

Dental Care, Dementia and Disparities

Dementia is a cognitive impairment that affects the memory, thought processing, and behavior. There are many types of dementia, but the most common is Alzheimer's disease. In recent years, there has been growing evidence that dementia is linked to dental disease.

An 18-year study, *Dentition, Dental Health Habits and Dementia*, was conducted by the University of California-School of Medicine at Leisure World in Laguna Hills, California. It reported potentially harmful bacteria in the mouth could spread if not treated. This often causes tooth decay and gum disease and can lead to brain inflammation. This study was conducted in a California retirement community from 1992 to 2010 and was funded by The National Institute of Health, the National Cancer Institute, the National Institute on Aging and the National Institute of Arthritis and Musculoskeletal and Skin Diseases.

There were over 5,000 residents, with average ages of 81 that participated in the study, as described in *Dentition, Dental Health Habits and Dementia*. It reported that at the beginning of the study, all residents were free of dementia. They were surveyed concerning their dental health history including brushing, visits to a dentist, condition of their teeth, and whether or not they wore dentures. The researchers followed up on participants of the study in 2010 and found through interviews, medical records, and death certificates that 1,145 residents of the original group had been diagnosed with dementia.

<http://www.ncbi.nlm.nih.gov/pubmed/22860988>

According to the 2000 U.S. Surgeon General's report, *Oral Health in America*, untreated dental health diseases can become progressive and more complicated over time. In the report, Dr. David Satcher discussed the medical consequences of poor dental health care in the U.S. and the disparities that exist across all ages and populations. The report described the problem as "consequential disparities in the oral health of our citizens" and a "silent epidemic" that called for a national effort to improve dental health care for the prevention of dental health diseases.

<http://www.surgeongeneral.gov/library/reports/oralhealth/>



Men and boys tend to have more untreated cavities than females. According to the National Center For Health Statistics (NCHS) of the U.S. Centers for Disease Control and Prevention (CDC) 60% of children ages 6-19 were affected by dental cavities the most common chronic disease of that age group. The age group from 20- 64 experienced more cavities, which is the common infectious disease affecting that age group.

Chart 1: Untreated Dental Cavities

U.S. 2005-2008

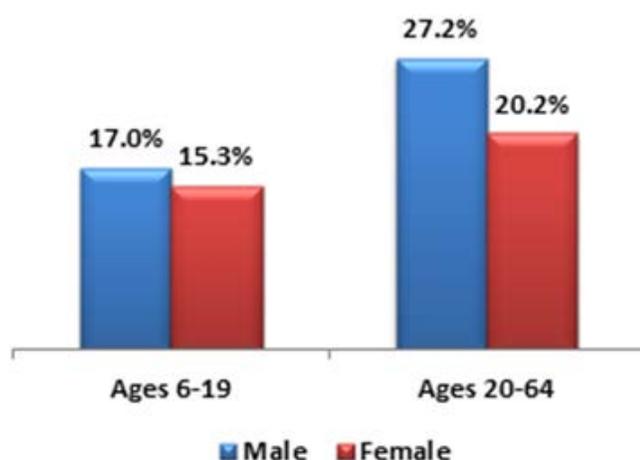


Chart 1 shows the percentages of age groups and genders in the U.S. that had untreated dental cavities from 2005-2008.

Source: National Center for Health Statistics (NCHS) of the U.S. Centers for Disease Control and Prevention (CDC), National Health and Nutrition Examination Survey, 2011
<http://www.cdc.gov/nchs/data/hus/hus11.pdf>

According to Healthy People 2020, in the U.S. more than one-third of older adults aged 65–74 living below the federal poverty level (34%) do not have any teeth (this includes natural teeth and dentures), while approximately one-eighth of older adults living above the poverty level (13%) were without teeth. According to the CDC, the disparities of untreated tooth decay and the overall lack of dental care has been associated with individual income levels.

In February, 2012 the Agency for Healthcare Research and Quality released research *Dental Services: Use, Expenses, and Sources and Payments, 1999- 2000*, explaining dental cost is often unaffordable for many low and middle income individuals. It also reported that dental health coverage is often not included in health insurances and for individuals with dental health coverage, the out of pocket cost required at time of service created a barrier to care.

According to the U.S. Department of Health and Human Services, *National Call to Action to Promote Oral Health (2003)*, poor dental health is progressive and cumulative. It also stated that over 108 million children and adults lack dental insurance, and there were significant disparities in dental disease by income. Poor children tend to suffer twice as many dental cavities as children in higher income levels and children living below the poverty level have more severe and untreated cavities.
<http://www.surgeongeneral.gov/library/calls/oralhealth/nationalcalltoaction.html#intro>

According to *Dental Crisis in America*, released in 2012 by the U.S. Senate subcommittee on Health, Education, Labor and Pensions the traditional Medicare does not offer dental benefits (some of the Medicare supplements offer limited benefits) and not all veterans qualify for dental care from the Veteran’s Administration. There were also problems for adults with Medicaid since dental services are determined by each state and may be limited by the state as to the types or amount of services covered. The state can also elect not to provide dental services at all in the Medicaid program.

