Research

Maryland Dental Hygienists' Views of Oral Cancer Prevention and Early Detection

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Abstract

Purpose. The purpose of this qualitative study was to obtain in-depth information on dental hygienists' awareness and opinions of oral cancer, oral cancer examinations, and related factors. These findings were intended to supplement a previous statewide survey of Maryland dental hygienists on the subject.

Methods. A professional focus group moderator conducted two focus groups in Maryland. Two types of focus groups were used— one face-to-face focus group session with 10 dental hygienists in the Baltimore area and one telephone focus group among 7 dental hygienists who practiced on the Eastern Shore. Criterion-purposeful sampling and qualitative content analysis were used.

Results. Six major themes emerged from the focus groups: dental hygienists' lack of awareness of Maryland's oral cancer statistics, level of training to provide oral cancer examinations, provision of oral cancer examinations and barriers for not providing them, reactions to Maryland surveys of dental hygienists and dentists, assessment of oral cancer risk factors, and interest in additional training.

Conclusions. The focus groups provided in-depth information about why oral cancer examinations are or are not provided on a routine basis, as well as ideas for providing updates on oral cancer prevention and early detection for dental hygienists. Moreover, some participants recommended that updates on how to conduct an oral cancer examination be a requirement, as updates on infection control are now.

Keywords. Maryland dental hygienists, focus groups, oral cancer prevention, oral cancer examinations, qualitative research.

Introduction

Each year, approximately 30,000 U.S. persons are diagnosed with oral and pharyngeal cancers (hereafter referred to as oral cancer) and nearly 8,000 die from them.[1] These statistics have not changed substantially for several decades. Overall, Maryland has a high incidence for most cancers, and ranks 27th among all states for estimated new oral and pharyngeal cancer cases. The primary sites for these cancers are in the tongue and floor of the mouth; they also are found in the palate, tonsils, salivary glands, oropharynx, gums, and lip.[2] The mortality rate for these cancers in Maryland is seventh highest in the United States and sixth highest for African American males.[1,3-5] Moreover, the majority of these cancers are diagnosed at late stages and diagnosed by physicians.[6]

Because oral cancer is a health problem in Maryland, a statewide initiative was undertaken to determine the knowledge, opinions, and practices of health care providers and the public. To accomplish this assessment, two strategies were used. First, separate, profession-specific surveys were conducted among dental hygienists, dentists, nurse practitioners, and physicians currently practicing in Maryland. In addition, a telephone survey was conducted with a sample of Maryland adults. Second, to obtain more in-depth information of provider groups and the public, focus groups were conducted with each of these groups.[7-14] A statewide needs assessment was deemed both desirable and necessary to develop, implement, and evaluate appropriate educational interventions for provider groups and the public with the ultimate objective of decreasing morbidity and mortality resulting from these cancers.[15-16]

Review of the Literature

Given Maryland's epidemiologic data for oral cancer, it is not surprising that a telephone survey of Maryland adults showed not only a lack of information about oral cancer, but also misinformation regarding oral cancer prevention and early detection.[7] Yet, risk factors for, and signs

and symptoms of, oral cancers have been established. Risk factors include use of tobacco products, alcohol abuse, excessive unprotected exposure to sun, lack of consumption of fruits and vegetables, use of marijuana, and viruses. Early signs and symptoms of these cancers include red or white patches (especially lesions that are mixed in color) and a sore that does not heal.[2] Furthermore, only 20% of Maryland adults 40 years of age or older reported having had an oral cancer examination during the past year, the interval recommended by the American Cancer Society.[7,17]

