

# Public Awareness of Oral and Pharyngeal Cancer: What Can a Dentist Do?

BY HENRIETTA LOGAN, PHD



Over the past several decades, public health researchers have become increasingly alarmed by the patterns in oral and pharyngeal cancer (OPC) incidence and mortal-

ity<sup>1-5</sup>. More and younger Caucasian men are affected; African-American men are dying at twice the rate of Caucasian men; and, the overall survival rate is showing little improvement. These trends have not gone unnoticed in Florida. In 2008, with the support of the Florida Dental Association (FDA), our research group at the University of Florida was awarded a National Institute of Health (NIH) supported Center Grant entitled the Southeast Center for Research to Reduce Disparities in Oral Health (SCRRDOH). The purpose of the initial funding to SCRRDOH was to study OPC awareness within a geographic region of Florida disproportionately high in incidence and prevalence and with relatively poor survival rates. The region for study was rural northern Florida; more than 2,800 individuals participated in this research.

Our collaboration with the FDA yielded more than 40 publications and several more are in process. In a series of brief articles, we will provide an overview of

what we found about the current state of OPC. The complete collection of articles is available under the research tab on our website at <http://take-the-bite.dental.ufl.edu/>.

At the onset, we found two myths about OPC and the public that were common among the public health community and other health professionals: (1) The public is aware and knowledgeable about OPC and its cause, and (2) Overall, the public isn't concerned about the disease, leading many individuals to make unwise decisions about how to protect themselves from OPC<sup>6</sup>. Thus, we sought to either confirm or deny the presence of these beliefs within the target communities.

## Knowledge about OPC

Our first series of studies was aimed at understanding what the public knew about OPC. In a telephone survey of 2,393 individuals residing in rural north Florida, we found that only 12 percent endorsed knowing "a lot" about OPC even though 91 percent had heard of OPC<sup>7</sup>. Higher education levels and health literacy were related to more OPC knowledge. Among women, Caucasians had more knowledge than African-Americans (OR = 1.9). Among African-American participants, men had more knowledge than females (OR = 1.7). Knowledge that excessive sun exposure is a risk factor for OPC was lower among this sample than for earlier studies using urban samples. Greater concern about OPC was associated with lower education levels, lower health literacy and lower financial status. An unanticipated finding was that those who self-report as African-American were more concerned about OPC than their Caucasian rural counterparts. Overall, we found that rural adults are increasingly aware of OPC, but actual knowledge about the disease, including signs, symptoms and risk factors, is low. It is of note that other investigators have reported rural residents are less likely to use sun protection, making the association between sun exposure and lip cancer a relevant topic for patient counseling<sup>8,9</sup>. Our findings were corroborated in a 2014 report from a national survey<sup>10</sup>. In that study, Luryi and colleagues reported that awareness of OPC may be increasing but knowledge of specific risk factors including sun exposure and human papillomavirus (HPV) is low. In their study, few people correctly identified symptoms of red or white sores that do not heal, sore throats, swelling or lumps as related to OPC.

## Awareness of and Receipt of OPC Examinations

We then expanded our survey to examine the knowledge about and prevalence of OPC screenings among our cohort in rural north Florida<sup>11</sup>. Awareness of OPC visual and

tactile examinations (46 percent) and lifetime receipt (46 percent) were higher in this study than reported in earlier statewide studies<sup>12</sup>. Anticipated racial/ethnic differences in knowledge of the existence of OPC examinations were diminished when adjusted for levels of health literacy and socioeconomic status. That is, those with low levels of health literacy and of low education and low income were least likely to know about OPC examinations, regardless of race or ethnicity. This pattern was not seen with the actual receipt of the examination.

