

SMOKING CESSATION COUNSELING BY PEDIATRICIANS IN AN INNER-CITY SETTING

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Objective: To assess mothers' perceptions of pediatrician-provided smoking cessation counseling.

Design: Cross-sectional, descriptive study.

Setting: Waiting rooms of five ambulatory pediatric clinics in the Bronx, NY.

Participants: Convenience sample of 115 mothers.

Main Outcome Measures: A structured questionnaire assessed the smoking history of the subject, presence or absence of environmental tobacco smoke(ETS)-related conditions in the subject's youngest child, and extent of smoking cessation counseling by the pediatrician. Subjects were asked whether they had been 1) asked about smoking; 2) advised about the risks of ETS exposure; 3) assisted in smoking cessation; and 4) arranged for a follow-up appointment to discuss smoking cessation.

Results: Overall, 73% of mothers reported being asked about smoking by their child's pediatrician, and 50% reported being advised about the effects of ETS exposure. Of the 26 smokers in the sample, only two reported being assisted in smoking cessation. None reported being arranged for a follow-up appointment. Mothers of children with ETS-related conditions reported a higher rate of assessment for smoking status (*ask*: 85% vs. 63%, $p=.01$; *advise*: 57% vs. 43%, $p=.19$).

Conclusions: Mothers in our setting report a high level of inquiry into their tobacco use, especially when they have children with ETS-related conditions. While they also report receiving advice about the risks of ETS exposure, smokers are very infrequently assisted in smoking cessation. (*J Natl Med Assoc.* 2002;94:841-845.)

Key words: smoking cessation ♦
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INTRODUCTION

More than 10 million children under the age of six are exposed to environmental tobacco smoke (ETS).¹ One-third of all smokers have a child residing in the home; smoking is permitted in about 88% of these homes.² ETS has been associated with increased rates of asthma, lower respiratory illness, middle ear effusion, sudden infant death syndrome and possibly, the development of cancer in adulthood.³⁻⁵ Ad-

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ditionally, the effects of ETS exposure are disproportionately higher among African-American males and blue collar workers, for whom smoking rates are higher than for the general population.⁶

Almost one out of every four women is a smoker.⁶ Published reports indicate that peak smoking activity in women occurs between ages 25 and 44 years, and overlaps with the child-bearing years.⁶ During these years, women are much more likely to interface with health care providers for the care of their children.⁷ Because mothers are more motivated to alter their unhealthy behaviors for their child's health,⁷ pediatricians have been cited as having a unique opportunity to counsel women on smoking cessation.^{1,7}

The American Academy of Pediatrics (AAP) recommends routine inquiry into tobacco use and passive smoke exposure as part of all health supervision visits.¹ The AAP also recommends that pediatricians counsel parents about smoking cessation and provide information and assistance for doing so.¹ Although several studies have surveyed pediatricians regarding smoking cessation counseling,⁸⁻¹² a literature search identified one study investigating parental reports of smoking cessation counseling.⁷ Because important differences may exist between physician and parental reports of ETS counseling, it is important to assess parental awareness and recollection of ETS counseling.

This study was designed to assess mothers' perceptions of pediatrician-provided smoking cessation counseling in an inner-city setting. We aimed to test the following hypotheses: a) overall, few mothers in our inner-city setting would report being assessed for smoking status, or receiving smoking cessation counseling by their child's pediatrician; and b) mothers of children with ETS-related conditions would report higher rates of assessment and counseling.

METHODS

We surveyed mothers in the waiting rooms of five ambulatory pediatric clinics of one large academic medical center in the Bronx, NY.

Clinic A is an off-site community health center; the other four clinics are located on two floors within the medical center. For the purposes of our analyses, we refer to each of the two floors as Clinic B and Clinic C, respectively. Forty two percent of children in this inner-city area fall below the federal poverty level. The clinic population is 36% African American and 48% Latino; 80% of patients served are Medicaid recipients. All interviews were conducted over a three-week period in September 1999.

Mothers were eligible for participation if they had a child under five years of age, and were fluent in English or a translator was available. If a mother had more than one child under age five, she was asked to respond to the survey based on her youngest child. One hundred eighteen eligible mothers were approached with the questionnaire. Three declined without giving a reason; 115 (97%) completed the survey (see Appendix). This study was approved by the Institutional Review Board for Human Subjects Research of Montefiore Medical Center.

