

# Impact of Dental Disease on Older Adults' Quality of Life

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The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

## OUTLINE

1. Prevalence of oral health-related quality of life (OHRQoL) indicators among US adults aged 65+ and those with select chronic conditions
2. Dental conditions associated with poor OHRQoL

## Oral Health-Related Quality of Life (OHRQoL) Indicators

## Data Source

- Household Interview in National Health Examination and Nutrition Survey (NHANES) 2003-2008
- Sample size - 4239 adults, aged 65+ years representing 35,737,088 persons

## OHRQoL Questions

- How often during the last year have you:
  - had painful aching anywhere in your mouth? **ACHE**
  - avoided particular foods because of problems with your teeth, mouth or dentures? **AVOID FOOD**
  - been self-conscious or embarrassed because of your teeth, mouth or dentures? **EMBARRASS**
  - felt that life in general was less satisfying because of problems with your teeth, mouth or dentures? **LESS SATISFIED**

## OHRQoL Questions

- Positive response: answered very often, fairly often, or occasionally
- Negative response: answered hardly ever or never

## Case Definition of Condition (Prevalence)

- Poor self reported general health – fair/poor (**27.0%**)
- Arthritis – any type of arthritis (**54.2%**)
- Cardiovascular disease (CVD) -- congestive heart failure, coronary heart disease, angina/angina pectoris, heart attack (**24.7%**)

## Case Definition of Condition (Prevalence)

- Chronic obstructive pulmonary disease (COPD) – emphysema, asthma, bronchitis (**13.4%**)
- Diabetes – any type (**19.1%**)
- Low vision/blind - trouble seeing even when wearing glasses/contacts (**24.8%**)

## % Reporting Poor OHRQoL Indicators by Disease Status

	Ache	Avoid food	Embarrass	Less satisfied
All	13.1	16.3	10.3	9.2
Poor health	19.5	23.5	15.6	15.6
Good health	10.7	13.6	8.4	6.8
Arth.	15.4	18.4	12.0	11.2
No Arth.	10.4	13.9	8.4	6.8

## OHRQoL Indicators by Chronic Disease Status

	Ache	Avoid food	Embarrass	Less satisfied
CVD	15.2	19.6	NSD	12.4
No CVD	12.4	15.2		8.1
COPD	18.5	24.1	13.5	NSD
No COPD	12.3	15.0	9.9	

P>0.05

## OHRQoL Indicators by Chronic Disease Status

	Ache	Avoid food	Embarrass	Less satisfied
Diab.	17.5	22.2	13.8	13.1
No Diab.	11.8	14.9	9.5	8.4
No/Low Vision	20.4	24.8	15.1	15.9
Vision	10.7	13.5	8.8	7.0

## SUMMARY

- Persons, aged 65+ years, reporting poor general health or various chronic conditions are more likely to report poor OHRQoL
  - 15-20% report painful aching
  - 20-25% report avoiding food
  - 12-16% report embarrassment
  - 11-16% report life is less satisfying

## Dental Conditions Associated with Poor OHRQoL

### Dental Condition (Prevalence): Adults, 65+ Years, NHANES 2005-2008

- Dentate – at least 1 natural tooth (**77.3%**)
- Among dentate
  - Untreated dental caries – at least one tooth w/ visually detected caries (**18.2%**)
  - # teeth
    - 20+ (**64.0%**)
    - <20 (**36.0%**)

### Model (Dentate adults, aged 65+ years, in NHANES 2005-2008)

- OHRQoL Indicator = f(untreated decay, #teeth, age, race/ethnicity, gender, income)
  - Where
    - Age = 65-74 years, 75+ years
    - Race/ethnicity = non-Hispanic white, non-Hispanic black, Hispanic
    - Income = ≤ 200% federal poverty level, >200% federal poverty level
    - Sex
  - Reference group = 65-74 years, non-Hispanic white, female, >200% federal poverty level, no untreated decay, 20+ teeth

## Aching

Ind. Variable	All (n=1733)	Poor health (n=467)
Odds Ratio		
Decay	2.2 (1.4, 3.3)	2.1 (1.1, 4.1)
<20 teeth	NS	NS

Controlling for race, poverty, gender, and age

## Avoid Food

Ind. Variable	All (n=1733)	Poor health (n=467)
Odds Ratio		
Decay	2.6 (1.9, 3.5)	2.3 (1.2, 4.3)
<20 teeth	2.6 (1.9, 3.5)	2.4 (1.4, 4.1)

Controlling for race, poverty, male, and age.

## Embarrassed

Ind. Variable	All (n=1733)	Poor health (n=467)
Decay	2.1 (1.5, 3.0)	NS
<20 teeth	2.6 (1.9, 3.7)	3.0 (1.8, 4.9)

Controlling for race, poverty, male, and age.

## Life less Satisfying

Ind. Variable	All (n=1733)	Poor health (n=467)
Decay	2.7 (1.8, 3.6)	2.5 (1.6, 4.1)
<20 teeth	2.6 (1.8, 3.7)	3.4 (1.8, 6.6)

Controlling for race, poverty, male, and age.

## SUMMARY

- Poor OHRQoL associated with untreated dental decay
  - More than twice as likely to report pain, food avoidance, embarrassment, and less satisfaction with life
  - Association holds among those reporting poor general health (with exception of embarrassment)

## SUMMARY

- Poor OHRQoL associated with missing teeth
  - 2.6 times more likely to report food avoidance, embarrassment, and less satisfaction with life
  - Association holds among those reporting poor general health

## CONCLUSION

- A sizable number of older adults report aching, food avoidance, self consciousness/embarrassment, and less satisfaction with life of which a significant portion is attributable to untreated decay and having less than 20 teeth.

## QUESTIONS?

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