Because dental hygienists focus on primary prevention and because providing oral cancer examinations and related health education is part of dental hygiene care, they play a critical role in helping patients attain and maintain good oral health. Because of this preventive role, a 1997 mail survey assessed the knowledge, opinions, and practices about oral cancer among Maryland dental hygienists.[8,9] The results showed that the respondents were not as well informed as they might be about oral cancer and, in fact, many had misinformation about risks for, and signs and symptoms of these cancers. Furthermore, while dental hygienists reported that they do screen for tobacco use, less than 80% reported that they provided an oral cancer examination 100% of the time for patients aged 40 or older at their initial and recall appointments.[8,9] Even fewer Maryland dental hygienists (less than 40%) reported that they palpated the lymph nodes in the necks of their patients, an essential component of a comprehensive oral cancer examination.[18]

Because a mail survey cannot always obtain detailed information in some content areas, focus groups of dental hygienists were conducted for this purpose. Focus groups are one way to conduct qualitative research, which complement survey data in that it explores in–depth beliefs, experiences, and behaviors of individuals in a given setting.[19-20] The purpose of this study was to obtain more in–depth information on dental hygienists' views on oral cancer prevention and early detection, which would help facilitate the development and implementation of appropriate educational interventions.

Methods

A qualitative study generated from two focus groups was conducted with dental hygienists in two locations in Maryland in 1998. A professionally trained facilitator who used a semi-structured format conducted both focus groups. Two kinds of focus groups were used—one face-to-face group in the Baltimore area with 10 dental hygienists; the other was conducted by telephone among 7 dental hygienists practicing on the Eastern Shore. A telephone focus group was necessary because it was not possible to get the dental hygienists to meet in a central location due to the long driving distances required. The firm hired to contact practicing dental hygienists used criterion-purposeful sampling (that is, selecting individuals based on a preconceived criterion) to recruit participants.[20]

The inclusion criteria were based on the most recent data available from the Maryland Cancer Registry and data from a previous mail survey of dental hygienists.[6,8-9,21] Baltimore and the Eastern Shore were selected for this study because of the high incidence and mortality statistics of oral cancer in those regions of the state. Only dental hygienists currently employed in these two localities were eligible for participation. Furthermore, the participating dental hygienists had to be working at least 20 hours a week, and they had to serve mostly middle- or low-income adults or elderly patients. The firm used a list of registered Maryland dental hygienists for screening on the first criterion (geographical location of practice). The other criteria (number of hours employed per week and percentage of middle/low-income adult patients) were verified with the participants directly by telephone. All participants were in private practice; their experience ranged from 1 to 5 years to more than 15 years. Eight of the dental hygienists were graduates of a baccalaureate degree program; nine were graduates of two-year programs.

The same trained focus group moderator conducted both sessions. The sessions were audio-recorded and monitored by members of the research team. The Baltimore focus group was held after regular working hours in a professional focus group facility with an adjacent viewing room for observers and recording equipment. It lasted approximately one-and-a-half hours. Prior to the session, a light dinner was provided and the participants were thoroughly informed of the focus group procedures. Each participant (in both kinds of focus groups) was compensated $75.

Because it was not possible to arrange a face-to-face focus group of dental hygienists on the Eastern Shore due to long driving distances, a telephone focus group was conducted to accommodate participants from widely different geographic locations. This focus group was held in the evening after regular working hours and took approximately 70 minutes. The semi-structured questionnaire guide used for the face-to-face focus group was slightly modified for the telephone group. Other members of the research team were on the line and were introduced to the participants. These other members also took notes.

The semi-structured guides used in the sessions included specific discussion items. The guides were based on the results of the survey of Maryland dental hygienists and were similar to ones used with other provider focus groups. Topics included the participants' awareness of and opinion about oral cancer statistics in Maryland and risk factors for oral cancer. Additional topics included the participants' professional training to provide oral cancer examinations, their opinions about providing these examinations and factors that influenced their priorities on whether they provided the

examination, their reactions to results from surveys among other provider groups and the public, their suggestions for improving oral cancer detection services for the public, and the specific kinds of continuing education they would like to receive regarding these examinations.

