PRIMARY ORAL HEALTH CARE IN BLACK AMERICANS: AN ASSESSMENT OF CURRENT STATUS AND FUTURE NEEDS

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To improve health for all in the United States by the year 2000, dental health needs must be considered a component of total health and primary care. The failure to address dental needs has reached a crisis level, particularly in the black and underserved communities throughout the nation. Data from several nationwide studies have shown that oral disease is greater in black Americans than their white counterparts. More severe periodontal disease patterns, untreated dental decay, and earlier tooth loss were observed. Key minority subgroups received less preventive care. (*J Natl Med Assoc.* 1995;87:136-140.)

Key words • oral health care • dental health care • African Americans

African Americans comprise 12% of the US population. Although this is less than one eighth of the total US population, a disproportionate burden of the country's morbidity and early mortality exists in this segment of the population.[1,2] In general, systemic health has been reported as poorer among racial and ethnic minorities. These same groups are disproportionately socioeconomically disadvantaged as measured by factors such as education, income, housing, and availability of insurance.[1,3,4]

Many examples of disparity in morbidity exist. Blacks in the United States continue to have a death rate 1.5 times higher than whites of the same age, and the infant mortality rate in blacks is twice that of whites.[4] Blacks have a higher incidence of cardiovascular diseases, lung cancer (highest in black males), and glaucoma.[2] Since the 1960s, improvements in access to health care have occurred, yet there are still substantial gaps in receipt of care, particularly for primary health care, including the prevention of illness, the maintenance and promotion of health, and basic care during acute and chronic illness. Higher poverty levels and low utilization of health services, lower income status, the lack of health insurance coverage, reductions in Medicaid and other federal assistance programs, and the closing of many public health clinics and hospitals appear to compound the already lower access to primary health-care services among black Americans.[5,6]

Oral health is an integral part of general systemic health and contributes significantly to self-esteem and quality of life. Oral health is one of the most attainable assets an individual can have.[7] A number of oral diseases can be prevented through a combination of primary health-care services and self-care. Through early diagnosis, counseling, and regular therapeutic methods, risks to oral diseases can be reduced, and a current level of oral health maintained or improved. The health-care providers who understand the nature and extent of oral diseases, the risk factors associated with these, and strategies to prevent oral diseases are key to this process.

Despite general improvements in oral health status

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nationwide and the ability to prevent oral diseases, minority subpopulations, including black Americans, remain at high risk for oral diseases.[8-10] Differential problems with oral conditions have led to a focus on black Americans in the *Healthy People 2000* objectives.[9] This article discusses the status of oral health in black Americans based on published data.

ORAL DISEASES AND CONDITIONS

Most available epidemiologic data regarding levels and patterns of oral diseases are based on national samples. Due to the limited number of blacks in most of these studies, analysis regarding blacks is often restricted to overall descriptions of major oral diseases and conditions, and oral hygiene practices rather than descriptions of the diversity within the black population. Several national studies have compared the oral health status of blacks and whites. The National Institute of Dental Research (NIDR) National Survey of Oral Health of United States Adults assessed the oral health of white and black employed and older adults at senior centers.[10] The study was designed to establish the prevalence of dental caries and periodontal diseases in these adult populations.

Another study, the Piedmont Health Study of the Elderly, has evaluated 1019 community-dwelling white and black adults (aged 65+) in five North Carolina counties since 1982.[11,12] The study parameters included dental caries, periodontal status, and whole salivary gland flow rates, as well as self-reported information on taste and smell. Two analyses of trends in site-specific cancers over a 15-year period have provided detailed information on the incidence, mortality, and 5-year relative survival rates by age, race, gender, and geographic groupings.[13,14]

