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Healthcare Provider Beliefs on Knowledge, Attitudes, and Clinic-based Practices Regarding Traditional and Emerging Diverse Tobacco Products and Marijuana: A Qualitative Study of Primary Care Healthcare Providers in Georgia

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Emory University
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Thesis Committee Chair: Carla Berg, PhD

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Abstract

Healthcare Provider Beliefs on Knowledge, Attitudes, and Clinic-based Practices Regarding Traditional and Emerging Diverse Tobacco Products and Marijuana: A Qualitative Study of Primary Care Healthcare Providers in Georgia

By: Ta Misha Symone' Bascombe

This qualitative study explored beliefs on knowledge, attitudes, and clinic-based practices regarding traditional and emerging diverse tobacco products and marijuana among rural and urban Georgia healthcare providers in the primary care setting. These tobacco products included cigars and cigar-like products, smokeless tobacco, hookah, and electronic cigarettes. Cigarette smoking contributes to thousands of deaths every year in the United States, but their use has been steadily declining over that few decades. However, there has been a significant rise in the purchasing and using of emerging tobacco products and marijuana. There have been very few studies done on the knowledge and attitudes of healthcare providers regarding alternative tobacco products, marijuana, and their use. Examining knowledge and perceptions about these emerging tobacco products from healthcare providers is the first step in addressing the impact of these newly integrated products socially, economically, and medically. This study was composed of 20 semi-structured interviews with healthcare providers in primary care settings located in urban and suburban Atlanta and southern Georgia. The Health Belief Model and Clinician-Patient Communication Framework provided basis for developing questions, thematic analysis, and the public health implications of emerging tobacco products and assessing their use and effects in the primary care setting. Results showed that there is not only a lack of knowledge about these products, but some believe that some of these products can be used in cessation efforts towards cigarette smoking. In addition, providers do not ask specific questions about tobacco products used and many times are not addressing their use during clinic visits; however, there is a definite need for additional research on emerging tobacco products to give the providers the tools to give sound advice for their patients. Overall, this study and its findings will inform future research into emerging tobacco products and marijuana, their health effects, and the implications for the healthcare community.

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Ta Misha Symone' Bascombe, MPH

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Chapter I

Introduction

Problem Definition & Justification

One in five deaths every year are caused by cigarette smoking (Centers for Disease Control and Prevention, 2014b). Tobacco is a risk factor for heart disease, diabetes, cancer, stroke, and other chronic ailments (Centers for Disease Control and Prevention, 2014b). Ninety percent of all lung cancers are caused by smoking as well as 80% of all cases of Chronic Obstructive Pulmonary Disease (COPD) (Centers for Disease Control and Prevention, 2014b). It has been known for many years the terrible effects of cigarette smoking, and the public health arena has efficiently decreased smoking across the nation ((Boonn & Kids, 2013). However, in the past decade, there has been a rise in availability and use of new tobacco products, whether they come from traditions of other cultures or newly crafted nicotine delivery systems (McGill, 2013). The effects of these products have yet to be seen.

Recently, alternative tobacco products such as cigars, smokeless tobacco, hookah, and electronic cigarettes have been gaining popularity in the United States (Knishkowy & Amitai, 2005; R. McMillen, Maduka, & Winickoff, 2012). There are three major types of cigars in the United States: large cigars, cigarillos, and little cigars. Large cigars contain over 15 grams of tobacco, while cigarillos have no filter and contain about 3 grams of tobacco. Little cigars are about the size of a cigarette, usually contain a filter, and hold about 1 gram of tobacco (Centers for Disease Control and Prevention, 2013). While cigarette use has decline in the past 14 years, cigar use has actually increased by 124% among adults and adolescents (Boonn & Kids, 2013). Cigar smoking is a risk factor for COPD, gum disease, tooth loss, and various cancers (Centers

for Disease Control and Prevention, 2013). Focusing only on cigarettes in tobacco control is no longer an option.

Smokeless tobacco is mostly a chewing tobacco that can come in many forms including chew, snus, snuff, and dissolvable tobacco products. Snuff can be put into the mouth, sniffed or inhaled. Contrary to popular belief, they are also not a good substitute for cigarette smoking (Centers for Disease Control and Prevention, 2014e). Smokeless tobacco use has steadily increased in use from 2000 especially among young adult Caucasian and Native American males (Centers for Disease Control and Prevention, 2014c). This type of tobacco product can cause mouth and esophageal cancers, nicotine addiction, other diseases of the mouth, and nicotine poisoning in children (Centers for Disease Control and Prevention, 2014d).

Hookah, created in ancient Persia and India, involves utilizing a water-pipe to smoke a special tobacco by indirectly heating the tobacco through burning charcoal (Association, 2007). Hookah has similar health risks to cigarette smoking; however, public perceptions have shown that people believe that it is less harmful (Association, 2007; Knishkowy & Amitai, 2005). There is insufficient data on the prevalence of hookah use across the United States; however, a few studies have shown that there is an increase in hookah use among college-aged young adults (Association, 2007).

Electronic cigarettes (Electronic Nicotine Delivery Systems, ENDS) are products that do not burn tobacco leaves, but instead vaporize nicotine as well as other agents involved in the ENDS solution (World Health Organization, 2014). The health effects of electronic cigarettes are still unknown; however, there is currently research being developed on these products. However, their popularity has doubled in recent years, posing a potential new health risk in tobacco users (McGill, 2013).

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 (Substance Abuse and Mental Health Services Administration, 2014). Marijuana, also known as cannabis, is one of the most popular recreational drugs in the United States, with over 19 million people being current users (Substance Abuse and Mental Health Services Administration, 2014). 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 during and after pregnancy with the development of the child (National Institute on Drug Abuse, 2015). In addition, it can also increase cancer risk, cause loss of coordination, and increase issues with memory, learning, and problem-solving (Substance Abuse and Mental Health Services Administration, 2014). Due to the large amount of people who are using marijuana and with the substance becoming legal across the country, there may be an opportunity to study this product along with tobacco because it has similar health effects and similar popularity among the population.

There have been very few studies done on the knowledge and attitudes of healthcare providers regarding alternative tobacco products and their use. Healthcare providers play a crucial role in behavior change, especially in quitting tobacco use (Centers for Disease Control and Prevention, 2014a). With a number of other important health issues that may arise with patients including infectious and chronic diseases, alternative tobacco use may not be as important—not because of the lack of health risk, but because there is not enough information given to them on the aforementioned tobacco products. Smokers often say that advice from their healthcare provider is an important part of their motivation to quit (Centers for Disease Control and Prevention, 2014a). As such, examining knowledge and perceptions about these alternative

tobacco products from healthcare providers is the first step in addressing the impact of these newly integrated products socially, economically, and medically. Moreover, it is important to consider the context of substance use in the population; marijuana is a particularly relevant given the high rate of concurrent use, potentially using similar devices or materials alongside tobacco (Centers for Disease Control and Prevention, 2013).