Qualitative content analysis was used to generate the major themes that emerged from both focus groups.[22,23] Essentially, the following steps were taken in the data analysis: the moderator prepared a summary transcription for each session, which included selected quotes from the audio recordings. Another research team member listened to the audio recordings—along with a review of the moderator's summary transcriptions, a verbatim translation, and observers' notes—to ensure descriptive validity and to get a general sense of the collected data. The documents were then coded. Subsequently, a qualitative content analysis method (examining the patterns that emerged from the data) was used to extract major themes and relevant quotes.[22-23] The themes were discussed among the team to determine agreement. It was concluded that the two focus groups did not provide different information; thus, it was agreed to merge the data and prepare one qualitative descriptive profile.[24]

Results

Six major themes emerged from the two focus groups:

1. Awareness of Maryland's oral cancer statistics;
2. Level of undergraduate training to provide oral cancer examinations;
3. Provision of these examinations and reasons why they do not provide them;
4. Reactions to the Maryland surveys of dental hygienists and dentists;
5. Assessment of risk factors for oral cancer and patient education activities; and
6. Interest in additional training.

Participants' contributions from the focus groups helped explain why so few Maryland adults report ever having had an oral cancer examination.[7]

Theme 1: Awareness of Maryland's Oral Cancer Statistics

As a starting point, the participating dental hygienists were provided epidemiologic data about oral cancer in Maryland. Most participants in the Baltimore area focus group appeared surprised by Maryland's oral cancer statistics. Some even used words such as "mind-boggling," "astounded," and "shocked."

In contrast, participants from the Eastern Shore were not surprised to hear about Maryland's high rates of oral cancers. Several participants assumed that the data must have something to do with the high use of tobacco and sun exposure, especially among boatmen, as well as irregular oral health care due to lack of public awareness of oral cancer risk factors and oral health care in general. One dental hygienist indicated that about half of her patients smoked; others tended to agree that their patients had similar habits. Their related comments included the following:

- "I don't think that most people are aware of what habits they have...I had one patient the other day who was trying to quit (smoking) and he was cutting down on cigarettes by using snuff, thinking that would help him."
- "[People where I work] do not accept even the simple thing of [tooth] brushing twice a day."
- "Many people have not gone to the dentist in several years or only go when there is an urgent problem. They are not aware of what to look for. They are not aware of alcohol and tobacco contributing [to oral cancer]."

Theme 2: Level of Formal Training to Provide Oral Cancer Examinations

Dental hygienists' training to provide oral cancer examinations varied considerably in both groups. Some dental hygienists indicated that their formal training provided little or no focus on oral cancer prevention and early detection. Generally, the more recent their formal training, the more comprehensive it appeared to be. Typical reactions from participants included the following:

- "This [oral cancer examination] was not covered in training 25-plus years ago—and [it was] never done by the hygienist or dentist when I first started practicing."
- "We had a lot of slides in school. It was never called an oral cancer screening."
- "I was prepared well. It was called an oral cancer screening [but] when I came out [of school] I really didn't do it. I went into a 30 minute practice...I wasn't feeling really comfortable with it..."
- "I do recall them teaching us how to palpate the lymph nodes, but to my knowledge, I don't think it was called a cancer screening. Oral cancer was not emphasized in school. We never did screenings. It wasn't until I started practicing in Cambridge that the dentist there was doing the screenings and he sort of taught me how to do them."
- One participant, however, said that her training was extensive, even 25 years ago.

Theme 3: Provision of Oral Cancer Examinations and Barriers for Not Providing Them

Whether oral cancer examinations are provided on a routine basis depends largely on dental hygienists' confidence in their current skills

and knowledge to conduct them, time constraints, and whether it is emphasized in the practice in which they are employed. Comments about providing oral cancer examinations included:

- "I only focus my exam on cavity detection. The dentist himself doesn't even do an oral cancer screening."
- "When I got into practice, it was not a matter of time to do oral cancer screening; it was just not expected."
- "It was not a part of what your dentist wanted you to do or expected you to do... to this day and for the last 22 years."
- "You are just so much in a hurry that you [just try to] spot things as you are going around scaling..."
- "The oral cancer exam is the last thing I do. If I am running late, I have skipped it."

