Perceptions of Hispanic American Schoolchildren to the Risk Factors for Oral Cancer

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ABSTRACT

Purpose: The purpose of this study was to assess the knowledge of high schoolchildren on oral cancer risk factors in southern Texas.
Methods: A 39-item, self-administered questionnaire was completed by 1,667 students (14-18 years) in 4 high schools chosen by stratified cluster sampling.
Results: The effective response rate was 67%. Ninety-five percent of the students were Hispanic American, 55% had not heard about oral cancer, and 60% failed to identify the 2 most common early signs of oral cancer.
Conclusions: Lack of awareness of oral cancer risk factors indicate the need for improved health education directed towards minority population, especially in underprivileged areas. (J Dent Child 2007;74:62-6)

KEYWORDS: HISPANIC, ORAL CANCER, HEALTH EDUCATION

Annually, more than 30,000 people in the United States are diagnosed with oral cancers. Oral cancer alone is responsible for more than 8,000 deaths each year, more than cervical cancer or malignant melanoma.[1,2] The number of deaths may be even higher, as oral cancer is often masked by other, more conspicuous comorbid conditions.[3] If detected early, the prognosis for survival of oral cancer is better than most cancers.[4] Oral cancer is a disease with: (1) known high-risk factors; (2) an asymptomatic phase with identifiable clinical features; (3) an available and efficient screening modality; and (4) effective nondeforming treatment for early lesions.[5-7] Most oral cancer lesions are not diagnosed, however, until they are in an advanced stage.[8,9]

Unlike research of other cancers, few studies have been conducted on the US public regarding oral cancer knowledge, opinions, and practices.[10] Little published information exists on young people's knowledge and attitudes about oral cancer and cancer prevention, especially in the Hispanic American population. The US Department of Health and Human Services (DHHS) has designated southern Texas as a "medically and dentally underserved" area. Such designation means many residents of that particular area lack access to basic health care needs. A report by the Texas Hispanic Information Initiative for Good Health[11] stated that southern Texas residents have important barriers to health care, such as: (1) urban isolation; (2) rural distances; (3) poor public health; and (4) low use of cancer screening services.

One such area in southern Texas is Brownsville, with a population greater than 115,000. Brownsville lies at the mouth of the Rio Grande River on the Gulf of Mexico, it is the most southerly city in the United States, with a highly mobile youthful population. Its twin border city in Mexico is Matamoros. Nearly 40 percent of the population lives below the federal poverty level. Historically, there has been a distinct need of oral health services among Brownsville schoolchildren.[12]

METHODS

The sample population was chosen from the public school system in Brownsville, Texas, which represents a cross-section of different socioeconomic groups. Private and parochial schools enroll only 4% of the total ninth- to 12th-grade population and were not considered for the study. The authors employed a 2-stage cluster sample design to produce a simple convenience representative sample of students in grades 9 to 12. The first stage-sampling frame

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consisted of all public schools (Hanna, Simon Rivera, Porter, Lopez and Pace) containing any of grades 9 to 12. Four of the 5 high schools agreed to participate in the study (Hanna, Simon Rivera, Porter and Lopez). At the second sampling stage at each of the 4 schools, intact classes on a selected required subject or a selected period (eg, second period) were randomly selected. All students in the selected classes were eligible to participate in the survey.

The National Health Interview Survey on Teenage Attitudes and Practices and Youth Risk Behavior Surveillance System Questionnaire was used in designing the study questionnaire.[13] Precoded questions relating to the following topics were included: risk factors specific to oral cancer, and early signs and risk sites for oral cancer.

The questions were designed and selected to be appropriate, self explanatory, and easy to answer with little or no assistance. Survey procedures were designed to protect the student's privacy by allowing for anonymous and voluntary participation. Teachers administered the survey, which took approximately 15 minutes to complete. Students recorded their responses directly on the questionnaire. Parental consent procedures were followed before administering the questionnaire, according to the IRB protocol. A positive parental consent was taken from all students who wished to participate in the survey.

RESULTS

The sampling frame consisted of 2,600 children to whom consent forms and questionnaires were distributed. A total of 1,754 questionnaires were returned (response rate=67%). Eighty seven questionnaires were: incomplete, unanswered, and not considered for data analysis. Thus, results computed are from the 1,667 completed questionnaires (Table 1). Hispanic Americans comprised 95% of the sample population. The sample was evenly distri-buted regarding gender, with 51% (N=856) males and 49% (N=811) females. The overwhelming majority of Hispanic Americans in Brownsville are of Mexican Americans, and in this report these terms may be used interchangeably.

More than half of the respondents (55%) had not heard about oral cancer (Figure 1). Tobacco use was the only risk factor, which was correctly identified by most of the respondents. 53% did not consider alcohol to be a risk factor. Only 11% correctly responded that sunlight could be a risk factor for lip cancer. About a quarter of the study population incorrectly mentioned drinking coffee as a risk factor for oral cancer; 42% thought poor oral hygiene was a risk factor for oral cancer. Almost 80% of the students mentioned gums as a common risk site for oral cancer, which, in fact, is one of the least common sites. The same holds true for the roof of the mouth. About 20% of the respondents even mentioned teeth as a risk site for cancer.

