HEALTH EDUCATION RESEARCH Vol.31 no.3 2016
Pages 375–383
Advance Access published 22 January 2016

Primary healthcare provider knowledge, beliefs and clinic-based practices regarding alternative tobacco products and marijuana: a qualitative study

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Received on July 7, 2015; accepted on December 20, 2015

Abstract

Use prevalence of alternative tobacco products and marijuana has increased dramatically. Unfortunately, clinical guidelines have focused on traditional cigarettes with limited attention regarding these emerging public health issues. Thus, it is critical to understand how healthcare professionals view this issue and are responding to it. This qualitative study explored knowledge, beliefs and clinic-based practices regarding traditional and alternative tobacco products (cigar-like products, smokeless tobacco, hookah, e-cigarettes) and marijuana among rural and urban Georgia primary healthcare providers. The sample comprised 20 healthcare providers in primary care settings located in the Atlanta Metropolitan area and rural southern Georgia who participated in semi-structured interviews. Results indicated a lack of knowledge about these products, with some believing that some products were less harmful than traditional cigarettes or that they may be effective in promoting cessation or harm reduction. Few reported explicitly assessing use of these various products in clinic. In addition, healthcare providers reported a need for empirical evidence to inform their clinical practice. Healthcare providers must systematically assess use of the range of tobacco products and marijuana. Evidence-based recommendations or information sources are needed to inform clinical practice and help providers navigate conversations with patients using or inquiring about these products.

Introduction

Tobacco is a risk factor for heart disease, diabetes, cancer, stroke and other chronic diseases [1]. While cigarette use in the United States has generally declined in the past 30 years [2], alternative tobacco products such as small cigars (e.g. little cigars, cigarillos), smokeless tobacco, hookah and electronic cigarettes (e-cigarettes) have been gaining popularity in more recent years [3, 4]. From 1998 to 2006, large cigar consumption increased by 45%, while consumption of small cigars increased by 154% [5]. The use of smokeless tobacco (e.g. chew, snus) has steadily increased from 2000, especially among young adult males [6]. Research also has shown an increase in hookah use, particularly among college-aged young adults [7]. Finally, the popularity of e-cigarettes has more than doubled in recent years, posing a potential new health risk in tobacco users [8]. According to the 2012–13 National Adult Tobacco Survey [9], an estimated 25.2% of US adults report using some type of tobacco product every day, some days or rarely, with 62.7% of users using at least one tobacco product daily. Among those tobacco products that respondents reported using were: cigar products 5.8%; smokeless tobacco 3.8%; water pipes/hookah 3.9% and e-cigarettes 4.2% [9]. As such, healthcare

doi:10.1093/her/cyv103

practices that focus only on cigarettes [10] are no longer an option, particularly since no amount of exposure to tobacco is safe [1].

In addition to the emergence of alternative tobacco products in the United States, there has also been an increase in marijuana use, particularly among users of many different tobacco products [11]. Although marijuana is not a tobacco product, it can have some of the same health effects as tobacco. For example, it can cause breathing problems, increased heart rate and complications with child development during and after pregnancy [12]. In addition, it also can increase cancer risk, cause loss of coordination and increase issues with memory, learning and problem solving [13]. As such, the increasing prevalence of marijuana use must also be taken into account in the clinical setting, particularly since tobacco and marijuana use are highly correlated [14].

Healthcare providers play a crucial role in behavior change, especially in tobacco cessation [10]. Smokers often say that advice from their healthcare provider is an important part of their motivation to quit [15]. However, the Clinical Practice Guidelines for Tobacco Dependence focus almost exclusively on traditional tobacco products (e.g. cigarettes, chew) [10]. Thus, healthcare providers are providing care in a context where the market and the terrain of tobacco use is changing and marijuana use is increasing, particularly among tobacco users. Unfortunately, clinical practice guidelines have not yet been established to address these emerging and complex public health issues. As such, examining knowledge, beliefs and clinical practices in relation to alternative tobacco use and marijuana among healthcare providers is the first step in understanding and ultimately intervening on these issues.

Thus, the purpose of this study was to qualitatively explore knowledge, beliefs and practices associated with traditional and alternative tobacco products and marijuana among healthcare providers. Our specific aims were to (i) assess knowledge and beliefs regarding traditional versus alternative tobacco products and marijuana among healthcare providers in diverse primary care settings in Georgia; (ii) assess clinic-based practices related to traditional versus alternative tobacco products and marijuana among these healthcare providers and (iii) assess providers' perceived needs for research and information regarding the diverse range of tobacco products and marijuana to inform clinical practice.

