

Disparities in oral and pharyngeal cancer incidence, mortality and survival among black and white Americans

Douglas E. Morse, DDS, PhD; A. Ross Kerr, DDS, MSD

In the United States, it is expected that 29,370 new cases of oral and pharyngeal cancer (OPC) will be diagnosed in 2005 and that 7,320 deaths will be attributed to cancers at these sites.¹ OPC incidence, mortality and relative survival rates and trends are dynamic, however, and can vary over time and across age, sex and racial groups.^{2,3}

The National Cancer Institute's Surveillance, Epidemiology and End Results (SEER) Program collects and reports high-quality cancer incidence and survival data and statistics for the United States. Registration began in 1973 and, over time, the SEER Program expanded its coverage, from approximately 10 percent of the U.S. population in 1975 to its current coverage of 26 percent.⁴ Presently, the program collects data regarding cases of in situ and invasive cancer via 14 population-based registries in selected states, metropolitan areas and counties, as well as through three supplemental registries.⁴ The SEER program also reports mortality statistics based on data amassed by the National Center for Health Statistics.⁴ Data and statistics are disseminated in part via the SEER Web site ("www.seer.cancer.gov").

The purpose of this article is to present current statistics and long-term trends for OPC incidence, mortality and five-year relative survival

ABSTRACT

Background. The authors present statistics and long-term trends in oral and pharyngeal cancer (OPC) incidence, mortality and survival among U.S. blacks and whites.

Methods. The authors obtained incidence, mortality and five-year relative survival rates via the Surveillance, Epidemiology and End Results (SEER) Program Web site. Current rates and time trends for 1975 through 2002 are presented.

Results. From 1975 through 2002, age-adjusted incidence rates (AAIRs) and mortality rates (AAMRs) were higher among males than among females and highest for black males. By the mid-1980s, incidence and mortality rates were declining for black and white males and females; however, disparities persisted. During the period 1998-2002, AAIRs were more than 20 percent higher for black males compared with white males, while the difference in rates for black and white females was small. AAMRs were 82 percent higher for black males compared with white males, but rates were similar for black and white females. Five-year relative survival rates for patients diagnosed during the period 1995-2001 were higher for whites than for blacks and lowest for black males.

Conclusions. Despite recent declines in OPC incidence and mortality rates, disparities persist. Disparities in survival also exist. Black males bear the brunt of these disparities.

Practice Implications. Dentists can aid in reducing OPC incidence and mortality by assisting patients in the prevention and cessation of tobacco use and alcohol abuse. Five-year relative survival may be improved through early detection.

Key Words. Oral cancer; pharyngeal cancer; trends; incidence; mortality; survival.

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Dr. Morse is an associate professor, New York University College of Dentistry, Department of Epidemiology & Health Promotion, 345 E. 24th St., MC:9416, New York, N.Y. 10010, e-mail "dem5@nyu.edu". Address reprint requests to Dr. Morse.

Dr. Kerr is a clinical associate professor, New York University College of Dentistry, Department of Oral Medicine, New York City.

in the United States, as provided by the SEER Program, with an emphasis on rates and trends observed for black and white Americans.

MATERIALS AND METHODS

Cancers of the oral cavity and pharynx were defined broadly and included all anatomical sites under the heading of “lip, oral cavity and pharynx,” as classified by the third revision of the International Classification of Diseases for Oncology (ICD-O).⁵ These sites (ICD-O C00-C14) include the lip (excluding the skin of the lip), oral cavity, pharynx and major salivary glands, as well as other and ill-defined sites in the lip, oral cavity and pharynx.

For this article, we defined the oral cavity as including the tongue, floor of the mouth, gingiva and palate, as well as other and unspecified parts of the mouth. The pharynx included the tonsil, oropharynx, hypopharynx and nasopharynx.

Anatomical sites classified as “other and ill-defined sites in the lip, oral cavity and pharynx” (ICD-O C14; hereafter referred to as “other oral cavity and pharynx”) include not otherwise specified areas of the pharynx, Waldeyer’s ring and overlapping lesions of the lip, oral cavity and pharynx.

Incidence and mortality rates. The OPC incidence rate for a given year is defined as the number of new OPC cases diagnosed per 100,000 persons at risk during that year. Analogously, the OPC mortality rate for a given year is defined as the number of deaths in which OPC was the underlying cause per 100,000 persons in the population during that year. Age-adjusted incidence rates (AAIRs) and age-adjusted mortality rates (AAMRs), which included all ages, were standardized by SEER to the 2000 U.S. standard population in 19 age strata.

The tables and figures in this report are based on statistics obtained from the SEER Cancer Statistics Review 1973-2002⁶ or the SEER Cancer Query Systems Web site⁷ and are based on the most currently available statistics at the time we prepared the article. The apparent delay in the availability of such statistics (that is, the fact that the statistics end with the year 2002) is a function of the time required to collect, record and

analyze the relevant data.

In this article, we limit the reported statistics to invasive cancers and to people whose race was reported as black or white, including black and white Hispanics. Unless otherwise noted, we based incidence and survival statistics on data from nine SEER areas (that is, the states of Connecticut, Hawaii, Iowa, New Mexico and Utah, as well as the metropolitan areas of Atlanta, Detroit, San Francisco-Oakland and Seattle-Puget Sound). Where statistics for 13 SEER areas are presented, the geographical areas include those above, plus Los Angeles, San Jose-Monterey, rural Georgia and the Alaska Native Registry. Mortality rates include data from the entire United States.

Statistical software. We based our description of incidence and mortality trends on analyses using statistical software (Joinpoint Regression Program), which models on the natural logarithm of the rate, identifies points (years) at which a

trend changes and connects those points by a series of straight line segments.^{8,9} Each time trend segment has an associated estimated annual percentage change, which can be evaluated in terms of its statistical significance (that is, testing the hypothesis that the slope of the segment is different from zero).

Relative survival—the ratio of the proportion of observed survivors in a cohort of cancer cases to the proportion of expected survivors in a com-

parable cohort of people without cancer—is a measure of net survival and is calculated by SEER using the method of Ederer and colleagues.¹⁰ The five-year relative survival rate can be interpreted as the estimated likelihood that a patient with cancer will not die of causes specifically related to the cancer within the five-year period following diagnosis.¹¹

RESULTS

Tables 1 and 2 (page 206) present AAIRs and AAMRs by anatomical site and sex for black and white Americans during the period 1998-2002. In terms of incidence, age-adjusted rates were notably higher among males than among females, and were highest for black males. The oral cavity accounted for approximately one-half of all new cases of OPC in both races, with the tongue being the most frequently involved single site within

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