One dental hygienist said she sometimes is reluctant to do a comprehensive examination (extraoral palpation) because, "people are funny about being touched. I don't do it regularly because of this."

In contrast to these comments, other participants had the following to offer:

- "The reason I got in the habit [of providing oral cancer examinations] was that the first person I detected oral cancer on 24 to 25 years ago [eventually] died. As a result of that, for me personally, it was really important...I actually prolonged his life because I found something."
- "Every adult gets checked—the tongue, the lymph nodes, everything—by me and the dentist. He does it whether I have done it or not."

Some participants said they tell patients that they are doing an oral cancer examination; others do not. For example:

- "I always tell patients before I do the exam because you are asking them to stick their tongue out. A lot of new patients have never had it done. We should have a mandatory [training] update."

Theme 4: Reactions to Maryland Survey of Dental Hygienists and Dentists

Participants were provided preliminary results of mail surveys about oral cancer directed to dentists and dental hygienists. Overall, the dental hygienists did not think that dentists were conducting oral cancer examinations to the extent the survey results suggested (83%). Several dental hygienists agreed with one participant who said that she would have expected a smaller percentage of dentists who indicated that they are doing oral cancer examinations:

- "My boss would say we do all those things [comprehensive oral cancer examinations], but I beg to argue."

Moreover, several participants expressed surprise that so few surveyed dental hygienists knew the significance of erythroplakia and leukoplakia and that so few knew the primary sites of oral cancer (tongue and floor of mouth).

Theme 5: Assessment of Risk Factors for Oral Cancer and Patient Education Activities

Several participants said that they do conduct a fairly comprehensive health assessment, especially to evaluate tobacco use. Furthermore, several dental hygienists mentioned the importance of and need for dental hygienists to address tobacco use with their patients. Comments included:

- "Unless you mention smoking every time patients come in, you accept the fact that they smoke as 'OK' and not changeable. You should ask: 'Are you still smoking? Have you been able to cut down?' You can't just ignore it."
- "I tell them if they want to smoke, they are going to have to come in more often, and it's going to cost more money."
- "It is really important with the teenage kids to talk about the types of risks of chewing and spitting and alcohol [use]. We have an important role [to play]."

One participant said that she thought more should be done to educate patients about how to be alert to signs and symptoms of oral cancers. She said, "I feel bad that I have never said to a patient, 'This is what you should look for and this is what oral cancer looks like and if you see anything, come by and we will take a look at it.'"

Theme 6: Interest in Additional Training

Participants in the Baltimore area indicated that they have seen very few continuing education (CE) opportunities concerning oral cancer prevention and early detection. Moreover, they opined that dental hygienists might be more interested in the topic if there was more publicity about Maryland's high oral cancer prevalence and mortality. A few participants in the Eastern Shore focus group mentioned that such a course had been available in the past year, but even these dental hygienists thought that CE courses should be more frequent and possibly even mandatory. For example:

- "I went to an oral cancer seminar not too long ago and I guess that gets me motivated so I am not skipping the exam. I agree that we need to have it once a year because you kind of forget how important it is. Once a year is important to keep everyone motivated and up to date."

- "[A course on] oral cancer should be mandatory like infection control."

- "I don't like taking on the responsibility of missing something and having something go undetected and causing a death situation. That's my fear. I think we need yearly reviews."

Suggested content areas for inclusion in CE included how to educate patients, risks for oral cancer, how to palpate lymph nodes, a hands-on course, and what to say to patients about smoking. Many commented on the need for a hands-on, comprehensive course. This latter sentiment was expressed by one participant:

- "I would like to have someone show me the whole thing [comprehensive oral cancer examination] from top to bottom. What exactly to do and how to do it. Review it all just so I know if what I am doing is right or wrong."