Methods

Research design

This was a qualitative research study assessing knowledge, beliefs and clinic-based practices regarding traditional and alternative tobacco products and marijuana among rural and urban Georgia healthcare providers. Data from the study were collected from 20 healthcare providers in the Atlanta Metropolitan area and rural southern Georgia via individual, semi-structured interviews. Emory University's Institutional Review Board approved this study.

Participants and sampling

Using convenience sampling, we recruited healthcare providers from the Atlanta Metropolitan area and rural southern Georgia. To be eligible to participate, individuals had to (i) be a physician, physician assistant or nurse in the primary care setting and (ii) practice in the Atlanta Metropolitan area or in the 32 county service area of the Cancer Coalition of South Georgia. The rural southern Georgia providers were identified through various clinics and practices in the Cancer Coalition of South Georgia's service area. Research staff contacted the clinics via telephone and requested to speak to primary care providers that met criteria for the study and who might be willing and able to participate. A total of six healthcare providers consented and participated in the interview. To recruit providers in the Atlanta Metropolitan area, a list of metro-Atlanta providers were compiled using the Emory Healthcare Network and were chosen based on specialty (i.e. internal medicine, OB/GYN, family medicine). The list was revised to only include those in the Emory Directory who had published emails. An initial email was sent out to the providers, and those who

responded positively were screened for eligibility and, if eligible, scheduled for an interview. The final list of providers in the Atlanta Metropolitan area included 60 providers, of whom 14 consented and completed the interview (response rate- = 23.3%). At the point at which these 20 individuals had completed the interviews, the research team conferred to determine if additional recruitment was needed; however, the interviewer indicated that saturation had been reached. Thus, a total of 20 healthcare providers serve as the sample for the current study.

Data collection and measures

The interviews were conducted via face-to-face in a private and quiet location for those providers in the rural southern Georgia area and via telephone for the metro-Atlanta healthcare providers. Consent was obtained in-person or via oral consent, respectively. The semi-structured interview lasted 25–45 min. Participants were debriefed, thanked and excused following the completion of the interview.

The semi-structured interview guide was developed by the study team and pilot tested through mock interviews; the guide was revised after the first three interviews. The interview began with structured questions regarding sociodemographics, education and work as a healthcare provider. The semi-structured interview qualitatively assessed knowledge, beliefs and clinic-based practices related to traditional and alternative tobacco use and marijuana use. Specifically, we asked about cigarettes, cigar-like products, smokeless tobacco, hookah, e-cigarettes and marijuana. Example questions on knowledge and beliefs regarding these products included 'When you hear the words "tobacco products", what things come to mind? What do you know about [each tobacco product, marijuana]? What do you think about the health risks of [each tobacco product, marijuana] compared to cigarettes? What about the potential for addiction of [each tobacco product, marijuana]?' Questions referring to clinic-based practices regarding the range of tobacco products included, 'During a regular clinic visit, what questions do you ask about tobacco use? What things, if any, make you think to ask about tobacco use? What is the specific question you ask about tobacco? What tobacco products do you ask about? How frequently do you ask about [each tobacco product] use during clinic visits? How often do patients ask you about [each tobacco product]? What do they ask? What do you tell them? How do you address marijuana within a clinical encounter? How often is marijuana assessed?' Questions referring to needed information and research included 'What do you wish you knew about some of these products? What questions do you wish the research communities would address about these products? What are your concerns about these products?' All questions had a set of probes to draw additional information on the specific topics.

Data analysis

All interviews were recorded, the audio recordings were uploaded to a secure, password-protected computer and the recordings were transcribed verbatim by a contracted professional transcription service. Quantitative data were entered into SPSS. Descriptive analyses were conducted. Qualitative data were analyzed using MaxQDA (VERBI GmbH). Two members of the authorship team (MPH-level research staff) randomly selected three interview transcripts, which they then used to generate preliminary codes using deductive and inductive coding methods. All codes were compiled and developed into a codebook for analysis. The transcriptions from each interview were independently reviewed and coded using the preliminary codebook that was developed. All new codes that arose during coding were added to the codebook and applied to all transcripts. Interview transcripts identified themes that arose during the interviews, and representative quotes were extracted to present below. Responses and themes were compared and contrasted across healthcare providers (e.g. rural vs. metro-Atlanta); only themes that differed across groups were highlighted in the results.

