted in homes of smokers, only 34% of total homes were smoke-free, and only 20% of homes with children and any daily smokers were smoke-free.⁵⁷ In surveys of adolescent high school students in the United States, only 38% to 48% reported living in smoke-free households.^{54,55} A survey of adults in California found that 76% reported household smoking bans and 66% reported car smoking bans, whereas among smokers only 43% had home smoking bans and 29% had car smoking bans.⁵⁸ Being a nonsmoker, a parent with children in the home, or having higher income are all associated with significantly higher likelihood of home and car smoking bans.⁵⁸⁻⁶⁰ The risks to children of ETS exposure, the proven beneficial effects of banning smoking in the home, and the lack of bans in a significant proportion of homes and vehicles suggest that emphasizing the institution of rules prohibiting smoking in these areas might be a reasonable adjunctive counseling strategy for physicians.

After controlling for potential confounders, differences do exist between pediatricians and family practitioners in their tobacco control practices as reported by parents. In general, pediatricians were

more likely than family practitioners to have asked about smoking in the house and car. If these differences between pediatricians and family practitioners hold up in planned future studies, they may suggest opportunities for cross-specialty learning in this area. Delineating differences in this area between pediatricians and family practitioners may be the first step to discovering differences in training or outlook that are relevant to improving rates of screening and counseling for parental smokers in both settings. Despite these specialty differences, significant opportunities exist to improve tobacco control activities in both primary care settings. Future research might focus on how to adapt and implement the current Public Health Service Treating Tobacco Use and Dependence Guideline¹⁶ in the pediatric setting.

This study had several limitations. This survey relied on parental report of what occurred in the primary care office up to 1 year ago. This report may not be an accurate assessment of what actually took place, because parents may forget or misremember details of their encounter with their child's physician over time. However, one study examining adult's recall of smoking care found that it was systematically biased toward overreporting.⁶¹ A second study showed that patient recall of advice to quit was similar to that documented by audiotape analysis.⁶² Additionally, the logistic regression comparing pediatricians and family practitioners only controlled for geographic region, parent age, education, ethnicity, smoking status, gender, and rural or urban residence. It did not control for other client, provider, and practice differences, and thus, it is possible that other unmeasured confounding factors might have changed the analysis.

CONCLUSION

Screening and counseling for parental tobacco use is quite low by both pediatricians and family practitioners, despite clear national recommendations for screening and counseling at every well child visit and studies demonstrating that physician intervention leads to increased cessation rates. It would be advantageous to children and society if physicians serving children improved their performance in the area of tobacco control, because exposure to ETS has detrimental effects on child health and creates considerable social costs. Efforts should now focus on determining how the child health care system can best screen and counsel for parental smoking in a consistent and effective manner.

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GROWING HYPOCHONDRIA

“ . . . at least a quarter of all patients report symptoms that appear to have no physical basis, and that one in ten continues to believe that he has a terminal disease even after the doctor has found him to be healthy. Experts say that between three and six per cent of patients seen by primary-care physicians suffer from hypochondria, the irrational fear of illness. The number is likely growing, thanks to increased medical reporting in the media, which devotes particular attention to scary new diseases like SARS, and to the Internet, which provides a wealth of clinical information (and misinformation) that can help turn a concerned patient into a neurotic one.”

Groopman J. Sick with worry. *New Yorker*, August 11, 2003

Submitted by Student

Addressing Parental Smoking in Pediatrics and Family Practice: A National Survey of Parents

Jonathan P. Winickoff, Robert C. McMillen, Bronwen C. Carroll, Jonathan D. Klein,
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