Theoretical Framework

This study utilized two theories that worked together to inform the purpose and specific aims. The Health Belief Model provides insight into why healthcare providers take action in preventing, screening, and controlling tobacco use (and potentially marijuana use) in their patients. The Clinician-Patient Communications Framework provides insight on how healthcare providers can disseminate their knowledge and beliefs to their patient to modify behavior. Since this study involves knowledge and attitudes primarily towards tobacco products and how healthcare providers translate this into their practice, both theories are needed.

The Health Belief Model

The Health Belief Model (HBM) is a theory developed by social psychologists in the 1950s to explain why people were not participating in programs to prevent and detect disease (Glanz, Rimer, & Viswanath, 2008). HBM helps to predict why people will take action to prevent, screen for, or control illnesses (Glanz et al., 2008). HBM shows that people will take action regarding their health if they believe they are susceptible to a disease (perceived susceptibility), if they believe the disease has dire consequences (perceived severity), if they believe there is a way to prevent the disease (perceived benefits), if they see the benefits of taking action outweigh the costs (perceived barriers), if there are strategies that can prepare them for action (cue to action), and if they have the confidence to take that action (self-efficacy) (Glanz et al., 2008). All of these

constructs come together to hopefully modify an individual's behavior for the better. Table 1 shows the six main constructs that inform HBM. All of these constructs are essential to informing healthcare providers about information regarding alternative tobacco products so that they are able to make decisions and recommendations for their patients (Glanz et al., 2008) By having the providers intervene in HBM specifically around perceived susceptibility, it may help the patient better understand the threats and risks to their health. Detailing the negative effects of tobacco use in any way will allow the patient to see the perceived threat in a new way. Therefore, allowing the patient to take cues to action in making better decisions for their health.

Table 1. Key Concepts and Definitions of the Health Belief Model

Concept	Definition	Application
Perceived Susceptibility	Belief about the chances of experiencing a risk or getting a condition or disease	Define population(s) at risk, risk levels; Personalize risk based on a person's characteristics or behavior; Make perceived susceptibility more consistent with individual's actual risk
Perceived Severity	Belief about how serious a condition and its sequelae are	Specify consequences of risks and conditions
Perceived Benefits	Belief in efficacy of the advised action to reduce risk or seriousness of impact	Define action to take: how, where, when; clarify the positive effects to be expected
Perceived Barriers	Belief about the tangible and psychological costs of the advised action	Identify and reduce perceived barriers through reassurance, correction of misinformation, incentives, assistance
Cues to Action	Strategies to activate "readiness"	Provide how-to information, promote awareness, use appropriate reminder systems
Self-Efficacy	Confidence in one's ability to take action	Provide training and guidance in performing recommended action; Use progressive goal setting; Give verbal reinforcement; Demonstrate desired behaviors; Reduce anxiety

(Glanz et al., 2008)

Clinician-Patient Communication Framework

Clinician-patient communications can affect health outcomes. This concept has been studied for years with many studies published about it. However, this concept is not well understood because there are so many factors (cognitive, behavioral, cultural, economic, etc.) that can moderate or mediate the pathways between communication and health outcomes (Glanz et al., 2008). Clinician-patient communication can help a patient understand how to follow medical regimens or this type of communication can effect motivational and cognitive processes related to health behaviors such as smoking (Glanz et al., 2008). Harnessing this framework is an essential part in relaying important information regarding emerging tobacco products to people most at risk of adverse side effects from tobacco. Communication Functions include information exchange, responding to emotions, managing uncertainty, fostering relationships, making decisions, and enabling self-management. Health Outcomes include survival, cure/remission, less suffering, emotional well-being, pain control, functional ability, and vitality. There are two pathways between communication and health outcomes: Direct and Indirect. The direct path leads from the Communication Functions directly to the Health Outcomes. The indirect path involves Communication Functions leading to Proximal Outcomes then to Intermediate Outcomes and then finally to Health Outcomes (Glanz et al., 2008). Proximal Outcomes involve understanding, satisfaction, clinician-patient agreement, trust, feeling "known", patient feels involved, and rapport. Intermediate Outcomes involve access to care, quality medical decision, commitment to treatment, trust in system, social support, self-care skills, and emotional management (Glanz et al., 2008). Most likely, the indirect path works best with this study. This theory will allow the study to illuminate what is being communicated between patient and provider in regards to alternative tobacco products.

Purpose and Research Questions

The purpose of this study was to qualitatively explore knowledge, attitudes, and practices associated with traditional and emerging tobacco products among healthcare providers. Specifically, we examined these constructs in relation to cigarettes, cigars, smokeless tobacco, hookah, and e-cigarettes. With the rising prevalence of alternative tobacco product use, it is imperative that some form of caution is practiced regarding the potential health risks of using these products. Moreover, given the increase in marijuana use particularly among tobacco users, understanding healthcare providers' knowledge, attitudes, and practices around assessing and intervening on marijuana use is critical. In addition, knowing to what extent healthcare providers are knowledgeable about these products can inform strategies for research, interventions, and cessation programs. It is a chance for public health to integrate preventative health tactics at the primary care level. Little is known on the knowledge and views of healthcare providers on tobacco products and marijuana, so this study aims to illuminate some of these attitudes and practices with hopes of informing future studies and interventions related to the topic.

The specific aims of this study were to:

1. Assess knowledge about and attitudes toward traditional and emerging tobacco products and marijuana among healthcare providers in diverse primary care settings in Georgia.
2. Assess clinic-based practices related to traditional and emerging tobacco products and marijuana among these healthcare providers.
3. Assess providers' perceived needs for research/information regarding the diverse range of tobacco products and marijuana to inform clinical practice.

Chapter II

Review of the Literature

Introduction

There are many tobacco products currently on the market around the world. These products include, but are not limited to, cigarettes, cigars, smokeless tobacco, hookah, and electronic cigarettes. Currently, cigarettes, cigarette tobacco, roll-your-own tobacco, and smokeless tobacco are the only products regulated by the Food and Drug Administration (FDA). There is much research done on the effects of cigarettes because they have been around for a lot longer; however, some of the other tobacco products are just gaining popularity and mainstream media attention(R. McMillen et al., 2012). Very little information and very few studies have specifically researched the aforementioned products, their effects, and attitudes towards them. There is even less information on perceptions of tobacco products by the general population and healthcare providers(Pepper, McRee, & Gilkey, 2014; Talley et al., 2011). This review of the literature serves to summarize what little information there is on knowledge, attitudes, and clinic-based practices of healthcare providers towards traditional and emerging tobacco products.

