

Efforts to Quit Smoking by Parents of Children with Asthma

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ABSTRACT

The objective of this project was to assess the prevalence of (1) tobacco smoke exposure at home among children with asthma and (2) efforts to quit smoking by their parents. We employed a cross sectional survey of 622 parents of children diagnosed by a doctor with asthma. Seventy-five percent of parents reported smoke-free homes. Overall, 85% of parents pledged to keep smoke-free homes, 92% in existing smoke-free homes and 64% in homes with smoke.

INTRODUCTION

Environmental tobacco smoke (ETS) exposure causes asthma exacerbations and is associated with the development of asthma in preschool-age children.¹ In the United States, 27% of homes with children age 6 and younger allow smoking, affecting up to 12 million children, according to the Environmental Protection Agency. The *Healthy People 2010* objective is to decrease the exposure of children to ETS at home to 10%.² Children with asthma with high levels of smoke exposure are more likely to have moderate or severe asthma, compared with those with low levels of exposure.³ Among elementary school inner-city children with asthma, exposure to moderate-to-heavy levels of ETS is associated with increased frequency of nocturnal symptoms.⁴

Smoke exposure is prevalent among the estimated 30,000 Milwaukee County children with asthma. In a series of cross sectional surveys we conducted between 1997 and 2002 of 1973 school children age 7 to 13 years

residing in the central city of Milwaukee, 56% reported smoke exposure in their home during the past week.⁵ Many parents know that ETS might contribute to the development of upper respiratory tract infections, otitis media, pneumonia, and asthma exacerbations, and the majority would like to quit.⁶ Little is known about the extent of ETS exposure for Latino children with asthma in Milwaukee.

A primary objective of this surveillance, outreach, and education project was to assess the prevalence of (1) tobacco smoke exposure at home among children with asthma and (2) efforts to quit smoking by their parents. Other program objectives included increasing the awareness of the association between ETS and asthma, enrolling families in the Environmental Protection Agency (EPA) Smoke-Free Home Pledge Initiative, and educating community professionals in ETS and cessation through an "Up in Smoke" conference.

METHODS

The study design was a cross-sectional survey of parents of children under age 18 years diagnosed with asthma by a doctor. The Children's Hospital of Wisconsin Human Research Review Board approved the study protocol. Between February 2001 and May 2002, 6 community-based organizations in Milwaukee selected a consecutive convenience sample of parents, more than 80% of which had a Latino background. The parents consented to the interviewer-administered English or Spanish survey at a community organization site, by telephone, or in the family's home. The survey consisted of 10 items (see Table 1). Cross tabulations were done on question 3 ("In the past 30 days has anyone, including yourself, smoked cigarettes, cigars, or pipes anywhere inside your home?") and question 10 ("Can you pledge today to keep a smoke-free home?").

Parental knowledge of the association of tobacco smoke and asthma was analyzed by chi-square test. Only variables significant at $P < 0.05$ or less were included. Analyses were done using the SAS statistical software package.

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Table 1. Survey Questions

1. Are you the parent or guardian of a child who is under 18 years of age?
2. Did a doctor ever tell you that your child has asthma?
3. In the past 30 days has anyone, including yourself, smoked cigarettes, cigars, or pipes anywhere inside your home?
4. Do you now smoke cigarettes everyday, some days, or not at all?
5. During the past 12 months, have you quit smoking for 1 day or longer?
6. How long did you quit smoking during the most recent attempt?
7. How did you quit on the most recent attempt?
8. Did you know that tobacco smoke in your home causes asthma symptoms and asthma attacks in your child?
9. Did you know that tobacco smoke is linked with the development of asthma in pre-school age children?
10. Can you pledge today to keep a smoke-free home?

Questions adapted from CDC Behavioral Risk Factor Surveillance System and the Environmental Protection Agency.

RESULTS

A total of 622 parents were surveyed, 73% on site or by telephone, and 27% at home. Of that group, 524 families pledged to keep a smoke-free home and enrolled in the Smoke-Free Home Pledge Initiative. Overall, 75% of parents reported smoke-free homes. Of those parents who said they had smoke-free homes, 7% reported smoking, but only outside their home. Seventy-one percent of parents who reported they were cigarette smokers smoked in their homes. Forty-eight percent of parents quit smoking during the past 12 months, but only 7% of those who quit were abstinent for 6 months or greater. Sixty-three percent relapsed within a week. Most parents who tried to quit smoking went “cold turkey” (55%) and 29% used “tapering off.” Only 12% used nicotine replacement therapy and 5% participated in a smoking cessation program.

Overall, 91% of parents knew the ETS in their home causes asthma exacerbations in their children. Ninety-three percent of parents in smoke-free homes knew this association vs. 88% of parents in homes with smoke ($P<0.04$). However, 19% of parents did not know that tobacco smoke is linked with the development of asthma in preschool-age children. Moreover, 85% of parents in smoke-free homes knew this association vs. 74% of parents in homes with smoke ($P<0.001$). Results are summarized in Table 2.