PERIODONTAL AND GINGIVAL DISEASES

Gingivitis and periodontitis are diseases that result from an inflammatory process involving the tissues that support the teeth.[15] Depending on severity, these diseases may be characterized by bleeding on probing, purulent exudate, periodontal pocket formation, and bone resorption. If the disease progresses to its most severe form, loss of teeth may occur. Risks for periodontal disease include absence of appropriate self-care and professional plaque removal, and systemic disease (eg, diabetes), among others.[15] Analyses of data on employed adults from the 1985-1986 NIDR National Survey of Oral Health of United States Adults suggest that periodontal diseases are more severe in blacks than whites, as measured by periodontal pockets[10,16,17] (Figure 1). Blacks had almost twice the prevalence of periodontal pockets (≥4 mm) than whites (24% and 13%, respectively). This difference was consistent in all age groups except those in the 25- to 34-year-old group.

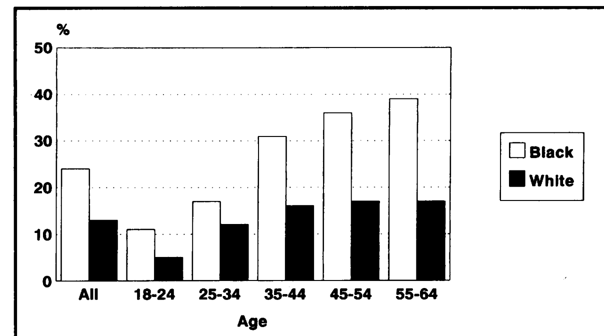

Figure 1. The prevalence of periodontal pockets ≥4 mm, by race. (Data from reference 10.)

Reports from other studies comparing periodontal status in blacks and whites also have found that periodontal diseases were more prevalent among older blacks than older whites.[18-20] Hughes et al[19] examined the average number of teeth at risk for gingivitis or periodontitis in whites and blacks. Between the ages of 30 and 39 years, approximately 10% of all teeth in white males were diagnosed with periodontitis, compared with 20% of teeth in black males. Among adults age 60 or older 20% to 25% of all teeth in white males were diagnosed with periodontitis in contrast to 60% to 80% among black males. In the Piedmont Study, the severe periodontal conditions in blacks were associated with the use of tobacco, an increase in *Bacteroides gingivalis* and *Bacteroides intermedius,* length of time between dental visits, and gums bleeding in the past 2 weeks.[11,18]

TOOTH LOSS, DENTAL DECAY, AND FILLINGS

Tooth loss is the ultimate sequela of caries and periodontal diseases and is one of the most severe compromises to dental function.[21] To restore complete function of the mouth and prevent malocclusion, dentures and other prostheses must be placed.

Tooth loss patterns were evaluated in the 1985 NIDR National Survey of Oral Health of United States Adults.[10] Blacks were about half as likely as whites to have all 28 teeth. Specifically, among employed adults 25 to 44 years of age, blacks had about 1.5 fewer teeth than whites. This difference extended to about 3.5 fewer teeth among blacks 45 to 54 years of age compared with whites.

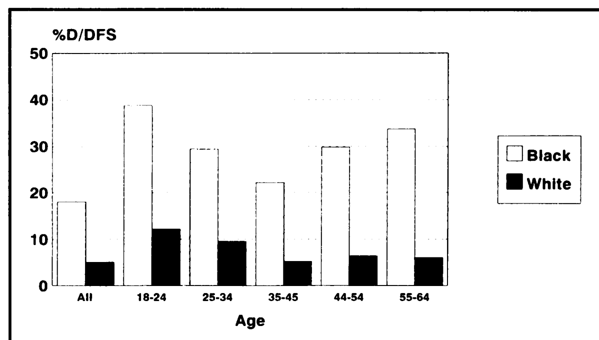

Figure 2. Untreated dental disease (decayed/decayed and filled surfaces), by race. (Data from reference 10.)