Effects of Various Tobacco Products

Emerging tobacco products in this United States have some unknown long-term and short-term effects on people because of the lack of research that has been done so far. The use is not only increasing in prevalence, but is also becoming more popular in young adults (R. McMillen et al., 2012; Tomar, 2003). The products are currently not regulated by the Food and Drug Administration (FDA), which may cause nicotine dependence in nonsmokers, and may cause continued dependence in smokers (R. McMillen et al., 2012). It would be important to know the

effects of these alternative tobacco products to continuously assess the health risks for users; however, very few studies have focused on specific questions about each product.

Several studies have indicated that there has been an increased use of cigars (including large cigars, cigarillos, and little cigars) in recent years (Kozlowski, Dollar, & Giovino, 2008; Richardson, Rath, Ganz, Xiao, & Vallone, 2013). Furthermore, there is very little data monitoring the sales of different types and sizes for cigars thus leaving the research communities in the dark about levels of usage per type of cigar (Kozlowski et al., 2008). Not only is there little data on the types of cigars on the rise, it is also gaining popularity among current smokers as well. About 12.5% of cigarette smokers also smoke cigars (Richardson et al., 2013). These "dual users" are more likely to be male, African American, and be young adults (ages 18-29) (Richardson et al., 2013). Richardson et al. also suggests that, with the rising limitations on cigarettes, cigar use may increase and should be monitored not only for usage, but also the effects of the product (Richardson et al., 2013).

Smokeless tobacco including chew, snus, snuff, and dissolvables is another product category that has been increasing popularity among young adults across the globe. Several studies have indicated that the prevalence of smokeless tobacco is also increasing among current smokers (R. McMillen et al., 2012; Tomar, 2003, 2007). Tomar (2007) suggests that snuff has been tried as a partial substitution for cigarette smoking, but there have not been any seen benefits of this (Tomar, 2007). In addition, various smokeless tobacco products have been said to have lower risks of mortality and morbidity than cigarette smoking, which suggests that it could be used for cessation; however, this has not proven to be effective and it has not been shown the effects of the actual smokeless tobacco product (Tomar, 2007).

In recent years, hookah or water-pipe smoking has also been gaining popularity especially around colleges and universities around the United States (Knishkowy & Amitai, 2005; Smith et al., 2011). In California, hookah use has increased more than 40% among college aged young people, Caucasians, and cigarette smokers (Smith et al., 2011). In addition, hookah brings it's own unfamiliar health effect. While water-pipe smoking has been around for hundreds of years in Africa, Europe and Asia, it is a fairly new product in the U.S. Knishkowy et al. (2005) showed that tobacco composition is not standardized; thus, creating issues on how to best study the ingredients and effects of hookah tobacco (Knishkowy & Amitai, 2005). However, it has been shown that health effects from smoking hookah are similar to cigarettes, but other risks include infectious diseases from sharing the pipe and the addition of alcohol or other drugs added to the tobacco (Knishkowy & Amitai, 2005).

Electronic cigarettes have been perceived to be better and less harmful than cigarettes (Etter, 2010; R. C. McMillen, Gottlieb, Shaefer, Winickoff, & Klein, 2014; Pearson, Richardson, Niaura, Vallone, & Abrams, 2012). Once again, they are becoming more prevalent among young adults and current cigarette smokers (Etter, 2010; R. C. McMillen et al., 2014; Pearson et al., 2012). Many have used it as a tool to quit smoking cigarettes (Etter, 2010); however, the effects of electronic cigarettes are still unknown (Pearson et al., 2012). McMillen et al. (2014) also notes that a third of electronic cigarette users surveyed are nonusers which shows that it is possible that nicotine addition can be an effect of e-cigarette use (R. C. McMillen et al., 2014).

There has also been an increase in marijuana use, particularly among users of many different tobacco products (Substance Abuse and Mental Health Services Administration, 2014). Marijuana has also been gaining popularity among young adult populations with over 19% indicating that they use the substance (Substance Abuse and Mental Health Services

Administration, 2014). As noted before, there are significant health effects that come with smoking marijuana including increased heart rate, negative effects on brain development, respiratory issues, and impaired cognition (National Institute on Drug Abuse, 2015). Studies have shown that symptoms associated with asthma and chronic obstructive pulmonary disease (COPD) such as coughing, wheezing, and sputum production actually decreases when people stop using marijuana (Hancox, Shin, Gray, Poulton, & Sears, 2015; Taylor, Poulton, Moffitt, Ramankutty, & Sears, 2000). The health effects of marijuana have been known for many years; however, it is interesting to look at attitudes of healthcare providers towards this product in conjunction with alternative tobacco products.

Tobacco Users and Non-Users' Attitudes Toward Tobacco Products

There have been a small number of studies completed on the perceptions and attitudes of tobacco. Peoples' beliefs about smoking and tobacco products are an important part of delineating how they will or will now use the products. Studies have shown that current tobacco users perceive alternative tobacco products such as cigars, electronic cigarettes, smokeless tobacco, and hookah as less harmful and can be used in risk reduction strategies or in cessation efforts(Haddock, Lando, Klesges, Peterson, & Scarinci, 2004; O'Connor et al., 2007). Haddock et al (2004) also suggested that attitudes and practices towards tobacco use behavior could be impacted by beliefs about risk-reduction benefits utilizing alternative tobacco products, showing that the public health field can have significant influence on behavior change if information on these other tobacco products is available (Haddock et al., 2004). Wray et al. (2012) also explains that young adults are aware of many of the tobacco products on the market and believe they are acceptable alternatives to smoking cigarettes; however, they are unaware of the health risks related to these products (Wray, Jupka, Berman, Zellin, & Vijaykumar, 2012). This suggests that

there is a significant need to study these products and the health risks and attitudes associated with them to better inform the public and the research community.

Healthcare providers' attitudes toward tobacco products

People seek out their healthcare provider for their expert opinion and medical knowledge on various health issues including tobacco use. There have not been many studies done on their attitudes and knowledge about alternative and emerging tobacco use, products and how they address these issues in their clinics. Even fewer studies have been conducted in the southeastern region of the United States, and extremely little has been done to examine these phenomenon related to marijuana among general practitioners. It is imperative that healthcare providers are knowledgeable about all tobacco products and substances such as marijuana that are commonly used with tobacco in order to inform their effects to efficiently and effectively make recommendations to their patients(Centers for Disease Control and Prevention, 2014a). A few studies have shown that healthcare providers would like to learn more about tobacco products that are currently on the market (Borrelli & Novak, 2007; Pepper et al., 2014). Borrelli et al. (2007) showed that, while some providers maybe familiar with products on a basic level, there are still gaps in knowledge about certain products. For example, some providers believed that light or ultra light cigarettes are less dangerous and some even would recommend patients smoke these instead on regular cigarettes (Borrelli & Novak, 2007). It is important that all providers are receiving up to date information on these products because their attitudes effect what they will recommend their patients.