We used two strategies to obtain information about receipt of OPC examinations. First, we asked the question, Have you ever had an OPC examination? Then we described the examination. Only 19 percent of the respondents were aware of their examination, whereas an additional 27 percent reported having the examination when a description was provided, suggesting a lack of communication between many caregivers and rural patients<sup>6</sup>. The main predictors of those having had an OPC examination in their life was: being older, Caucasian, better educated and having a dentist of record. For those who had had an OPC examination in the past year, the main predictors were: being Caucasian, having a higher education and having a dentist of record. When African-Americans did receive an OPC examination, it was more likely to be in a non-dental setting, such as a public health medical clinic. We also found that our participants were unsure if dentists performed OPC examinations<sup>13</sup>. The majority of respondents stated that no one had ever suggested they have an oral cancer exam. Some respondents stated they thought their dentist or dental hygienist might have performed the OPC examination, but most were unsure if they had received such an examination. As one woman said, "I'm not sure; I've had dental work done, and you know they never tell me." One man stated, "This is my first time hearing about it," and others echoed this statement. These themes were present in all focus groups. When asked if they had any idea what an oral cancer exam would be like, respondents discussed a number of ideas but ultimately the resounding response to this line of inquiry was, "I don't know." The take-home message from this research is that many more people have heard of OPC examinations than have had them. In addition, limited access to dentists may be holding back earlier detection of OPC, as we found a main predictor of receiving an OPC examination is having a dentist of record.

### **Digging Deeper: Barriers to Getting an OPC Examination**

Using focus group methodology, our group attempted to dig deeper into the barriers to getting an OPC examination experienced by our cohort in rural north Florida. Again we found that among low income minority participants, the foremost barrier to getting an oral cancer screening was the lack of knowledge about OPC and about the symptoms of OPC. Additional barriers included fear and lack of resources to pay for the examination<sup>14</sup>. An unanticipated barrier was the participants' belief that if OPC were important, there would be a lot more conversation about it from important people in their lives, such as doctors or family members.

In a later survey of a larger group of participants<sup>15</sup>, we found that low knowledge, lack of resources and fear of hearing negative results emerged as barriers to OPC screening,



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with the latter two barriers being the most dominant predictors. Of note, participants also reported that a recommendation from their provider (dentist or physician) was most likely to increase their intentions to get an OPC screening, whereas encountering financial barriers was most likely to decrease their intentions to get an OPC screening<sup>15</sup>.

## The Myths

Our overall findings substantially “bust” the two most common myths. We found that: (1) the public knows very little about OPC, either generally or specifically about signs and symptoms of OPC; and, (2) the actions taken by most members of the public are based on the notion that if the disease were important, dentist or doctors would have talked to them about it. For those members of the public who do have knowledge about OPC and its risk factors, the concern is high and the desire for a cancer screening is present, especially for individuals self-identifying as African-American. For those individuals with low discretionary resources to manage the threat of OPC, the tendency may be to avoid learning potentially-threatening information about the disease<sup>16</sup>. Dentists should be aware that people who deny being concerned about OPC may in reality be very concerned and would respond positively to hearing about and receiving an OPC examination.

## Take-Home Message

The take-home message from this research is that the dentist and his or her staff need to inform patients and the public about the signs and symptoms and provide current knowledge of the etiology of OPC. Dentists can offer hope that through early detection, the outcomes for those diagnosed with OPC are more positive than for those who delay examinations.

Colleagues, please create a buzz in your community that makes OPC germane to patients, other health care workers and those in the community who do not routinely see a dentist. It matters!

*In upcoming issues of Today's FDA, Dr. Henrietta Logan will provide current data on trends in the incidence of oral and pharyngeal cancer. Results will show a dramatic increase in incidence for pharyngeal cancer among Caucasian men between the ages of 45-64, which is accompanied by an increasing percentage of late-stage diagnosis of those tumors. Similarities and differences by geographic regions of Florida (north, central and south) also will be discussed.*

*The final article in the series examines survival from oral and pharyngeal cancer and finds significantly different patterns by geographic regions. Implications for the dentist in practice will be discussed.*

*Materials for patients and health professionals on oral and pharyngeal cancer can be found by clicking the resources tab on our website: [<http://take-the-bite.dental.ufl.edu/>].*

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*Dr. Logan is a professor emeritus at the University of Florida College of Dentistry Department of Behavioral Science and Community Dentistry. She can be reached at 352.273.5965 or HLOGAN@dental.ufl.edu.*

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