Discussion

Because health professionals only now are beginning to embrace qualitative research, it is important to discuss potential weaknesses and strengths of this type of research. One potential weakness is that two different methods of conducting focus groups were used—face-to-face and telephone. Disadvantages of a telephone focus group have been discussed elsewhere.[23-24] For example, it is not possible to see body language of participants in telephone focus groups and there may be less group dynamics when participants are not in a room together. Although this study shared some of these weaknesses, the group dynamics that occurred during the telephone focus group were similar to those that took place in the face-to-face focus group. This result may have occurred because of the non-sensitive nature of this study's topic. Another potential weakness is that only two focus groups were conducted. Because little additional information was obtained from the second focus group, it is likely that the information from this study, combined with the results of the quantitative study (statewide survey), are adequate to guide the development of educational interventions that are needed for increasing knowledge and skills of dental hygienists concerning oral cancer prevention and early detection.

Qualitative research augments quantitative research by providing insight and depth into a given topic that alone is usually not possible with survey research. Studies of public knowledge, opinions and practices regarding oral cancer prevention and early detection are an important precursor to developing educational interventions. This qualitative study complements the Maryland state survey of dental hygienists concerning oral cancer and provides additional, in-depth information for planning purposes.[8-9]

Combined, these two studies provide a clear rationale for why dental hygienists are or are not providing oral cancer examinations on a routine basis. Generally, their perceptions were that they did not always have enough time to provide the examination and that conducting oral cancer exams was not expected of them. Because dentist/employers usually establish the expectations in an office or clinic, they should be instrumental in requiring that all appropriate patients in their practices receive an oral cancer examination on a routine basis. However, dental hygienists also have the responsibility to ensure that they have time to provide these examinations.

In addition, several of this study's participants were uncomfortable or unsure about exactly how to provide a comprehensive oral cancer examination. Interestingly, these views were similar to those expressed by several Maryland dentists in their respective focus groups.[12] Because dental hygienists could and should play a major role in oral cancer prevention and early detection, it is imperative that they are knowledgeable about and comfortable with providing a screening examination. Critically important is that the office or clinic setting in which they practice places emphasis on this pivotal examination. Failure to identify oral cancer lesions early likely significantly contributes to late-stage diagnosis, extensive treatment, and low-survival rates.

Thus, dental and dental hygiene schools and departments have a major responsibility for ensuring that students receive ample training so that they feel comfortable in providing comprehensive oral cancer examinations. One way to accomplish this is to have students provide oral cancer examinations on a routine basis for all appropriate patients. In other words, a priority should be placed on providing oral cancer examinations in educational institutions.

The participants also made it clear that they would benefit greatly by having an updated, hands-on course on how to perform a comprehensive oral cancer examination. Furthermore, several of the participants strongly suggested that they believed that having a course on oral cancer prevention and early detection should be mandatory on an annual basis, a view that has been expressed by others.[16] Such a policy is one that dental hygienists' associations and dental hygiene educators should champion. Inasmuch as no other provider group has such a policy, dental hygienists could set the standard on this issue.

Conclusions

The focus groups provided candid, in-depth information from dental hygienists concerning why oral cancer examinations are or are not provided on a routine basis. The findings from these focus groups supplemented the findings from the Maryland state survey of dental hygienists and suggest strongly that

oral cancer prevention and early detection need to be addressed by CE courses, as well as by professional entry-level schools of dental hygiene and schools of dentistry. Furthermore, emphasis should be placed on providing hands-on training in conducting a comprehensive oral cancer examination. Moreover, dental hygienists were candid about their belief that dentists and dental hygienists need to be more attentive to providing oral cancer examinations on a routine basis. Finally, dental hygienists were equally frank about the need to have adequate time to provide such examinations. These findings augment those from the state survey and will be pivotal in the development and implementation of educational interventions, especially for practicing dental hygienists in Maryland.

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