Few studies have looked at attitudes of primary care providers in the southern United States. The prevalence of smokeless tobacco is higher in the south; however, providers did not ask their patients specifically about it during their clinic visits (Talley et al., 2011; Talley, Rushing, &

Gee, 2014). Doctors are concerned and bothered by the health risks of tobacco use, but their may be some knowledge barriers on implementing recommendations (Applegate, Sheffer, Crews, Payne, & Smith, 2008; Talley et al., 2011; Talley et al., 2014). It is important that the education regarding tobacco use reaches healthcare providers to help decrease the negative health risks for smokers (Applegate et al., 2008; Noonan & Kulbok, 2009; Talley et al., 2011; Talley et al., 2014; Weglicki, 2008). Doctors seem to be in agreement that tobacco use is bad for you, but the extent to which there is a negative health effect from alternative tobacco products is unknown (Applegate et al., 2008; R. C. McMillen et al., 2014; Pepper et al., 2014). Despite less liberal policies regarding marijuana in the Southern U.S., marijuana use prevalence is high(Substance Abuse and Mental Health Services Administration, 2014), so it is critical to examine practitioners' knowledge,, attitudes, and clinical practices with respect to marijuana as well.

Conclusion

Over the course of this literature review, it is demonstrated that there are major gaps in research regarding healthcare providers' perspectives on tobacco products such as cigars, smokeless tobacco, hookah, and electronic cigarettes. Moreover, a major gap exist similarly in relation to marijuana use among general practitioners. This knowledge gap about these products puts the public health community at a disadvantage. Instead of being proactive regarding unregulated tobacco products or marijuana, the response will be reactive to the health effects that may arise from using cigars, smokeless tobacco, hookah, electronic cigarettes, and marijuana. Effective preventative care is key to helping to solve the problem, if there is one, with these emerging tobacco products.

In addition, there is a severe deficit in research regarding people and healthcare providers' attitudes and knowledge towards these products. Many providers do not know much about these

products, which can hinder the types of recommendations they are making to their patients. By adequately assessing knowledge and attitudes of healthcare providers towards alternative tobacco products and marijuana, proper education tools and interventions can be created to address the use of these products. The results of this literature review show that the purpose of this study is sound and needed to fill the gap in research. The purpose of this study is to:

1. Assess knowledge about and attitudes toward traditional and emerging tobacco products and marijuana among healthcare providers in diverse primary care settings in Georgia.
2. Assess clinic-based practices related to traditional and emerging tobacco products and marijuana among these healthcare providers.
3. Assess providers' perceived needs for research/information regarding the diverse range of tobacco products and marijuana to inform clinical practice.

The results will be used to inform future research regarding various tobacco products and healthcare providers.

Chapter III

Methodology

Introduction and Research Design

This was a qualitative research study that addressed the knowledge, attitudes towards, and clinic-based practices related to traditional and emerging tobacco products among rural and urban Georgia healthcare providers. Data from the study were collected from 20 individual, semi-structured interviews from South Georgia and Atlanta healthcare providers. Emory University's Institutional Review Board approved this study.

Participants and Sampling

A total of 20 healthcare providers were recruited from the Atlanta Metropolitan area and South Georgia. The types of providers included primary care practitioners, family medicine physicians, gynecologists, internal medicine physicians, physician assistants, and nurses. Participants were selected using convenience and purposive sampling techniques due to the nature of the population being hard-to-reach. The South Georgia providers were recruited through contacting, by telephone, various clinics and practices in the 32 county area engaged by the Cancer Coalition of South Georgia. A list was compiled of those willing and not willing to participate in the study. Some reasons for not participating include lack of time, feelings of not knowing much on the topic, and this issue not arising in their professional lives often. The rural providers were doctors, nurses, and physician's assistants with specialty areas ranging from public health to family medicine. A list of Atlanta area 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 that had published emails. The final list included 61 providers in the Atlanta Metropolitan area. An initial email was sent out to the providers and those that responded positively were screened for eligibility and, if eligible, scheduled for an interview. To be eligible to participate, individuals had to (1) be a physician, physician assistant, or nurse in the primary care setting, (2) practice in the Atlanta Metropolitan area or the 32 county service area of the Cancer Coalition of South Georgia, and (3) provide informed consent. The response rate was 33.9%.

Data Collection and Measures

The interviews were conducted via face-to-face in a private and quiet location or via a telephone-based for the healthcare providers. Interviews took no more than 30 minutes each. Participants were told the general purpose of the study without revealing specifics. Consent forms were collected in-person or via oral consent, prior to the interview, depending on the mode of data collection. If it was a telephone-based interview, a consent form for the participant's records was emailed to them after the completion of the interview. The semi-structured interview was then conducted with the provider. Participants were debriefed, thanked, and excused following the completion of the interview.

An interview guide was used during the semi-structured interviews. The interview began with a general question about sociodemographics, education, and work as a healthcare provider. The semi-structured interview guide covered clinic-based tobacco cessation practices and knowledge about traditional and emerging tobacco products including cigarettes, cigars and cigar-like products, smokeless tobacco, hookah, and electronic cigarettes. Providers were also asked questions on knowledge and attitudes about marijuana. Some questions on knowledge and attitudes included, "What are the health risks of electronic cigarettes?" and "What is your

opinion of hookah?" Questions referring to clinic-based practices included "What do you offer patients to aid them in quitting tobacco?" and "When and how do you follow-up with your patients after they indicated they want to quit?" Questions referring to needed research included "What are your concerns about marijuana and alternative tobacco products?" and "What questions do you think the research communities need to address in terms of alternative tobacco products and marijuana?" The interview ended with general wrap-up questions and demographic information. All questions had a set of probes to draw out additional information on the specific topic. All interviews were recorded (except for one) and the recording was uploaded to a secure, password-protected computer. All audio recordings were transcribed verbatim by a contracted professional transcription service and transcriptions were also stored on a secure, password-protected computer.

Confidentiality was protected at all times and potential risks minimized systematically. Study participants were assigned a permanent unique study ID number upon enrollment, which will be the only identifier associated with any of the survey data once recorded. A key linking personal identifying information (name and email) with study ID number was kept in a separate encrypted data file and stored only on central severs (i.e. not on personal computers that are vulnerable to theft) in the study's data coordinating center in the Emory University Rollins School of Public Health. This file was accessed only on an as needed basis for the conduct of the study. Physical security of the data center's servers and files is maintained with double-locked keyed doors during all hours. Only authorized persons are allowed access. Identifying information was kept in a secured folder in encrypted version for the duration of the study data management purposes. Once the study was completed, the identifiers were no longer needed and were deleted from the data sets. The audio recordings from the semi-structured interviews were used to ensure quality

of transcriptions. Once the study is complete the recordings will be destroyed. Other identifying information was kept only as long as they were needed—specifically, the information will not be kept longer than two years post study completion.