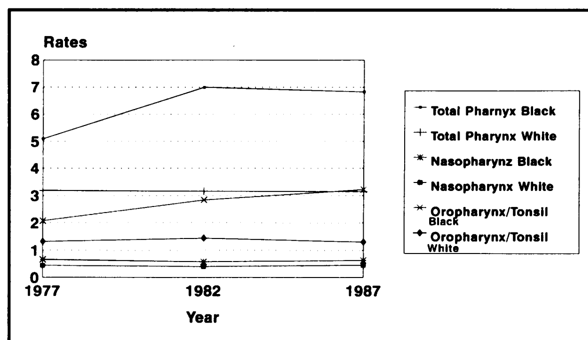

Figure 3. Age-adjusted pharynx cancer incidence rates 1977-1987.

Among adults generally, reports suggest that blacks begin losing their teeth earlier than whites and lose them at a much higher rate than whites, leading to tooth loss patterns that require more extensive prosthetic treatment.[10,21,22] For example, tooth loss patterns requiring a free-end removable prostheses appear in the youngest age groups in the black population aged 18 to 24 years while being virtually nonexistent in whites of the same age.[21,22] The reported racial differences in tooth loss patterns is apparent among all employed age groups, with blacks having the more severe conditions. Eight percent of blacks compared with 1% of whites in the youngest age group (18 to 24 years) have bridge units or removable appliances. No consistent black/white differences were apparent in the prevalence of total edentulism.[22]

Tooth decay (dental caries) is an infectious disease with progressive destruction of tooth substance.[23] Tooth decay and consequent loss of tooth structure are prevented by appropriate use of fluoride products and dental sealants, observation of good oral hygiene, and diet, as well as early diagnosis and conservative treatment.[24,25] In the 1985-1986 NIDR National Survey of Oral Health of United States Adults, among employed adults 18 to 64 years of age, blacks were reported to have a lower average number of decayed and filled tooth surfaces than whites, and this was true in all age categories.[10] Looking at the data more closely, black adults had about 18%, and whites had about 5% of untreated decay, suggesting a greater need for treatment (Figure 2).

ORAL CANCER AND SOFT-TISSUE LESIONS

Oral cancer (malignant neoplasms of the oral cavity) accounts for approximately 4% of all cancers in the United States. Risks for oral cancer include heavy tobacco and alcohol use.[13,14] Squamous cell carcinoma is the most common oral cancer. One study reported oral carcinomas among blacks[14] to be 1.3 more prevalent than for whites (incidence rates 14.4 per 100 000 persons for blacks, and 10.9 per 100 000 for whites). The mortality rate for oral and pharyngeal cancers among blacks was approximately twice as high as for whites (5.2 per 100 000 in blacks, and 2.8 per 100 000 in whites). In data from the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program 1973-1987, the adjusted oral pharyngeal cancer incidence rates were higher in blacks. Blacks had more than twice the incidence of oropharyngeal cancer as whites[14] (Figure 3).

In a large study of common oral lesions (13 280 oral biopsies) among black and white local clinic patients in Louisiana, several predilections were noted. Blacks had significantly higher numbers of pyogenic granulomas and cemento-ossifying fibromas than whites; surprisingly, the percent of squamous cell carcinoma was lower in the black population.[26] It is unclear why this percentage is lower in blacks, but perhaps risk factors in Louisiana are different.

Streckfus[27] observed an oral cancer prevalence rate of 1.3/1000 in an 8-year study of elderly blacks. The majority of the oral cancer cases were found to be squamous cell carcinoma. More than 50% of the oral cancer patients were edentulous, and more than 50% had been or were smokers.[27]

DENTAL UTILIZATION

This overview cannot begin to address the myriad of dental utilization studies that have noted racial differences and have been summarized elsewhere.[6,28-30] Historically, blacks have had a lower reported rate of dental utilization, which has been attributed to limited access and lower socioeconomic status. Ability to pay

as reflected by income, insurance, and public assistance or Medicaid is reported to be a major factor, but not the singular issue. Not only do dental visit patterns vary by race when other socioeconomic factors are controlled, but there also is considerable evidence that treatment received once a dental visit occurs varies as well.[6,10,18,31] There are differential patterns apparent in the use of preventive therapies (eg, fluorides) as well as treatment rendered, which affect the oral disease data summarized above.[6,28,29,32]