Results

Study participants

Twenty participants were of an average of 45.25 (SD = 9.79) years and had an average of 15.93 (SD = 8.96) years of experience. The sample comprised 13 (65.0%) females, with 12 (60.0%) being White/Caucasian, 5 (25.0%) Black/African American, 2 (10.0%) Asian American and 1 (5.0%) Hispanic/Latino. The sample included 15 (75.0%) physicians, 3 (15.0%) nurses and 2 (10.0%) physician assistants. Participants had various specialties including public health ($n = 3$, 15.0%), family medicine ($n = 7$, 35.0%), internal medicine ($n = 6$, 30.0%) and obstetrics and gynecology ($n = 4$, 20.0%).

Knowledge and beliefs

Participants were asked what they think of when someone mentioned tobacco products. Almost every participant mentioned three products: cigarettes, chewing tobacco and cigars. Very few participants mentioned hookah, e-cigarettes or any other form of tobacco. Moreover, thematic differences in relation to knowledge and beliefs about these products across provider settings (rural vs. urban) were not identified.

Cigars and cigarillos. Participants were asked about their general opinions on cigars and cigar-like products (cigarillos, little cigars) in addition to health risks, addiction and interactions with their patients about the products. Some participants noted that they treat cigars like they treat all type of tobacco products and discourage their patients from using them. Furthermore, some participants believed that the popularity of cigars is on the rise, especially among women. When asked about health risks, most participants indicated that they believed that they are not as risky as cigarettes. One participant said,

> I mean, my impression is that numbers are lower, and some people don't inhale them, so perhaps the risk is somewhat lower or at least for lung cancer.

Most participants thought that cigars may be addictive. However, many suggested that it may take longer for people to get addicted since they may not be inhaling or they may not be using these products as frequently as cigarettes. One participant said,

> You know, I think anything that has nicotine probably has the potential for addiction. I would say with cigars, it's probably slightly lower, not because of the cigar itself, but just because of the kind of social setting in which you can smoke a cigar. When they smoke a cigar, they don't inhale. I think they probably consume less with the cigar. It may take a longer time to get addicted, but eventually it happens.

Smokeless tobacco. All participants knew about smokeless tobacco and had various ideas on the health risks of those types of products. Some suggested that chew and snus were more prevalent in more rural areas of the country. One participant said,

> Well, I know they're more commonly used in the less educated and the more rural areas. I know that they're at risk for more systemic conditions even though it's not as much as inhaled.

Health risks that were mentioned throughout the interviews centered on different types of cancers rather than pulmonary afflictions. One participant said,

> I think it's not likely as much of a risk for lung cancer, esophageal cancer, stomach cancer, but it can be for mouth cancer, although that is hard to quantify. I think there's been some mixed messages lately.

In addition, many participants mentioned that their patients tend to not think they are at risk for health complications because they are not inhaling the tobacco. Most participants not only agreed that there were elevated oral cancer risks, but the addiction potential was still high even though it is not a product that was meant to be inhaled.

Hookah. While some participants mentioned hookah being a part of Middle Eastern culture, others saw it as a popular, social activity among young people. One participant even thought that hookah is just a fad saying,

> I think hookah is something that is going to be trendy. I don't think it's going to be around long. I think it's going to be with the younger generation, and I think after this trend or this fad dies down, that's going to be it.

Still, many of the participants did not know much about the product at all besides the fact that it exists and people use it for recreational smoking.

Most of the participants were unfamiliar with the health risks and potential addictiveness of hookah. However, despite the lack of knowledge, some providers said the type of product smoked is irrelevant because all were bad for the users' health. One participant had tried hookah but indicated that they were unaware of the health effects:

> I've tried it and I was like, wow, this is kind of cool, but is this good for me? I don't know. I've done it once or twice. I have no idea about the health effects of that—no idea—and I think those are growing in popularity. Every now and then you see new signs for a hookah lounge somewhere. I wondered if it was legal. I was assured it was legal, but I really have no idea of the health effects.

Despite little knowledge about hookah, a few providers thought that there was still the potential for addiction. Although hookah is not brought up in clinic visits often, a couple of participants noted that patients would bring it up when asked about different types of tobacco they smoke.