Data Analysis

Quantitative data was entered into SPSS. Descriptive analyses were performed on the data and frequency tables as well as mean and standard deviation were generated. Qualitative data (per the interviews) were analyzed using MaxQDA (VERBI GmbH), a Qualitative data analysis tool. It was used for text coding to facilitate organization, retrieval, and systematic comparison of data. Three randomly selected interview transcripts were used to generate preliminary codes using deductive and inductive coding methods. Deductive codes represented themes from previously determined objectives of the study. Inductive codes represented unique topics that arose during the interview that came from the participant. The interview guide was also used in deductive coding to assist in generating a preliminary list of codes. All codes were compiled and developed into a codebook for analysis. The transcriptions from each interview (n=20) 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 interview and interesting quotes were extracted to be used in the study results. Responses and themes were compared and contrasted across healthcare providers and evaluated in order to synthesize feedback.

Chapter IV

Results

Study Participants

A total of 20 healthcare providers across Georgia participated in this study. Participants were an average of 45.25 (SD=9.79) years old and, on average had, 15.93 (SD=8.96) years of experience. Thirteen participants (65.0%) identified as female while the other seven identified as male (35.0%). Twelve participants (60.0%) identified as White/Caucasian, five participants (25.0%) identified as Black/African American, two participants (10.0%) identified as Asian American, and one participant (5.0%) identified as Hispanic/Latino. Six participants (30.0%) working in rural area hospitals while the other fourteen participants (70.0%) worked in urban hospitals and clinics. Participants included fifteen physicians (75.0%), three nurses (15.0%), and two physician assistants (10.0%). 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 Attitudes

Participants were asked what they think of when someone mentioned tobacco products. Almost every person mentioned three products: cigarettes, chewing tobacco, and cigars. Very few participants mentioned hookah, electronic cigarettes, or any other form of tobacco.

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. Participants noted that they treat cigars like they treat all type of tobacco products and discourage their patients from using them. One participant said,

> "So, in my approach to my patients, I consider all tobacco products to have negative health implications. I think it's dangerous honestly to suggest to a teenager that one is somewhat better than the other."

Some participants believe that the popularity of cigars is on the rise, especially among women:

> "Cigars and cigar-like products are actually becoming more common, I believe. Definitely more common among women. In my career, women didn't used to smoke any types of cigars, but I have a lot of folks who don't consider themselves smokers but they do smoke cigars."

When asked about health risks, participants noted that there may be a lower risk than cigarettes and that cigars have a strong association with alcohol consumption, which brings about its own set of health problems. In regards to lower health risks for cigars than for cigarettes, one participant said,

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

In regards to cigars and drinking, another participant said,

> "I've had a few here and there that say, you know, they just smoke Black and Milds, and usually that seems to be associated with drinking as well."

Most participants thought that there was addiction potential for cigar users. However, it may take longer for people to get addicted since they may not be inhaling or they aren't using these products as frequently as cigarettes. On this subject matter, 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."

Participants noted that they inquire about tobacco products during the intake process, but sometimes 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 asking patients about their thought on cigars, one participant said,

> "…the patients feel like that's not really a smoking product. They don't consider it as dangerous as cigarettes, but I don't know much about cigars."

Smokeless Tobacco

Participants were asked about their general opinions on smokeless tobacco products, such as chew and snus, in addition to health risks, addiction, and interactions with their patients about the products. 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, again, 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, participants mentioned that their patients tend to not think they are at risk for health complications because they aren't inhaling the tobacco. One participant mentioned that,

> "…because a lot of people who do those forms of tobacco, they don't think that they're at risk. They think its only the cigarette smoke, or the cigar smoke, but there are risks to both. Yeah, you may not develop respiratory problems from chewing, but you may get the oral cancers. I think that needs to be market more especially in the Deep South where chewing tobacco is just like smoking a cigarette."

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. One participant noted some experience interacting with those addicted to smokeless tobacco:

> "I definitely know it's pretty addictive stuff as well. I've seen working men that get jittery and so forth and feel like they have to have it during their work. They go through withdrawals if they don't have it, so it's definitely a nicotine delivery system that people get addicted to…"

Many providers noted that they don't always ask about specific products unless the patient offers that information or there a clear health effects from using a particular product. One participant said in regards to chew and snus,

> "I don't ask specific either one or the other, but I ask about chewing tobacco. But then I usually ask those things when someone has a problem with their mouth or there's a lesion in the mouth."

Hookah

Participants were asked about their general opinions on hookah in addition to health risks, addiction, and interactions with their patients about the products. While some participants mentioned hookah being apart 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 addiction potentials of hookah. However, despite the lack of knowledge, some providers took on the stance that it doesn't matter what is being smoked because it is all bad for a person. One participant said,

> "I think I don't know that much, but my assumption is that inhaling tobacco is not good for you regardless, you know? We know that cigarettes are not healthy for you, and it took us however many years, 30, 40 years to figure that out."

Another participant has even tried hookah, but admits that they are completely 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. I mean 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."

In the same fashion, despite little knowledge about hookah, providers seemed to think that there was still addiction potential. One participant noted,

> "I mean, if it's tobacco and it's inhaled, it's probably got addictive potential. I mean, it's probably a continuum there….but I don't know if it's got as much issues as regular cigarettes or smoking.

Although hookah is not brought up in clinic visits often, participants noted that patients would bring it up when asked about different types of tobacco they smoke. As one participant describes, the patients usually say they have used it in a social setting: "…sometimes they'll just bring up the fact that they smoke hookah, but none of them smoke it regularly. It's always 'I went out on the weekend and smoked hookah', but not 'I have hookah in my house and I smoke it everyday after work or something like that."

Electronic Cigarettes

Participants were asked about their general opinions on electronic cigarettes in addition to health risks, addiction, and interactions with their patients about the products. Many participants said that they were unsure of the health effects of electronic cigarettes and some did not even know what they were. One participant said that they had seen them, but was unsure of its safety or addiction potential. In addition, they noted,

> "I know it can't be any worse than cigarettes. Whenever people bring it up, that's usually what I tell them, that we don't really know, but it probably is not worse than smoking cigars."

Many participants mentioned the utilization of electronic cigarettes to help smokers quit cigarettes. 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 electronic cigarettes can be used for cigarette cessation. Some participants already recommend using them instead of cigarettes for some of their patients. One participant said,

> "The new alternative to cigarettes like 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."

Some of their patients even mentioned that electronic cigarettes helped them avoid smoking tobacco.

