Identifying Targeted Strategies to Improve Smoking Cessation Support for Cancer Patients

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Introduction: Although smoking causes adverse outcomes in cancer patients, most oncology providers do not regularly provide smoking cessation support. The purpose of this study was to identify key areas that can be targeted to improve delivery of evidence-based cessation support for cancer patients.

Methods: In 2012, the International Association for the Study of Lung Cancer surveyed members asking about tobacco assessment and cessation practices for cancer patients. Responses from 1153 physician level oncology providers were analyzed to evaluate the effects of respondent demographics, tobacco use perceptions, and perceived barriers to providing cessation support on practice patterns.

Results: Respondents from the United States generally reported higher rates of asking about tobacco use, advising patients to quit, and assisting patients in quitting smoking. Work setting, time since completing a terminal degree, percent of time devoted to clinical care, and history of tobacco use were generally associated with asking about tobacco use and advising patients to quit, but not associated with discussing medications or actively treating patients. The dominant multivariate barriers to providing cessation support were a lack of clinician education or experience and lack of available resources to refer patients for smoking cessation support. Patient resistance to treatment, inability for patients to quit smoking, or feeling that smoking was not an important part of cancer outcome or cancer care had less meaningful associations with providing support.

Conclusions: Improving clinician education and developing dedicated resources to provide cessation support were identified as ideal targets to address for improving cessation support for cancer patients.

Tobacco causes many cancers, and evidence now demonstrates that continued smoking by cancer patients after diagnosis causes adverse cancer treatment outcomes.[1] The 2014 Surgeon General's Report concludes that smoking by cancer patients and survivors increases overall mortality, cancer-specific mortality, and risk of developing a second primary cancer with further associations with increased cancer recurrence and cancer treatment toxicity.[1] As a result, addressing smoking by cancer patients is increasingly recognized as an essential part of cancer care.

Leading cancer organizations including the American Society for Clinical Oncology (ASCO), the American Association for Cancer Research, the Oncology Nursing Society, the International Association for the Study of Lung Cancer (IASLC), and the National Comprehensive Cancer Network (NCCN) have advocated for providing cessation support to cancer patients.[2–6] Recent guidelines from the NCCN provide guidance for smoking cessation in cancer patients.[6] However, repeated surveys of oncology providers demonstrate that while most clinicians ask their patients about tobacco use and advise patients to stop smoking, few discuss medications or actively provide tobacco cessation support.[7,8] Methods that have been used to try and increase the delivery of tobacco cessation support have included disseminating self-help materials, training healthcare providers to assess and treat tobacco addiction, and developing systems to identify tobacco use and refer patients to dedicated trained tobacco cessation counselors.[9–11] Unfortunately, these resources and interventions do not seem to have improved clinical interventions for cancer patients who smoke. The consistent delivery of cessation support remains the exception rather than the rule and there are limited data to suggest the optimal approach to increase cessation support activities by oncology providers.

In 2012, the IASLC administered a survey to members asking about tobacco assessment and cessation practices.[7] Included were questions asking about perceived barriers to providing cessation support. The purpose of this study is to examine which demographic characteristics and perceived barriers were associated with physician reported differences in providing cessation support.

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MATERIALS AND METHODS

The study was approved by the Institutional Review Board at Roswell Park Cancer Institute (Buffalo, NY). The survey methods have been previously described.[7] In brief, a questionnaire was developed and administered on-line to IASLC members, asking about tobacco assessment and cessation practices, perceptions of tobacco use in cancer patients, and barriers to implementing tobacco cessation support. Of 3719 IASLC members invited to participate, 1507 (40.5%) completed the survey.[7] Among respondents, 87% were medical doctors, 29% were from Europe, 23% were from the United States, and 12% were from Japan. Among medical doctors, most (70%) practiced in a university or academic setting, 73% reported more than 10 years of practice experience, and 77% spent at least 50% of their time in clinical practice. This analysis was restricted to medical doctors (or equivalent) who responded to the survey, reported treating cancer patients, and reported medical oncology, pulmonary medicine, surgery, or radiation oncology as their primary practice. Respondents who were not medical doctors or who reported primary practice in other medical specialties (such as pathology or radiology) were excluded from this analysis because these respondents were felt to have less direct contact with patients where tobacco assessments and cessation support could be provided. Of 1304 respondents reported having a medical doctorate, 1153 (88.5%) reported primary practice in radiation oncology, medical oncology, surgery, or pulmonary medicine. All subsequent analyses were performed in these 1153 respondents.