OUTCOME MEASURES

A trained interviewer administered a structured questionnaire to assess the mothers' perceptions of smoking cessation counseling. Four face-valid questions were used to assess the extent of counseling, based on the AAP guidelines: 1) Has your baby's doctor ever asked you about smoking? 2) Has your baby's doctor ever given you advice or information about the risks of smoking to your child's health? 3) Has your baby's doctor ever helped (assisted) you to quit smoking? 4) Has your baby's doctor ever made (arranged) a follow up appointment with you to talk about how to stop smoking?

Subjects were categorized into smokers and nonsmokers based on response to the following question: How many cigarettes do you usually smoke each day? (0 = nonsmoker, 1 or more = smoker).

Subjects were categorized into those with and without a child with an ETS-related condition based on responses to the following questions: 1) Has your baby ever been diagnosed

Table 1. Participant Characteristics by Clinic Site (%)

	Clinic A N = 48	Clinic B N = 34	Clinic C N = 33	p
Smokers	31%	12%	21%	.11
Child with asthma	21%	18%	27%	.62
Child with recurrent otitis media	42%	20%	42%	.10
Family history of SIDS	7%	6%	0%	.35
Presence of any ETS- related condition	48%	35%	54%	.27

SIDS = sudden infant death syndrome; ETS = environmental tobacco smoke

with asthma? 2) Does your baby have a history of frequent ear infections? and 3) Have any babies in your family ever died from crib death or sudden infant death syndrome (SIDS)? If the mother responded positively to any one of the three questions, she was categorized as having a child with an ETS-related condition.

ANALYSES

Frequencies were calculated for each level of smoking cessation counseling (ask, advise, assist, arrange). Participant characteristics were compared for Clinic A, Clinic B, and Clinic C. Odds Ratio was performed to compare smokers and non-smokers for presence of ETS-related conditions. Then, reports of counseling were compared for the clinic sites. Finally, we calculated odds ratios to compare counseling for

Table 2. Presence of ETS-related Conditions by Participant Smoking Status

	Smokers N = 26	Non- smokers N = 89	Odds Ratio (95%CI)	p
Asthma	24%	22%76
Otitis media	15%	27%85
SIDS	80%	20%	16 (1.7, 150)	.01
Any ETS-related Condition	23%	23%7

ETS = environmental tobacco smoke; SIDS = sudden infant death syndrome CI = confidence interval; ellipses denote odds ratio not reported when p value not significant.

mothers with and without children with ETS-related conditions. Chi-square was used to test differences in proportions, and a 95% confidence interval was used for all analyses.

RESULTS

One hundred-fifteen mothers participated, of whom 26 (23%) were smokers. Participant characteristics were similar among the different clinics for smoking status and presence of ETS-related conditions. (Table 1)

Overall, 46% of the mothers reported having a child with any ETS-related condition. Except for a family history of SIDS, presence of an ETS-related condition did not predict smoking status. (Table 2)

Overall, 73% of the mothers reported being *asked* about smoking by their child's pediatrician, and 50% reported being *advised* about the effects of environmental tobacco smoke. Reports of counseling were similar among the sites. (Table 3)

Of all the smokers, two (8%) reported being *assisted* in smoking cessation, but none reported that a pediatrician had *arranged* a follow-up appointment to address smoking. None of the smokers was referred to a smoking cessation program.

Mothers with a child with an ETS-related condition were more likely to report being *asked* about smoking (85% vs. 63%, $p=.01$). They also were more likely to report being *advised* about the effects of environmental tobacco smoke (57% vs. 43%, $p=.19$). (Table 4)

DISCUSSION

Contrary to our hypothesis, a high percentage of mothers in this inner-city setting reported being asked about smoking by their child's pediatrician, and half reported being advised about the harmful effects of ETS exposure. As we expected, a very small percentage of smokers reported receiving assistance in smoking cessation. Mothers of children with ETS-related conditions reported significantly higher rates of assessment by pediatricians.