For older adults (65 or older) the lack of dental health care can have serious impact and complications on the overall health, according to *Oral Health and Cognitive Function: Third National Health and Nutrition Examination*, 2008. The National Institute of Health has projected that the number of older adults would increase from 35 million (12.4% of the US population) in 2000 to approximately 55 million

(16.27%) in 2020. It also estimated that 8% to 10% of older adults have dementia, and that number is estimated to increase by an additional 17% to 19% by 2020.

<http://www.sanders.senate.gov/imo/media/doc/DENTALCRISIS.REPORT.pdf>

The World Health Organization (WHO) Statistics 2012 report revealed the following key statistics on dementia:

- The number of people living with dementia worldwide is currently estimated at 35.6 million, expected to double by 2030 and more than triple by 2050.
- Between 2% and 10% of all cases of dementia start before the age of 65.
- The total estimated worldwide costs of dementia were \$604 billion (U.S.) in 2010.
- Dementia is one of the major causes of disability for adults 65 or older. It is the leading cause of dependency and disability that age group.

http://apps.who.int/iris/bitstream/10665/44844/1/9789241564441_eng.pdf

Researchers from the University of Kentucky in 2007 released findings from the Nun Study that tooth loss may be an indication of mental and cognitive disabilities of later in life. The participants were 144 Catholic Nuns of the School Sisters of Notre Dame. The researchers used dental records and results of annual cognitive examinations to study participants from the order's Milwaukee province who were 75 to 98 years old. Their findings revealed an association between tooth loss and cognitive disabilities (including Alzheimer), as well as early-life nutritional deficiencies, infections and chronic diseases that could result in tooth loss and damage to the brain.

<http://www.ncbi.nlm.nih.gov/pubmed/17908844>

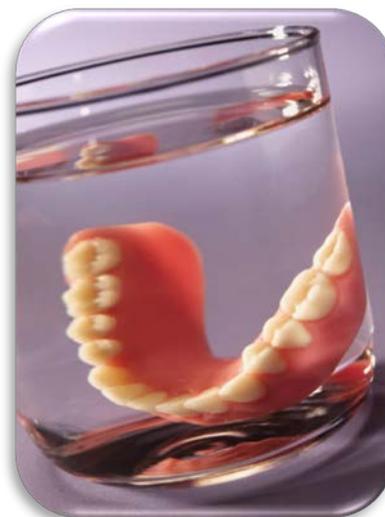
The Aichi Gerontological Evaluation Study (AGES) was a 4 year cohort study of 4,425 Japanese adults aged 65 or older who were active, independent, and not in a type of nursing home facility at the start of the study. A major focus of the study was to examine the association between self-reported dental health variables and the onset of dementia. The findings of the study determined that there was a higher risk of dementia of the participants who did not go to the dentist for dental health care and had few or none of their natural teeth.

<http://www.ncbi.nlm.nih.gov/pubmed/22408130>

According to The World Health Organization dental cavities and periodontal disease are major causes of tooth loss and that complete the loss of natural teeth are problems predominantly in adults 65 or older. Also nearly 30% of people globally, between ages 65–74 have none of their natural teeth. http://www.who.int/oral_health/publications/en/orh_fact_sheet.pdf

The American Dental Association recommends the following for good dental health and maintenance:

- Brushing teeth twice daily with a fluoride toothpaste



- Flossing between teeth one or more times daily
- Replacing toothbrushes every 3- 4 months
- Eating a balanced diet
- Dental check-ups for prevention and early detection of cavities and diseases

For additional information:

http://nihrecord.od.nih.gov/newsletters/2013/01_04_2013/story5.htm

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3124861/>

http://www.unboundmedicine.com/medline/citation/22860988/Dentition_dental_health_habits_and_dementia:_the_Leisure_World_Cohort_Study

<http://www.surgeongeneral.gov/library/calls/oralhealth/nationalcalltoaction.html#intro>

<http://www.neurology.org/content/73/9/665.abstract>

http://www.alzheimer.ca/en/sk/~media/Files/national/External/WHO_ADI_dementia_report_final.ashx

<http://promega.wordpress.com/2009/05/04/alzheimer-disease-and-the-nun-study/>



For additional information, please contact Joyce Hillman, Planning Analyst, Metropolitan Social Services at 615-862-6439 or joyce.hillman@nashville.gov