

# Perceptions of Parental Tobacco Dependence Treatment Among a Children's Hospital Staff

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**OBJECTIVES:** To assess employee support for and knowledge of smoking cessation programs for patients' parents and staff and employees' level of comfort discussing smoking with patients and their families before and during a hospital-wide study of a tobacco cessation and/or exposure reduction program for inpatients' parents who smoke.

**METHODS:** Clinical staff were invited to complete online surveys at the beginning of and 19 months into a randomized controlled trial to test the efficacy of an inpatient tobacco cessation and exposure reduction program for parents of hospitalized children. The program included educating pediatric inpatient clinical staff about available resources, such as the Colorado QuitLine, and smoking cessation interventions for the parents of hospitalized children. Clinical staff were recruited via e-mail listservs, a weekly e-mail newsletter, and posted flyers. Baseline and midstudy results were compared, and  $\chi^2$  tests were performed.

**RESULTS:** At the baseline, 192 clinical staff responded; 235 responded midstudy. At the baseline and midstudy, at least 90% of the respondents believed that the hospital should support parents in quitting smoking, although the support for free nicotine replacement therapy was low (27% at the baseline to 35% at midstudy). One-fifth of the respondents were uncomfortable discussing smoking; this proportion decreased after educational interventions. Knowledge about hospital cessation resources had also increased at midstudy.

**CONCLUSIONS:** There was strong support for helping parents and staff quit smoking. Comfort among clinical staff in addressing tobacco dependence in patients and families and awareness of cessation resources increased over the course of the study.

## ABSTRACT



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Tobacco smoke exposure (TSE) places children at risk for many health problems.<sup>1,2</sup> Furthermore, the children of parents who smoke have a higher chance of becoming smokers.<sup>3</sup> These reasons, and the fact that children cannot control their TSE, are why pediatric health care professionals should address and treat tobacco dependence in patients' families.<sup>4</sup> Pediatric hospitals care for the sickest patients, creating a potential teachable moment to help protect these children from TSE in their homes. Most inpatient families find TSE screening and cessation programs to be acceptable,<sup>5</sup> particularly if they recognize that their smoking affects the child's condition<sup>6</sup> and if they may not have had other opportunities for free or low-cost resources for smoking cessation or exposure reduction.<sup>7</sup> However, the lack of national TSE screening requirements, the concern about prescribing nicotine replacement therapy (NRT) to family members, logistical difficulties, a lack of comfort in talking with patients' families about TSE, and active smoking status among clinicians can impede this issue being addressed in pediatric inpatients.<sup>8,9</sup> Our objective was to assess clinical staff support for and knowledge of smoking cessation programs for patients' parents and staff and the level of comfort when discussing smoking with patients' parents and staff before, midstudy, and after a hospital-wide study of a tobacco cessation and exposure reduction program for inpatients' parents who smoke; in this report, we include the baseline and midstudy results.

## METHODS

We conducted surveys at a large, freestanding children's hospital at the beginning of and 19 months into a 5-year randomized controlled trial in which we tested the efficacy of a tobacco cessation and exposure reduction program that was initiated in 2014 for hospitalized children's parents who smoke. Questions were adapted from previously validated or published measures<sup>10</sup> and pilot tested by several physicians. The baseline survey had 24 questions. The 34-item midsurvey had most of the baseline questions and several additional and modified questions that were

based on feedback that was received from a survey methodologist. In the surveys, we asked about job characteristics, knowledge and attitudes about tobacco use at the hospital, smoking status, and demographics. Educational efforts for clinical staff were performed between the surveys, including in-service presentations for nurses, pediatric grand rounds, a new respiratory therapist orientation, a presentation to the hospital medicine faculty, and informal education for the nursing staff. Education topics included the risks of TSE, the prevalence of exposure, and guidance on how to address the issue with families, including motivational interviewing techniques and discussions about NRT. We invited all hospital staff via e-mail listservs, a weekly e-mail newsletter, and flyers prompting staff to complete these anonymous Web-based surveys. We conducted the surveys using SurveyMonkey software (surveymonkey.com, San Mateo, CA) and Research Electronic Data Capture

(REDCap), and managed the data through REDCap.<sup>11</sup> Participants were entered into an iPod Shuffle raffle. Descriptive statistics were used to summarize survey responses. All data were categorical, and the baseline and midstudy results were compared by using  $\chi^2$  and Fisher's exact tests, with the statistical significance level being set at  $P < .05$ . We analyzed data using SAS version 9.4 (SAS Institute, Inc, Cary, NC). The hospital institutional review board approved this study.