E-cigarettes. Many participants said that they were unsure of the health effects of e-cigarettes, and some did not even know what they were. Many participants indicated believing that e-cigarettes may be effective in helping smokers quit using traditional cigarettes, and some reported patients indicating that e-cigarettes helped them avoid smoking tobacco. One participant said,

> I actually think that in three to five years they'll be the recommended way of stopping cigarette use. I think the clinical data is going to show that they are much more effective than using a nicotine patch, because they address the habit.

There were many instances where participants expressed their interest in finding out if e-cigarettes can be used for smoking cessation. Some participants had already recommended using them instead of traditional cigarettes for some of their patients. One participant said,

> The new alternative to cigarettes is the electronic cigarettes. We bring that up as an option, talk about a different medication, and with me, I only offer it to the ones who specifically ask.

Most participants noted that the health risks of e-cigarettes are largely unknown. However, most suggested that they could not be worse than cigarettes. Many participants mentioned that, in general, e-cigarette use does not come up in clinic visits very often; however, usually when it was mentioned, the conversation was about using them to quit smoking traditional cigarettes.

Marijuana. Participants were asked about their general opinions on marijuana. Many participants indicated that they believed that it was mostly young people who are using this drug and that marijuana is a gateway drug to other illicit drugs. Participants spent most of the time discussing the various health risks that are associated with marijuana use. Many were concerned with the adolescent health risks of its use, and many considered marijuana to have the same health risks as cigarettes and other combustible tobacco products. One participant said,

> I honestly think that the health risks are the same as smoking cigarettes because it's the smoking—it's the burning of the lungs—that's actually the problem. It's not the nicotine in the cigarettes that's causing harm. It's the actual smoke and the inhalation of the smoke . . . and I don't think that those side effects of marijuana have been studied or have

> been researched enough because everybody seems to think that marijuana is safe.

In addition, many participants noted that the effects of marijuana use may be worse and more prevalent in habitual smokers when compared to those who smoke only occasionally. Moreover, participants had mixed reviews on the addictive properties of marijuana. Some believed that marijuana was very addictive and that patients are in denial about its addictiveness, while others believed that it was not as addictive or as dangerous as traditional cigarettes.

Clinic-based practices

Participants were asked various questions about their clinic-based practices in regards to tobacco use. Little, if any, differences in clinic-based practices were reported across provider settings. Most participants noted that they inquire about tobacco products during the intake process, but they typically do not ask about specific tobacco products. If they see a patient more frequently than once a year, they may not ask about tobacco at every visit.

When asked about the tools that they offer their patients to help quit smoking, the strategies most frequently mentioned were brochures, brief counseling, the Quit Line and pharmacotherapy (including nicotine replacement therapy and prescription medication). However, most reported that these strategies were largely applied only to cigarette users rather than alternative tobacco users and that, even among cigarette smokers, these strategies were not regularly offered. One participant said,

> We have various options, which start from directing them to the Georgia Quit Line, tobacco quit line, which has a lot of resources and information, and then we also offer them over the counter products, which are numerous. Then, of course, there's prescription medications. . . .

Participants described varying follow-up practices. Most said that they would follow-up with a patient at their next visit. However, a few participants offer some more insight into this process.

In regards to marijuana, most participants indicated that they assess marijuana during their routine questionnaire about drug use. They believed that many patients do not report marijuana use, even when explicitly asked. Some participants noted that those patients that do report use indicate using it recreationally or for relaxation, pain management and other medicinal purposes. Thus, offering assistance is a challenge. Several also mentioned that compounding the issue is a lack of clarity about what assistance could be provided and in what circumstances this type of assistance is appropriate.

Perceived areas for needed research and information

Participants' responses to the additional research on alternative tobacco products and marijuana that is needed included health risks/effects, addictiveness and effects on adolescents. One participant said,

> What would be really helpful I think for providers, for me as a provider, and I think for a lot of my colleagues, would be like a little grid that would give you cancer risks, cardiovascular risks, addiction risks, and other health risks, and the list of products going across.

Many participants noted a need for research regarding the potential of e-cigarettes to serve as a cessation or harm reduction aid for cigarette smokers. One participant noted,

> I'm actually waiting for the data to come out about e-cigarettes. It's going to take a while to get long-term data, but I think we're going to be surprised at what we find. It seems like a safe alternative. I don't tell my patients that, but just from a physiologic standpoint it seems that, like I said, it can't be worse than cigarettes.