DISCUSSION

We know from our previous surveys of Milwaukee

children with asthma that about half report ETS exposure in the home. Our present survey of parents, mostly of Latino origin, reports a much lower rate of exposure—only 25%. Recent age-adjusted Wisconsin estimates of smoking prevalence by race/ethnicity indicate that 24% of Wisconsin Hispanic adults smoke, slightly less than Black, non-Hispanic adults (26%) and slightly more than White, non-Hispanic adults (23%).⁷ The CDC-estimated prevalence of Wisconsin smoke-free homes is 72% (compared to this study’s 75%) and the percent of Wisconsin adults who smoke is 24% (compared to this study’s 23%).⁸ We suspect that our survey respondents under-reported smoking and ETS exposure in their homes. It may be that participants do not want to disclose a hazard in their home or are not ready to commit to the Smoke-Free Home Pledge Initiative. Any further studies should use independent observation or reliable monitoring tools in homes to assess a child’s exposure to ETS.

Almost half of our respondents who were smokers tried to quit during the past 12 months. This number is virtually the same as that reported in the CDC Behavioral Risk Factor Surveillance Study done in Wisconsin in 2000.⁷ The majority of our survey respondents were unsuccessful in continuing not to smoke—only 7% reported smoking abstinence after 6 months. Eighty-four percent used the generally ineffective “cold turkey” or “tapering off” strategies. In a previous study of 174 caregivers of urban children addressing ETS, half of the caregivers who smoked desired smoking cessation advice from the child’s pediatrician. Interest in receiving advice on helping others quit smoking was also high (51%) among non-smoking caregivers.⁹

Smoking cessation interventions are cost-effective. The National Cancer Institute and the Agency for Healthcare Research and Quality have designed simple, evidence-based clinical guidelines for clinicians to help patients quit. These guidelines are based on an “Ask, Assess, Advise, Assist and Arrange” strategy, and include effective self-help materials and pharmacologic support if appropriate.¹⁰ Tobacco-dependence treatment is a covered benefit under the Wisconsin Medicaid fee-for-service program, yet fewer than 2% of the eligible Wisconsin Medicaid patients who smoked in 1999 obtained tobacco dependence treatment.¹¹ This coverage includes both pharmacotherapy and payment for an office visit to obtain treatment. Medication coverage includes nasal spray, inhaler, and bupropion SR (Zyban™). Individual counseling coverage is also included. These resources are obviously under-utilized in this population.

Table 2. Survey Results from Parents of Children with Asthma in Milwaukee, February 2001 through May 2002

Survey Items	Smoke-Free Homes		Smoke in Homes		All Homes	
	N	%	N	%	N	%
Parents surveyed	470	76%	152	24%	622	100%
Parent smokes cigarettes						
Everyday	22	5%	74	50%	96	16%
Some days	9	2%	30	20%	39	7%
Not at all	404	93%	45	30%	449	77%
Parent quit smoking during the past 12 months	14	45%	49	48%	63	47%
Parent quit smoking during the most recent attempt						
Less than 1 day	11	50%	8	17%	19	27%
1 to 6 days	7	32%	18	38%	25	36%
1 to 4 weeks	2	9%	12	25%	14	23%
1 to 6 months	1	5%	7	13%	8	9%
More than 6 months	1	5%	3	4%	4	3%
Parent quit on the most recent attempt						
"Cold turkey"	7	50%	23	55%	30	54%
Tapering off	7	50%	12	29%	19	34%
Nicotine replacement therapy	0	0%	5	12%	5	9%
Participating in a smoking cessation program	0	0%	2	5%	2	4%
Parent knew tobacco smoke in their home causes asthma symptoms and asthma attacks in their child	419	93%	131	86%	550	91%
Parent knew that tobacco smoke is linked with the development of asthma in preschool age children	384	85%	108	73%	492	82%
Parent pledged to keep a smoke-free home and enrolled in Smoke-Free Home Pledge program	429	98%	95	68%	524	91%

Overall, 85% of participating parents enrolled in the EPA Smoke-Free Home Pledge Initiative (<http://www.epa.gov/smokefree/>). This major outreach effort co-sponsored by key medical, consumer, and community organizations provides brochures, an automated toll-free hotline, and a Smoke-Free Home Kit to families who pledge to keep their home smoke-free until they can quit for good.

CONCLUSIONS

Reducing the exposure of children with asthma to environmental tobacco smoke should be a clear priority of health care professionals, educators, community advocates, and government officials in developing effective asthma management programs for inner-city families. National, state, and local public health and community initiatives should raise preventive awareness and promote the use of nicotine replacement and other therapies recommended by the US Public Health Service for parents of children with asthma.

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