## RESULTS

Of the 3792 clinical staff who were surveyed during the baseline period, 192 responded to the baseline survey (5% of all clinical employees, 7% of those on the e-mail listservs, and 13% of those who opened e-mails), and of the 4567 clinical staff who were surveyed, 235 responded to the midstudy survey (5% of all clinical employees, 8% of those on the e-mail listservs, and 16% of those who opened

**TABLE 1** Baseline (2014) and Midstudy (2016) Demographics of Survey Respondents

	Total (n = 427), n (%)	Baseline Survey (n = 192), n (%)	Midstudy Survey (n = 235), n (%)	P
Sex				.0002
Female	348 (82.7)	142 (75.1)	206 (88.8)	
Male	73 (17.3)	47 (24.9)	26 (11.2)	
Age group, y				.86
18–25	27 (6.4)	10 (5.3)	17 (7.2)	
26–35	201 (47.4)	91 (48.1)	110 (46.8)	
36–45	101 (23.8)	47 (24.9)	54 (23.0)	
46–55	59 (13.9)	27 (14.3)	32 (13.6)	
56+	36 (8.5)	14 (7.4)	22 (9.4)	
Professional role				<.0001
Attending physician or advanced practice provider	125 (29.3)	78 (40.6)	47 (20.0)	
Fellow or resident	31 (7.3)	29 (15.1)	2 (0.9)	
Nurse	226 (52.9)	59 (30.7)	167 (71.1)	
Respiratory therapist	45 (10.5)	26 (13.5)	19 (8.1)	
Have you smoked at least 100 cigarettes in your lifetime?				.08
Don't know or not sure	6 (1.4)	0 (0.0)	6 (2.6)	
No	371 (87.9)	169 (89.9)	202 (86.3)	
Yes	45 (10.7)	19 (10.1)	26 (11.1)	
Do you currently smoke cigarettes every day?				.88
No	420 (99.5)	188 (99.5)	232 (99.6)	
Yes	2 (0.5)	1 (0.5)	1 (0.4)	

e-mails). The distribution of professional roles differed between surveys ( $P < .0001$ ), with more nurses completing the midstudy compared with the baseline survey. In both surveys, <12% had smoked  $\geq 100$  cigarettes in their lifetime ( $P = .67$ ), and <1% currently smoked every day ( $P = .88$ ). The age distribution among participants was similar for both surveys;  $\sim 70\%$  were 26 to 45 years old ( $P = .86$ ; Table 1). The age and sex distributions between survey participants and hospital staff were similar (ages 26 to 45 years old:  $P = .28$ ; sex:  $P = .14$ ; data not shown).

At midstudy, more clinicians were aware of hospital programs to help parents and staff quit smoking tobacco (Table 2). The difference in awareness was statistically significant for programs targeting staff (46% at baseline versus 67% at midstudy;  $P < .0001$ ). Most clinicians at baseline and midstudy agreed that the hospital should provide support to parents who want to quit smoking tobacco (93% at baseline and 90% at midstudy;  $P = .22$ ).

Of those who agreed with hospital support, approximately one-half supported

screening, >62% supported counseling, >80% supported the provision of education, and at least 80% supported QuitLine referral for parents. Support for free NRT for parents increased from 27% at baseline to 35% at midstudy, although this difference was not statistically significant ( $P = .10$ ). Most clinicians agreed that the hospital should provide support to staff who want to quit smoking tobacco ( $\geq 96\%$  at baseline and midstudy). Among those who indicated increasing support to staff, >80% supported counseling, at least 85% supported education, and >55% supported screening in both study periods. Support for free NRT for staff increased from 54% at baseline to 64% at midstudy ( $P = .03$ ).

At baseline, 80% of clinicians said they were somewhat or very comfortable talking to a patient or family about their tobacco smoking. This value was 47% for talking to co-workers (Table 3). In the midstudy survey, we asked slightly different questions about this topic. Approximately 90% of clinicians at midstudy responded as feeling very or somewhat comfortable asking a patient or family about their tobacco

smoking, 74% said they felt somewhat or very comfortable educating a patient or their family about the health risks associated with their tobacco smoking, and 52% were very or somewhat comfortable talking to a co-worker about the health risks associated with their tobacco smoking at midstudy.

## DISCUSSION

There was strong support among staff members for helping patients' parents quit smoking at both baseline and midstudy. However, nearly one-third of clinicians at baseline were not aware of hospital programs that are designed to help parents quit smoking tobacco.

Support among clinicians for free NRT for smoking parents was low; this is consistent with other studies and may reflect concern about treating parents.<sup>12</sup> However, pediatricians have a history of treating household members for other conditions, such as pertussis; thus, prescribing NRT to parents is not unprecedented. Pharmacologic intervention for smoking cessation in adults is effective,<sup>4,13</sup> and the American Academy of Pediatrics supports pediatricians prescribing NRT within specific parameters.<sup>4</sup> Given that most inpatient parents are open to being offered cessation support and most clinicians at our hospital support this, the lack of awareness about hospital programs and the lack of support for NRT may represent missed opportunities for helping parents quit smoking.<sup>6</sup>

Staff who smoke cigarettes and want to quit are offered participation in the free Quit for Life program. Few survey participants smoked, but awareness of cessation programs for employees is important because nonsmoking employees could refer their colleagues who smoke to these programs. Nurses who smoke are less likely to advise their patients to quit smoking; cessation programs for clinical staff might increase clinical service delivery for patients and their families.<sup>14</sup> At midstudy, there was more awareness about programs among clinicians to help both parents and staff quit smoking tobacco, although at least one-fifth of those surveyed were still unaware that these programs existed.