Discussion

This research study served to qualitatively examine healthcare providers' knowledge, beliefs and

clinic-based practices regarding traditional and alternative tobacco products as well as marijuana. In addition, this study assessed healthcare providers' perspectives on the research necessary to support clinicians. Findings indicated a lack of knowledge about these products in general, their health implications and their potential addictiveness. Most participants reported difficulty knowing how to address these products in the clinical setting due to a lack of empirical evidence to inform their discussions or clinical practice guidelines that advise them on how to address the array of products.

In the context of decreased use of cigarettes and increasing quit rates [2], the increasing popularity of the alternative tobacco products (smokeless tobacco, cigars, hookah, e-cigarettes, etc.) and marijuana, especially among young people, indicates the need to study how and why these products are being used, their health effects and their addictive properties. There has been burgeoning research in this area over the past 5 years [3, 9]; however, the research has not definitively determined the range of health effects of these products or their potential for addiction, how they interact with one another and how these products might impact cessation or abstinence. Thus, the research community has not definitely informed guidelines on how healthcare providers should assess or address the use of alternative tobacco products and marijuana. Despite the lack of conclusive research, there is a major need to provide practitioners with information or resources highlighting the state of the science regarding the health implications of these alternative tobacco products and marijuana that can facilitate their communication with patients to promote informed decision making.

Many participants believed that, because many of these products are mainly used socially or on occasion, there is a lower risk for people who use them. However, the current knowledge is not available to say whether or not this is true [16, 17]. Many respondents still perceive these products as less harmful than cigarettes, which aligns with the published literature documenting this in the general population [18, 19]. Of note, some admitted telling their patients that they would rather they smoke e-cigarettes than traditional cigarettes [16, 20]. This aligns with prior research indicating that a proportion of people who have talked with their healthcare provider about using or switching to e-cigarettes reported that their doctor recommended using them in place of cigarettes [19].

A major concern is that standard assessments of tobacco use in the clinical setting typically do not specify the range of tobacco products that are increasingly being used. As such, it is possible that patients and clinicians assume that only traditional tobacco products, particularly cigarettes, are relevant. Thus, this likely represents a missed opportunity to assess use of alternative tobacco products. However, healthcare providers in this study felt ill equipped to address the range of tobacco products, partially because of a lack of formal clinical practice guidelines to assist them in this context. Moreover, despite the increase in marijuana use in the general population, similar guidelines to address this issue have not yet been established [11].

This study has implications for research and practice. First, the research community must establish a firm empirical basis regarding the health effects of these products and their potential for addiction to inform practice. In particular, the use of e-cigarettes to promote cessation needs to be addressed to aid practitioners in discussions around this topic. In addition, interviews of healthcare providers should be conducted in other settings to gauge the varying knowledge and attitudes of providers outside of Georgia and the southeast region of the United States. It would be interesting to see the opinions of providers in the states and regions where marijuana has differing levels of legalization and decriminalization. It would also be an asset if more nurses, physician's assistants and other allied health providers are included in future studies as they may spend more time with patients counseling them on preventive health practices.

Limitations

Study limitations include a lack of generalizability, but the study itself can be applied to similar populations. Qualitative studies are not meant to be generalizable to similar populations; however, they do have transferability. The second limitation is that

this study only had a sample size of 20 people, which is small due to the nature of the population being hard to reach mainly due to lack of time. However, our research did reach the point of saturation.

Conclusions

This study provides a good foundation for further investigating how the use of alternative tobacco products and marijuana is being addressed in the healthcare setting. The findings suggest that there is a lack of knowledge about these products and sparse credible resources highlighting the health risks or potential for addiction of these products. Moreover, the potential of these products, particularly e-cigarettes, to aid in harm reduction or cessation of traditional cigarettes should be examined within the context of robust randomized controlled trials. More research is needed to give the healthcare providers the tools to make informed decisions about assessing and intervening on patients' use of various tobacco products and marijuana. In the meantime, providers need resources to aid them in articulating the existing research within the context of the clinical encounter.

Acknowledgements

The authors acknowledge and thank the Cancer Coalition of South Georgia for their collaboration on this research and Matchless Transcription for transcribing the interviews.

Funding

Supported by the National Center for Advancing Translational Sciences of the National Institutes of Health under Award Number UL1TR000454. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Conflict of interest statement

None declared.

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