Participants noted that the health risks of electronic cigarettes are largely unknown. However, they continued to mention that they couldn't be worse than cigarettes. One participant said,

> "…it's one of those things, I'm not an expert, so I know some of those vapors might contain some toxic chemicals. That's probably as much as I know in terms of that, but so yeah, there are some risks, but I mean, I think they're less than tobacco."

In addition, participants thought that there is a potential for addiction with these products. One participant said that

> "there's still nicotine depending on which type that they are [smoking] and which flavor that they use, but based on that, then I would say less addictive than cigarettes."

Participants also mentioned that, in general, electronic cigarette use does not come up in clinic visits very often, but usually when it is mentioned, it is in regards to quitting cigarettes.

Marijuana

Participants were asked about their general opinions on marijuana. Many participants noted that mostly young people are doing this drug and they think this is a gateway drug. In regards to marijuana being a gateway drug, one participant noted,

> "…the biggest risk of marijuana is associations. The fact that marijuana is linked to other drug use, smoking marijuana is linked to crime, and so based on that itself, it carries its own problems."

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. One participant said,

> "I discourage the use, I advise them to quit because I do think that there are damaging health risks to adolescents and to adolescent brains associated with marijuana use most definitely."

Still, many attributed marijuana to have the same health risks as cigarettes and other smoking tobacco products. In regards to this theme, one participant mentioned,

> "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."

This participant as well as other brought up the idea of safety and the unknown factor about marijuana. In addition, participants noted that effects may be worse and more prevalent in habitual smokers. The effects may not be as pronounced in those who only smoke this product occasionally.

Participants had mixed reviews on the addictive properties of marijuana. Some believe that it's very addictive and patients are in denial about this fact while others believe that it is not as addictive or as dangerous as cigarettes. One participant that believed that marijuana was very addictive said,

> "Well, I think marijuana is addictive. Again, there are a lot of people that split hairs about what qualifies as an addictive substance, and a lot of people think that to be addicted you have a physical dependence. Meaning that if you try to stop it there is a withdrawal. But there's lots of things that don't have these qualities and there are people addicted to it such as pornography, gambling, and video games. So when you continue to engage in a behavior despite negative consequences, that could suggest that this has become an addiction for you."

On the other hand, one participant mentioned that marijuana is not physically addicting like nicotine by saying,

> "It was not a physically addicting substance like nicotine. It's not physically addicting, but I remember being taught that it was more of a psychological concept of dependence."

Participants also mentioned that asking about marijuana comes up during their routine questionnaire about drug use. Patients rarely offer up questions or information about drug use, specifically referring to marijuana use. They noted that many patients use it for recreational use as well as relaxation, pain management, and for medicinal purposes.

Clinic Based Practices

Participants were asked various questions about their clinic-based practices in regards to tobacco use. All participants mentioned that they ask about tobacco use on a standard intake form before the wellness check-up begins. When asked about high risks groups for tobacco use,

participants mentioned teenagers, young adults, those with less education, and some went even further to say that anyone and everyone was at risk.

When asked about the tools that they offer their patients to help quit smoking, participants mentioned three main categories: brochures/counseling, medications, and the Quit Line. When asked about counseling methods, one participant said,

> "I normally counsel them, usually a one to three minute conversation encouraging them to discontinue their tobacco use."

Most participants, however, mentioned either prescribing medications, telling them about the Quit Line, or both. 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 for the ones that are not able to quit on their own and those include Wellbutrin and Chantix."

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

> "It depends. Of course, we have to first find out where the patient really is in terms of wanting to quit. If they are in a stage that is where we know they're very motivated to quit smoking, usually short interval follow up like in four to eight weeks. We continue to encourage and to gauge progress as well as side effects if we're prescribing medications."

Participants were told about the growing trend that pharmacotherapy eligibility is declining because people are increasingly becoming non-daily smokers or very light smokers. Participants

then weighed in on whether this national trend applies to them and how can society address this issue. Many participants believed that the trend should be made more aware in the medical community and in the general public. One participant said,

> "Those are the patients who are very resistant to change, because they don't see themselves as having a problem…not realizing that this has a cumulative effect. But we need to address the specific dangers when dealing with that population of occasional cigarette use and try to [get them] back to the physician here and we can work on it a lot. My follow up would be a lot different."

Participants also noted additional impacts that it might have on their clinic. One participant mentioned that they don't push cessation as much with occasional smokers saying,

> "It's not necessarily something that I aggressively am going to be pushing or adding medications for it or telling them they need medications to stop."

So, some providers believe that the issue of occasional smoking is a serious issue that needs to be addressed while others don't see it as much of an immediate issue that needs to be addressed.

In regards to marijuana, many providers indicated that they only ask about that when they inquire about drugs that their patients use and sometimes the patients won't explicitly indicate that they use marijuana even then. One provider indicated,

> "I just asked about other substances, if there were other substances being used."

So there was no specific question regarding marijuana use towards patients.

Perceived Areas for Needed Research and Information

Participants were asked about their concerns about alternative tobacco products (smokeless tobacco, cigars, electronic cigarettes, and hookah), marijuana, and the issues that they want the research communities to address about these products. The major concerns that were raised

included flavors of electronic cigarettes and hookah and the unknown addiction potential and side effects of these alternative tobacco products. In regards to the unknown consequences, one participant said,

> "I'm the type of person who doesn't like to start new medicines on my patients, because you really don't know the side effects down the road…I'm concerned about that of, I guess, the unknown."

In addition to this concern, another participant mentioned that they are concerned that

> "the electronic cigarettes are sold in convenience stores and they have flavors like candy or Piña Colada or stuff like that."

Participants' responses to the additional research that is needed can be categorized as risks, general health effects, reproductive health effects, effects on adolescents, and safety. The majority of participants mentioned the need for additional data on the overall risks that are attributed with the products especially, electronic cigarettes and hookah. One participant said, in regards to needing risk information,

> "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. I don't think there's a good knowledge base out there on the whole electronic cigarette thing. I don't think most of us are as familiar as we need to be with that."

Many participants also mentioned that they would like to know the safety of electronic cigarettes. In particular, if they would be a good alternative or cessation practice for cigarettes and cigarette smokers. One participant noted,

> "I'm actually waiting for the data to come out about e-cigarettes. It's going to take awhile 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."

General health effects of newer products were also of concern to participants. One mentioned,

> "It would be helpful to have some more information…on the health effects of definitively e-cigarettes and hookah, which are probably the newest. That would be helpful."

In regards to the reproductive health effects on women, one participant said,

> "Most of my work is in reproductive health and there are kind of clear guidances on smoking and the synergistic impacts of smoking and hormones, particularly estrogen on some health risks for women who smoke. But I do think we are missing that same body of evidence about vaping. That would be really valuable."