Comparative analyses were performed to evaluate the association between demographic factors (country of practice, work setting, years passed since completion of terminal degree, time spent in clinical practice, and tobacco use) and tobacco assessment practices (asking about tobacco use, asking if patients will quit, advising patients to stop tobacco use, discussing medications, and actively treating patients for tobacco use). Further analyses were performed to evaluate the association between perceived barriers to providing cessations support to identify potential barriers that may be effective targets for intervention to improve tobacco cessation activities provided by oncology providers.

All the analyses were done using SAS 9.4. To evaluate the effects of covariates on practice patterns, a logistic regression model was fitted. For each question, the probability of a positive answer (always/most of the time) was considered. Odds ratio estimates with 95% Wald confidence interval estimates were obtained comparing odds of a positive answer for each level of the covariates. The effect of perceptions was evaluated adjusting for the demographics that were already shown to be significant.

RESULTS

Demographic Characteristics, Practice Patterns, and Perceived Barriers by Physician Respondents

The characteristics of 1153 physician respondents are shown in Table 1. Most respondents reported practice in Europe (29.7%), the United States (22.2%), or Japan (12.2%)

TABLE 1. Demographic and Practice Characteristics of Respondents (n = 1153)

Demographic	Variable	Number (%)
Country/continent	Europe	343 (29.7)
	United States	256 (22.2)
	Japan	141 (12.2)
	Asia	100 (8.7)
	South America	75 (6.5)
	Australia	61 (5.3)
	China	49 (4.2)
	Canada	49 (4.2)
	United Kingdom	43 (3.7)
	Other	36 (3.1)
Work setting	University or academic	818 (70.9)
	Hospital based nonacademic	274 (23.8)
	Other	61 (5.3)
Years passed since completion of terminal degree	<5 yr	110 (9.5)
	6–10 yr	210 (23.8)
	11–20 yr	374 (32.4)
	20+ yr	459 (39.8)
Time devoted to patient care	1–24%	56 (4.9)
	25–49%	171 (14.8)
	50–74%	508 (44.1)
	75–100%	418 (36.3)
Tobacco use history	Never	820 (71.1)
	Former	272 (23.6)
	Current	55 (4.8)
	Other	6 (0.5)

with fewer than 10% of respondents from any other country or continent. Most practiced in a university or academic setting (70.9%), most were in practice for more than 10 years (72.2%), and most spent more than 50% of their time in clinical practice (80.3%). Although 71.1% reported never having used tobacco, 4.8% reported current tobacco use.

Respondents were analyzed according to whether they reported "always" or "most of the time" providing a patient activity and according to whether they "strongly agreed" or "agreed" with potential barriers (Tables 2 and 3). In the 1153 physician respondents, nearly all (97.2%) asked about tobacco use, 85.3% of respondents asked patients if they would stop using tobacco, and 87.0% advised patients who smoked to stop. However, only 44.0% discussed medication options and 42.2% actively treated or referred patients for cessation treatment. More than 90% of respondents believed that smoking impacted cancer treatment outcomes and that tobacco cessation should be a standard part of cancer treatment. However, only 34.5% reported having adequate training in tobacco cessation interventions.

Correlates of Tobacco Assessment and Cessation Practices

The associations of geographic location, work setting, years passed since completion of a terminal degree, percentage of time providing care for cancer patients, and tobacco use