Our findings are similar to the reported

Table 3. Mothers' Reports of Counseling Received

	All clinics N = 115	Clinic A N = 48	Clinic B N = 34	Clinic C N = 33	p
Mothers assessed for their smoking status	73%	81%	62%	73%	.15
Mothers advised about risks of ETS exposure	50%	54%	47%	45%	.70
% of smokers assisted in smoking cessation	8%	0%	25%	14%	.19
% of smokers arranged a follow-up appointment	0%	0%	0%	0%	...

practices of pediatricians in smoking cessation counseling. Reports of taking a smoking history "at least sometimes" vary from 40% to 96%.⁸⁻¹² Overall, more than 90% of general pediatricians report advising smoking parents to quit,⁸⁻¹² and 15% report giving specific assistance with smoking cessation, such as referral for counseling.⁹ In addition, pediatricians are more likely to "always" ask about smoking when seeing a patient with an ETS-related condition.⁹

The degree of smoking cessation counseling perceived by mothers in our sample is comparable to that reported in the one previous study of maternal perceptions of counseling, where 55% of mothers recalled their child's doctor discussing the dangers of environmental tobacco smoke.⁷ However, the authors did not assess the effects of having a child with an ETS-related condition.

This study has several inherent limitations. Since we used maternal perception, our data is subject to recall bias. Also, since we were mostly interested in the reports of pediatrician-provided counseling, we did not collect demographic information from participants. It is

possible that our sample did not accurately reflect our clinic population. Additionally, our small sample size limits our ability to assess the degree of counseling reported by smokers. However, the proportion of smokers in our sample was similar to reported national rates,⁶ suggesting that our findings may be generalizable.

The main strength of this study is its focus on maternal perceptions of pediatrician-provided counseling. While pediatricians may report higher rates of counseling, the recollection of counseling by mothers speaks to the overall level of effectiveness of the counseling being done. Additionally, previous work has not focused on low-income ethnic minority populations. Perhaps the greatest marker of increased risk due to ETS exposure in this population is reflected by the US Census Bureau's latest estimates for "persons per square mile": Bronx (31,730) vs. New York (402) vs. US (80).¹³ Clearly, the effects of ETS exposure can only be magnified when children live in such crowded conditions. Our findings emphasize the need for measures to increase the effectiveness of smoking cessation counseling by pediatricians.

Table 4. Mothers' Reports of Counseling by Presence or Absence of ETS-related Conditions

	ETS-related condition present				No ETS-related condition			
	Asthma	OM	SIDS	Any	Asthma	OM	SIDS	Any
Ask	88%	80%	100%	85%*	69%	69%	72%	63%*
Advise	52%	51%	80%	57%	49%	49%	48%	43%

ETS = environmental tobacco smoke; OM = otitis media; SIDS = Sudden infant death syndrome

*Odds Ratio (95% confidence interval) = 3.3 (1.3,8.2), p = .01; all other differences not statistically significant

Pediatricians have cited several barriers to counseling, including lack of skills, lack of resources, and a hesitancy to counsel parents who are not their patients.¹¹ The American Academy of Pediatrics (AAP) has created a workshop to encourage pediatricians to assess smokers for their readiness to quit, to conduct brief office-based counseling in smoking cessation, and to arrange regular follow-up visits to monitor smokers' progress in cessation.¹⁴ Studies are currently underway to assess the effectiveness of pediatrician training in this inner-city area. Proximal outcome measures will include both objective measures of provider counseling and maternal perceptions of counseling; distal outcomes will include smoking cessation rates.

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APPENDIX: SURVEY OF MOTHERS' PERCEPTIONS OF SMOKING CESSATION COUNSELING

We are conducting a study to look at how pediatricians talk to parents about different issues. This will help us to develop ways to improve the services that our health centers can provide to patients. We will ask you some questions about your child, and then some questions about what your pediatrician has discussed with you. This survey will take about five minutes of your time. Is it ok if I ask you these questions now?

1. Has your baby ever been diagnosed with asthma?
2. Does your baby have a history of frequent ear infections?
3. Have any babies in your family ever died of crib death or sudden infant death syndrome?
4. Has your baby's doctor ever asked you about smoking?
5. Has your baby's doctor ever given you advice or information about the effects of smoking on your child's health?
6. How many cigarettes do you usually smoke a day? ____ (if 0 → STOP)
7. Has your baby's doctor ever helped (assisted) you to try to quit smoking? (if N → STOP)
 - a. Recommended use of a patch/nicotine gum/Zyban?
 - b. Given you a specific day on which you should quit smoking?
 - c. Referred you to a program or doctor to help you quit smoking?
 - d. Has your baby's doctor ever made (arranged) a follow-up appointment with you to talk about how to stop smoking?