Lastly, participants mentioned the health effects on adolescents who use these alternative tobacco products. One participant mentioned that they would like to know "what drives teenagers that would be helpful around drugs and alcohol" because they deemed them one high-risk groups in terms of alternative tobacco use.

Chapter V

Discussion

This research study served to identify healthcare providers' knowledge about, attitudes toward, and clinic-based practices towards traditional and emerging tobacco products as well as marijuana. In addition, this study wanted to assess what the research communities need to address in regards to these products.

Knowledge and Attitudes

When examining all of the interviews, it was clear that there was a lack of knowledge about these products in general, their health implications, and their addiction potential. These healthcare providers cannot give accurate advice to their patients if they are unaware about details of these emerging tobacco products. Many of the providers knew in general what all the alternative tobacco products were; however, they did not know specifics about addiction potential, health risks, or, in some cases, how they actually worked. Still, even some providers admitted that there is less research done on these products; the research focuses mostly on cigarettes.

The increasing popularity, especially among young people, of the alternative tobacco products (smokeless tobacco, cigars, hookah, electronic cigarettes, etc.) and marijuana bodes for need to study their health effects. Richardson et al. (2013) suggests that with the rising limitations on cigarettes, cigar use may increase and should be monitored not only for usage, but also the effects of the product. This not only applies to cigars, but all the products. With cigarette use on the decline, it brings up an interesting point on what product will replace it. There have been

very little studies conducted on the health implications of these products and in order to properly assess a patient's health, providers need this information.

Many of the providers mentioned that all the products have a potential for addiction, but they are just unsure of what that is. They believe that since many of these products are only used socially or on occasion that there is a lower risk for people who use them. However, the current knowledge is not out there to say whether or not this is true (Borrelli & Novak, 2007; Pepper et al., 2014). Many still perceive that these products are less harmful than cigarettes.

One of the most interesting concepts that came up during the interviews was the idea that electronic cigarettes should be used for cessation or in place of regular cigarettes. Many acknowledge that lack of knowledge of the health effects, but some still told their patients that they would rather them smoke electronic cigarettes before a normal cigarette (Applegate et al., 2008; Borrelli & Novak, 2007). Without the knowledge and research, the impact of this suggestion is currently unknown.

There were many opinions about marijuana being addictive and causing health problems that are informed by the literature(National Institute on Drug Abuse, 2015). However, it would be interesting to see the health outcomes in states where marijuana is legalized and the opinions of healthcare providers in these regions. In addition, the fact that the providers did not actually specifically ask about marijuana could pose a problem when trying to intervene at the primary care level.

Clinic-based Practices

The standard intake form, across interviews, during a clinic visit asks if the patient smokes tobacco or not, but it does not specify the types of products that they smoke. Many providers said that they do not ask specifically what they smoke and in some cases that question is only asked

by the nurse before the patient sees the doctor. In many cases, the provider does not know which products the patient is smoking unless the patient brings up the subject. Knowing which types of products a patient smokes is needed to develop the proper treatment mechanisms. The only product that is explicitly talked about, on the standard intake form, is marijuana because that is a different question or the questions about use of marijuana are found in another section on the intake form.

Most of the providers said that they offer patients medications and the number to the Georgia Quit Line. They indicated that the will follow up with them at their next visit, but that usually is only once a year. Some additional support may be needed for some of these patients though. Only providers in the rural areas of the state mentioned that they offer counseling sessions, educational sessions, or other brochures about quitting tobacco use. In addition, these pharmacotherapy medications do not work for occasional smokers. So, for those people who use the alternative products occasionally may still be addicted and have adverse health effects because of their usage (Applegate et al., 2008; Hancox et al., 2015; R. McMillen et al., 2012). It is imperative that this growing problem is addressed.

As I mentioned before, the fact that the providers did not actually specifically ask about marijuana could pose a problem when trying to intervene at the primary care level. There could be a large population of marijuana users who need specific treatments that may not receive them because they aren't telling their doctor about their use. This is especially concerning because of the rise in the use of this substance (Substance Abuse and Mental Health Services Administration, 2014).

Perceived Needed Research

All the healthcare providers expressed the need for more information especially surrounding health risks of these emerging tobacco products that were mentioned during the study. They admitted that they have a lack of knowledge about not only the products in general, but also about their health effects. There has been little research on how these products affect someone in the short term and the long term. The providers are also concerned about how these products are marketed. They are easily accessible to the public in many convenience stores. In addition, they have different colors and flavors that appeal to any person especially the youth. The tobacco industry is capitalizing on this marketing strategy and public health professionals need to find a way to combat this with another strategy. Potential areas of future research are the addiction potential and health effects from these products in addition to an evaluation of their safety.

Strengths and Limitations

This study had many strengths. The first strength was that this topic is not highly stigmatized and easy to talk about. The participants had no problem divulging their knowledge or lack there of about the subject. In addition, participants were able to offer up many recommendations and incites into the mind of a healthcare provider on the topic of alternative tobacco products. The second strength was that qualitative studies offer great in-depth incite into any subject that cannot be captured with a survey. It offers a chance for the informants to explain their reasoning behind their answers, which in turn gives, the research a wider breadth of information to work with. Lastly, this study included participants from various regions of Georgia. There were informants from urban, suburban, and rural areas across the state. This allowed for the finding of similarities and differences across the regions.

This study had a few limitations. The first limitation is that lack of generalizability with the results, 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, meaning this research can be transferred to different populations and different contexts as well. 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 due to mainly lack of time. However, after conducting all of the interviews, it was determined that the study had reached saturation and no new information was being gleaned from the last few interviews. It was actually reinforcing the opinions that some providers had already discussed. The last limitation of this study is that many of the interviews were conducted over the phone. While this method is conducive to the busy lives of healthcare providers, something is lost when there is not a face-to-face interaction in regards to gauging the informant. For example, notes could not be taken on facial expressions and other body language cues that may have arisen. However, the participant was allowed to speak freely in a safe place.

Public Health Implications and Recommendations

This study shows that there is a definite need for additional research on alternative tobacco products outside of cigarettes. The unknown effects of these products could be putting millions of people at risk, especially with the increase in popularity of all of these products. This study can lay the foundation for strategies in research, interventions, and tobacco cessation programs. This will give the public health field a chance to develop preventative health tactics from the results of future research. It is the duty of the public health field to educate the public about the benefits or risks that come with using one or more of these products.

This study or similar studies should be conducted around the country to gauge the varying knowledge and attitudes of providers outside of Georgia and the southeast region of the United States. The culture here is very different than that of the Pacific Northwest, for example. In

addition, it would be interesting to see the opinions of providers in the states and regions where marijuana is not legal. This could offer a great incite into what they have seen in their patient populations. Also, introducing focus groups to these types of studies could offer a great dialogue between healthcare providers. It would also be an asset if more nurses, physician's assistants, and other allied health providers are included in future studies because sometimes they spend more time and interact more with the patients. Different perspectives can offer a lot to tobacco studies.