The most common type of precancerous lesions in the United States occurs along or under the tongue. About 50% of the respondents did not mention tongue (or under the tongue) as a risk site for oral cancer (Figure 2). A white/red patch and a nonhealing ulcer are the most common signs of oral cancer. Nearly two thirds of the population thought a white or red patch in the mouth was not an early sign for oral cancer. About 55% of the respondents reported a nonhealing ulcer in the mouth as not an early risk sign for oral cancer (Figure 3). The fact that 60% of the population identified bleeding from the gums as an early sign of oral cancer suggests the lack of awareness and misconceptions regarding the disease. About 55% of the respondents reported a nonhealing ulcer in the mouth as not an early risk sign for oral cancer.

Table 1. Demographics of the Brownsville Oral Cancer Risk Behavior Survey

Characteristics	Number	Percent
Sex		
Female	811	49
Male	856	51
Grade		
9th Grade	690	42
10th Grade	421	25
11th Grade	328	20
12th Grade	213	13
Age		
14 years	100	6
15 years	379	23
16 years	517	31
17 years	379	23
18 years	287	17
Race or ethnicity		
White	41	3
Black	4	1
Hispanic	1585	95
Asian or Pacific Islander	4	1
Native American	6	1
Other	12	1
School		
A	524	31
B	376	23
C	416	25
D	351	21

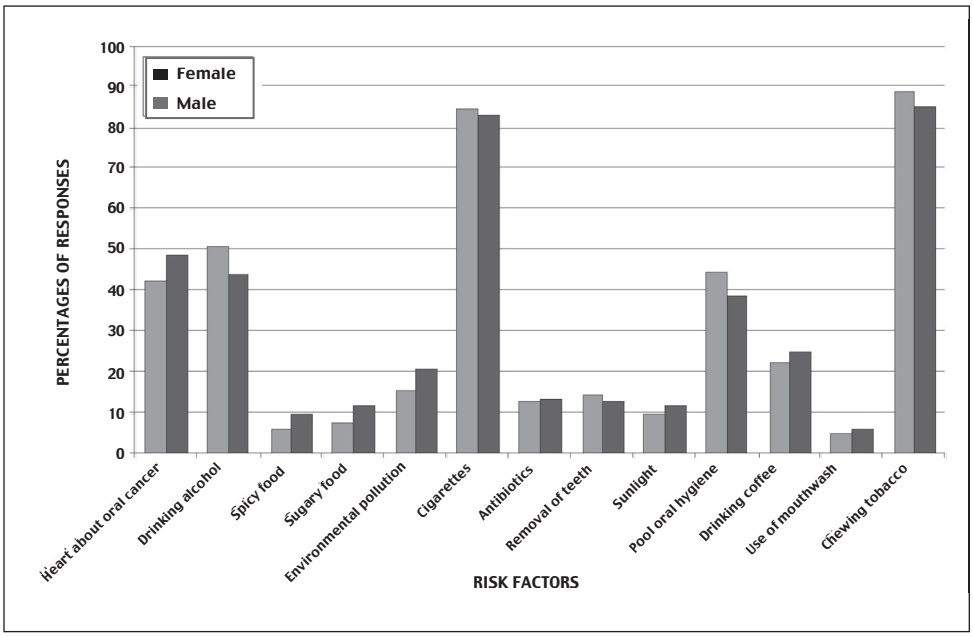

Figure 1. Knowledge and perception of oral cancer by gender (by percentage).

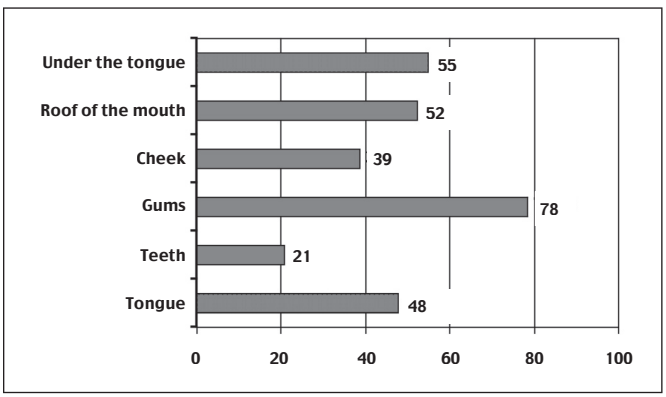

Figure 2. Risk sites for oral cancer in the mouth (by percentage).