**TABLE 2** Baseline (2014) and Midstudy (2016) Awareness of and/or Support for Smoking Cessation Programs for Parents and Staff

	Total ( $n = 427$ ), $n$ (%)	Baseline Survey ( $n = 192$ ), $n$ (%)	Midstudy Survey ( $n = 235$ ), $n$ (%)	$P$
Are you aware of any programs to help parents quit smoking tobacco?				.06
No	107 (25.6)	56 (30.1)	51 (22.0)	
Yes	311 (74.4)	130 (69.9)	181 (78.0)	
Do you think that the children's hospital should provide support to parents who want to quit smoking tobacco?				.22
No	9 (2.1)	5 (2.6)	4 (1.7)	
Yes	388 (91.5)	177 (93.2)	211 (90.2)	
Don't know or not sure	27 (6.4)	8 (4.2)	19 (8.1)	
Are you aware of any programs to help children's hospital employees quit smoking tobacco?				<.0001
No	179 (42.5)	101 (53.7)	78 (33.5)	
Yes	242 (57.5)	87 (46.3)	155 (66.5)	
Do you think that the children's hospital should provide support to staff who want to quit smoking tobacco?				.66
No	7 (1.7)	2 (1.1)	5 (2.1)	
Yes	406 (96.0)	181 (96.3)	225 (95.7)	
Don't know or not sure	10 (2.4)	5 (2.7)	5 (2.1)	

**TABLE 3** Baseline (2014) and Midstudy (2016) Level of Comfort Talking to and/or Educating Parents and/or Staff (N = 427)

	Baseline Survey (n = 192), n (%)	Midstudy Survey (n = 235), n (%)
How comfortable do you feel talking to a patient or family about their smoking tobacco?		
Very	82 (43.4)	—
Somewhat	69 (36.5)	—
A little	26 (13.8)	—
Not at all	12 (6.4)	—
How comfortable do you feel talking to a co-worker about their smoking tobacco?		
Very	27 (14.3)	—
Somewhat	61 (32.3)	—
A little	47 (24.9)	—
Not at all	54 (28.6)	—
How comfortable do you feel asking a patient or family about their smoking tobacco?		
Very	—	135 (57.5)
Somewhat	—	77 (32.8)
A little	—	14 (6.0)
Not at all	—	9 (3.8)
How comfortable are you educating a patient or their family about the health risks associated with their tobacco smoking?		
Very	—	87 (37.3)
Somewhat	—	86 (36.9)
A little	—	41 (17.6)
Not at all	—	19 (8.2)
How comfortable do you feel talking to a co-worker about the health risks associated with their tobacco smoking?		
Very	—	47 (20.0)
Somewhat	—	75 (31.9)
A little	—	55 (23.4)
Not at all	—	58 (24.7)

—, not applicable.

One-fifth of clinicians felt uncomfortable speaking to patients and families about their smoking at baseline. After implementing educational interventions, the comfort level among clinicians about asking patients and families about their smoking increased. These findings support those in previous research, in which the need to teach tobacco intervention skills to clinicians is revealed. In a study of pediatric residency directors, only 65% included tobacco control in their curriculum, and not many taught intervention skills.<sup>15</sup> Likewise, nursing programs lack adequate training in tobacco dependence and intervention.<sup>16,17</sup>

It is encouraging that as little as 1 hour of training in tobacco use treatment has been shown to increase confidence, knowledge, and perceived preparedness for providing interventions.<sup>18</sup>

This study has several limitations. First, the response rates were low and difficult to determine accurately. Because we were recruiting from all clinical employees, including per diem nursing staff and employees at the hospital's remote sites, we were unable to accurately pinpoint the number of employees who could have participated. However, we were able to get representation from different clinical

professional roles. Also, the data were not paired, so we could not assess within-person differences. The distribution of professional roles differed between the baseline and midstudy surveys, so the results may not be entirely comparable. Our study took place in a state with a low baseline prevalence of smoking tobacco; thus, the results may not be generalizable to communities in which smoking rates are higher. Finally, because we modified the wording on some questions, we could not directly compare the responses to all questions.

We found high levels of smoking cessation support for parents and staff among clinicians at our hospital and an increased level of comfort when asking a patient or family about their tobacco smoking after several formal and informal staff interventions. Educating staff about existing resources, such as the Colorado QuitLine, to assist with smoking cessation and providing formal training about tobacco dependence treatment, including NRT, may help pediatric hospitals achieve the goal of creating successful parent smoking cessation programs.

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