Another recommendation is to introduce longitudinal studies with people who are using these products either consistently or occasionally to monitor the health effects. The results of these types of studies could inform the healthcare community on how to address this issue and if there will be adverse health effects. Leaving the healthcare providers in the dark about the subject is not an option.

Conclusions

The participants in this study provided a good foundation for further investigation of traditional and emerging tobacco products in a healthcare setting. The findings suggest that there is a lack of knowledge about these products. There is little information available on health risks, addiction potential, and even cessation practices for these alternative tobacco products. More research needs to be done in order to give the healthcare providers the tools to make informed decisions about their patients' treatments and advice on their health. With the needed information, research studies, interventions, and marketing strategies can be developed to further address the effects of all the tobacco products on the market right now.

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Appendix A

Questions from Semi-Structured Interview Guide

To begin with, could you tell me about your position?

* First, I'd like to ask you about your interactions with your patients around tobacco use.

CLINIC-BASED PRACTICES

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? Who do you think are the high risk groups?

What is the specific question you ask about tobacco?

What tobacco products do you ask about?

What do you offer your patients to assist them in quitting tobacco use?

How and when do you follow-up with the patient regarding their cessation effort?

One thing that some healthcare providers don't know is that the number of smokers that are eligible for pharmacotherapy (nicotine replacement, zyban, etc.) is declining. A greater proportion of smokers are either very light smokers or nondaily smokers, for whom pharmacotherapy is contra-indicated.

How much do you know about this change in the smoker population?

Do you think this national trend applies to your patients?

How do you think this impacts how you address tobacco use in your clinic? Or about how you should reconsider addressing tobacco use in your practice?

What do you think is important to know to help you address this changing problem?

* Now, I'd like to ask you some questions about some different types of tobacco products.

TOBACCO PRODUCTS AND ALCOHOL USE

When you hear the words "tobacco products", what things come to mind?

Cigar Products

What do you know about cigars and cigar-like products such as little cigars and cigarillos?

Probe: What do you think about these particular tobacco products?

What do you think about their health risks compared to cigarettes?

What about their potential for addiction?

How frequently do you ask about cigar use during clinic visits?

What things, if any, make you think to ask about cigar use?

How often do patients ask you about cigars?

Probe: What do they ask? What do you tell them?

Chew or Snus
What do you know about smokeless tobacco products such as chew or snuff?
Are you familiar with the tobacco product called Snus? What do you think about it?
(Snus: Spitless, smokeless, flavored tobacco product)
What do you think about the health risks of these products compared to cigarettes?
What about their potential for addiction?
How frequently do you ask about use of chew or snus during clinic visits?
What things, if any, make you think to ask about use of these tobacco products?
How often do patients ask you about chew or snus?
Probe: What do they ask? What do you tell them?

Hookah
What do you know about hookah or smoking tobacco from a waterpipe?
What do you think about hookah or smoking tobacco from a waterpipe?
What do you think about the health risks compared to cigarettes?
What about the potential for addiction?
How frequently do you ask about hookah use during clinic visits?
What things, if any, make you think to ask about hookah use?
How often do patients ask you about hookah?
Probe: What do they ask? What do you tell them?

Electronic Cigarettes
What do you know about electronic cigarettes?
What do you think about their health risks compared to cigarettes?
What about their potential for addiction?
How frequently do you ask about e-cigarette use during clinic visits?
What things, if any, make you think to ask about e-cigarette use?
How often do patients ask you about e-cigarettes?
Probe: What do they ask? What do you tell them?

Marijuana
What do you know about marijuana?
What do you think about its health risks compared to cigarettes?
What about their potential for addiction?
How frequently do you ask about marijuana use during clinic visits?
What things, if any, make you think to ask about marijuana use?
How often do patients ask you about marijuana?
Probe: What do they ask? What do you tell them?

Information about Alternative Tobacco Products
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?

Appendix B

Copy of Informed Consent

You were selected as a possible participant because of your affiliation as a healthcare provider in the 32 county service area of the Cancer Coalition of South Georgia.

Purpose: The scientific purpose of this study is to examine knowledge about, attitudes toward, and clinic-based practices related to traditional and emerging tobacco products among rural south Georgia healthcare providers.

Study Sponsors: The study is being conducted by the Cancer Coalition of South Georgia in partnership with Emory University Rollins School of Public Health. The study is funded by Atlanta Clinical and Translational Science Institute-Community Engagement Research Program through a grant to the Cancer Coalition.

Procedures: If you agree to be in this study, we would ask for about 30 minutes of your time today to discuss this topic. We will be audio recording this discussion. The recordings will be sent to a transcriber who will type out exactly what is said. No one will hear the recordings except the researchers and transcribers involved with this project.

Confidentiality: People other than those doing the study may look at study records. Agencies that make rules and policy about how research is done have the right to review the study records. So do agencies that pay for the study. In addition to the Cancer Coalition staff who are responsible for carrying out the study, those with the right to look at your study records include the Office for Human Research Protections, the sponsor(s), the Emory Institutional Review Board, the Emory Office of Research Compliance and the Office for Clinical Research. Records can also be opened by court order. We will keep your records private to the extent allowed by law. We will do this even if outside review occurs. We will use a study number rather than your name on study records. We plan to submit the results for publication and present them at research and educational conferences. Your name and other facts that might point to you will not appear when we present this study or publish its results.

Risks/Discomforts: The study has one major risk—the loss of privacy and confidentiality of the information obtained. However, participants will be assigned a study ID number, assuring that no personal identifying information will be linked directly with the survey data. A separate key linking survey ID to personal identifying information will be encrypted and stored off-line.

Compensation: No compensation will be provided.

Withdrawal from the Study: Your participation in this study is completely voluntary and you have the right to refuse to be in this study. You can stop at any time after giving your consent. You have the right to leave a study at any time without penalty.

Appendix C

Recruitment Email Template

Dear_____,

I am a professor in the Rollins School of Public Health. We are conducting research regarding how healthcare providers communicate with their patients about the broad range of tobacco products available in the market currently. The study is funded through Atlanta Clinical and Translational Science Institute in conjunction with the Cancer Coalition of South Georgia.

We would be extremely grateful if you would be willing to spare 20-30 minutes of your time for a brief telephone-based interview. Our study team could call your office or cell phone at your convenience. Your participation is completely voluntary, and we will take all the necessary measures to ensure that the interview is confidential.

If you have any questions, please do not hesitate to contact me. Thank you in advance for your time and help!

Sincerely,

Carla J. Berg, PhD