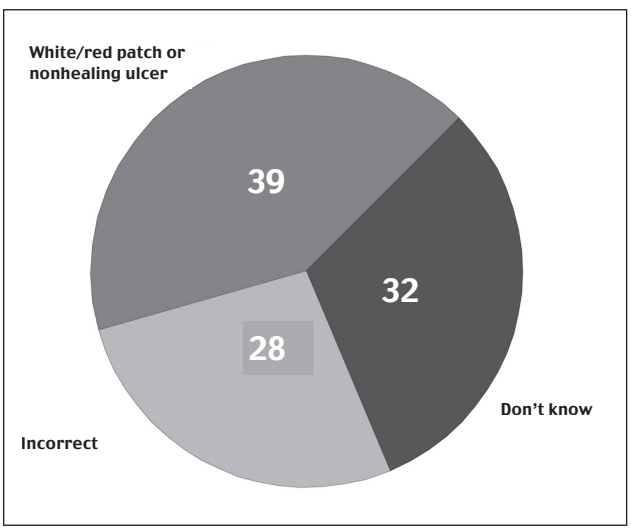

Figure 3. Early signs for oral cancer in the mouth

DISCUSSION

This study was limited to a school-based sample and the findings may not generalize to adolescents who are not in school. The ability of students to complete the questionnaire varied. The number of questions left blank increased towards the end of the questionnaire. Some of the students may have found the questions too difficult or lost interest. It must be considered that the beliefs expressed by the participants in part may reflect: (1) their own personal general health and well-being; (2) current media hype; and (3) existing economic conditions. A few individuals had a tendency to mark multiple answers or report ambiguous responses to certain questions. The sample had a preponderance of Hispanic American subjects (95%) reflecting the Brownsville high school students' community. These considerations necessitate a degree of caution in drawing general conclusions from the data. It is representative of the Brownsville high school population, however, and has implications for Mexican American population, especially those living in underprivileged areas.

This study's results suggest that the high school students are ill informed about the risk factors of oral cancer. Many of them hold misconceptions about the early signs and risk sites in the mouth that can have an impact on preventive behaviors. Across all groups, there was a higher level of knowledge about tobacco use as a risk factor. For decades, it has been known that the use of tobacco products and excessive alcohol is detrimental to health. The use of tobacco products, especially cigarettes, is harmful and a major contributing factor to mortality vis-à-vis heart disease, emphysema, lung cancer, and low birth-weight babies. A variety of educational and informational campaigns have urged tobacco users to stop. Rarely do available educational materials also include information on the use of tobacco products as risk factor for oral cancer. Similarly, there have been major educational efforts regarding alcohol use as a risk factor for cirrhosis of the liver, liver cancer, and fetal alcohol syndrome. However these educational messages seldom identify alcohol use as a risk factor for oral cancers.

There is a great need for more information about oral cancer and cancer prevention in the schools. More than 50% of this study's students wanted more information about oral cancer. Relatively few oral cancer educational materials for the public have been produced. This observation is particularly noteworthy, especially for dental professionals, when compared with the plethora of materials that have been developed

on tooth-brushing, flossing, and the need for dental visits.

Studies are lacking that determine what educational materials are available and that assess their content in terms of accuracy, comprehensiveness, reading level, and cultural acceptability. A review of health education textbooks for kindergarten through 12th grade students found that the oral cancer coverage was uneven, misleading, sometimes incorrect; or (4) most often omitted altogether.[14] A lack of content and incorrect content in health education textbooks may contribute to the public's overall lack of knowledge about oral cancers. There is a great need for cancer prevention in the school curriculum. The content should include knowledge about cancer risk factors, particularly in the area of diet, where specific dietary advice is required.[15-17]

One objective in the Healthy People 2010 initiative is to reduce mortality from oral cancers.[18] As with most other cancers, when oral cancer is detected early the prognosis is greatly improved. Without accurate and appropriate information, people can neither make nor be expected to make informed, intelligent decisions about their own health.[19] Preventable diseases, such as oral cancer, impair quality of life and impose financial burdens on society. Many people do not practice preventive behaviors because they have never been taught about them and they do not have skills to seek such information or access to the information. Individuals need to know the risk factors for, signs and symptoms of oral cancers and how to obtain a thorough oral examination.[20] According to the 1995-96 Texas Oral Cancer Risk Behavior Survey, only 33% of Texan adults reported at least one risk behavior for oral cancer (tobacco use and risky alcohol behaviors).[21] Public awareness and education efforts should be increased with emphasis on the oral cancer risks associated with tobacco and alcohol use. Although oral cancer typically strikes older adults, interventions targeting younger persons are more likely to be successful and discourage long-term tobacco and alcohol exposure. Dental health care providers should focus on improving oral cancer awareness during patient treatments.

CONCLUSIONS

Based on this study's results, the authors conclude that oral cancer prevention programs targeting the adolescent high school population should emphasize the providing of factual information about: (1) cancer; (2) its risk factors; and (3) screening. Future studies in this area should explore the role of acculturation and generational differences in predicting alcohol, tobacco, and other substance abuse.

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