In the 1985-1986 National Survey of Oral Health of United States Adults, several major differences between blacks and whites were found.[10] Differences relating to the lack of care were: 1) reasons for going to the dentist and 2) perceived need for dental treatment. The most frequent reason for going to the dentist was for a regular check-up (19% of blacks and 44% of whites stated this reason for seeking dental care). Preventive care in the form of regular check-ups and prophylaxis was reported by 58% of the population; preventive visits in whites constituted 60% of the dental visits compared with 40% in blacks. Twenty-six percent of dental visits by blacks and 9% by whites were related to extractions or other surgery. Interestingly, the percent of persons who felt they needed treatment was higher in the black population[10,33] (Figure 4). The results indicated that 28% of black adults and 23% of white adults perceived a need for dental treatment. This perceived need supports the data in Figure 2 and may have an impact on demand for dental services in the future.

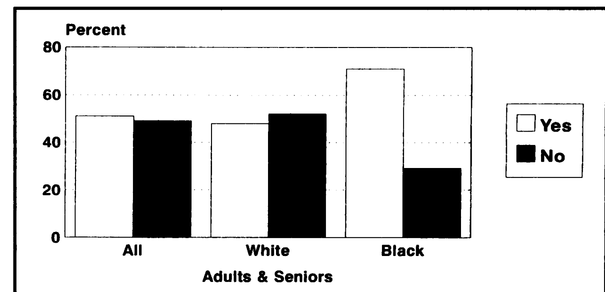

Figure 4. Percent of employed persons who feel that they need dental treatment. (Data from reference 10.)

DISCUSSION

At the national and regional levels, many improvements in oral health have been observed. Dental caries in children is declining,[34] as is tooth loss.[28,35] Also, the amount of advanced periodontal disease is limited to less than 15% of the population.[10,17] However, these improvements do not apply to all subpopulations.

Many studies have shown a higher prevalence of oral disease in black populations compared with white populations. The Piedmont and NIDR oral health surveys reported more severe periodontal disease patterns, more untreated dental decay, and earlier tooth loss in blacks versus whites.[10,16,20,36] It has been suggested that the greater need for restorative treatment and extractions in blacks compared with whites is due to delayed treatment, lack of funding, or lack of availability of treatment.[36] While small minority samples and poor participation by blacks in many surveys suggest the need to conduct specific research on the black population, these overview descriptions can direct us toward ways to improve oral health now.

The findings summarized here implicate lack of appropriate preventive and therapeutic care more than disease experience in the lower level of oral health in US blacks. Socioeconomic and behavioral factors play important roles. These findings suggest a need for oral examinations that would provide early detection and prevention of all oral diseases, particularly oral cancer and periodontal diseases. There is a need to increase education, preventive services, and therapeutic care for black Americans of all ages. Programs must be designed and implemented within the context of known barriers such as access, lack of disease awareness and preventive care, known risk factors, health-care costs, and low socioeconomic status.

CONCLUSION

Analyzed data from many sources have shown that blacks have greater dental treatment needs—whether related to receiving and seeking less care. Certain groups of low-income blacks have been identified as high-risk groups for oral diseases.[37] However, the types of care needed, personnel, and time needed to provide care based on these needs requires further study. More needs to be known about risk factors associated with oral diseases in minorities, as well as methods of targeting preventive interventions in order to improve oral and systemic health.[8]

Beyond prevention, treatment interventions can be designed and tested within the context of problems with access and utilization. The delivery of dental services must be improved through a combination of community, private, and governmental efforts as well as through health education. Considerable efforts will be needed to achieve special population oral health objectives for *Healthy People 2000*. Health-care professionals are the major links in fostering improved health education and

health promotion, and most importantly, preventive services to advance the oral health of black Americans.

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