



Oral Health Among Public High School Students

Youth Risk Behavior System Survey

Background

The public health implications of poor oral health are vast and may impact a person's ability to eat, speak, work, communicate, and learn.¹ Various national resources guide discussion and awareness of oral health surveillance including Healthy People 2020 and several reports from the PEW foundation. The PEW Children's Dental Campaign is a national effort to increase dental care access among children.² A part of this program is the development of dental report cards for each state including the 2010 "Cost of Delay Report", the 2011 "State of Children's Dental Health: Making Coverage Matter", the 2013 "Falling Short: Dental Sealants", and the 2015 "States Stalled on Dental Sealant Program" reports. The State of Hawaii received a failing "F" grade in both the 2010 and 2011 reports and met only one of the eight standards. In the 2013 report, Hawaii also received a failing "F" grade and did not meet any of the four indicators which include: 1) access to sealants for low income children; 2) hygienists allowed to place sealants in school programs without a dentist exam; 3) collect data on children for national oral health data base; and 4) meeting the Healthy People 2020 sealant objectives.

Population based surveillance data can provide important information to inform activities to improve oral health of children and their families. Hawaii has been shown recently to have the highest dental decay experience among 3rd grade children in the nation based on data from the state's 2014-15 screening of 3rd grade children. It revealed that 70.6% had caries experience (treated or untreated tooth decay), which was last among the 47 reporting states (national average of 52%). Hawaii was ranked 17th among the 47 reporting states with regard to the presence of at least one permanent molar with a sealant (37.6% in Hawaii vs. National average of 32%). Certain populations - including Native Hawaiians, other Pacific Islanders, Filipinos, and neighbor island residents—were further burdened, with more than two times the untreated caries experiences compared to White and Japanese peers. This fact sheet highlights population based data on oral health from a survey of public middle and high school students in Hawaii as part of the larger effort to assess oral health in the state.

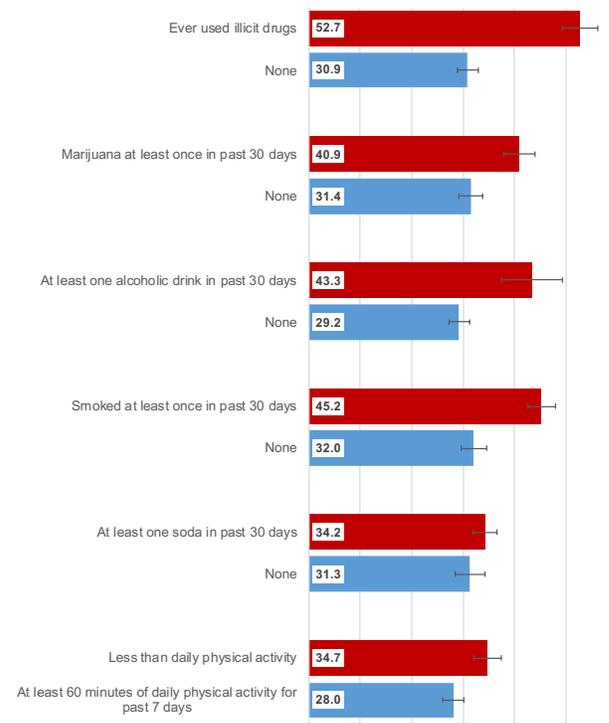
About the Data

The Youth Risk Behavior Survey is a self-reported, school-based survey of public high school students to monitor priority health-risk behaviors. It is administered in Hawaii every other year. Dental Visit in past year is assessed by "When was the last time you saw a dentist for a checkup, exam, teeth cleaning, or other dental work?" with a listing of time periods. Toothache is based on "During the past 12 months, did you have a toothache?" Excluded were 7.1% of the whole sample that did not answer the last dental visit question and 9.9% that did not answer the toothache question. Students are asked to identify which race/ethnic group best describes themselves from the six listed categories, "some other race or ethnicity", and "I do not describe myself as only one race or ethnicity" were the additional choices.

Data Highlights

- Nearly 1 out of 4 high school students did not see a dentist in the past year and nearly 1 out of 3 reported a toothache in the past year.
- No dental visit and toothache appeared to be more common among various race/ethnic subgroups.
- High School students had lower estimates of not seeing a dentist and higher estimates of toothache.
- Associations with risky behaviors included smoking, alcohol, marijuana, other illicit drug use, and lower physical activity among those who reported a toothache.

Associations with Toothache in past 12 Months among High School Students



Risk Factors and Outcomes Associated with Toothache

Compared to those that did not, public high school students that had toothache in the past 12 months were associated with several risky behaviors. An estimated 52.7% of those that ever used illicit drugs (e.g., cocaine, heroin, methamphetamines) reported a toothache compared to 30.9% of those that had never used illicit drugs. Current users of marijuana (40.9%) were more likely to report a toothache compared to not current users (31.4%). Those who drank alcohol (43.3%) were more likely to report a toothache compared to not current users (29.2%). Similarly, Current smokers (45.2%) were more likely to report a toothache compared to not current smokers (32.0%). Those reporting less than 60 minutes of daily physical activity (34.7%) were more likely to report a toothache compared to those that met the physical activity level (28.0%). Therefore, students experiencing and engaging in a constellation of harmful behaviors are more likely to report having a toothache.

Characteristics of High School Students by Dental Visit and Toothache Experience in Past Year, Hawaii YRBS 2013, 2015



Nearly One in Four High School Students Did Not See a Dentist in Past Year



One in Three High School Students Reported a Toothache in Past Year

	No Dental Visit		Toothache	
	Prevalence (%)	95% Confidence Interval	Prevalence (%)	95% Confidence Interval
Grade Level				
9th grade	20.5	(17.2 - 24.3)	32.5	(29.5 - 35.6)
10th grade	23.1	(20.7 - 25.7)	31.4	(27.9 - 35.0)
11th grade	22.9	(20.0 - 26.2)	36.8	(33.4 - 40.2)
12th grade	24.5	(21.6 - 27.7)	32.9	(29.9 - 36.1)
Preferred Race				
White	16.7	(12.5 - 22.0)	36.2	(31.7 - 40.8)
Native Hawaiian	28.4	(24.7 - 32.5)	36.6	(33.4 - 39.9)
Other Pacific Islander	36.0	(31.3 - 41.0)	45.2	(39.5 - 51.0)
Filipino	24.1	(21.6 - 26.7)	32.4	(29.4 - 35.6)
Japanese	14.7	(10.3 - 20.4)	23.0	(17.9 - 29.1)
Hispanic or Latino	33.7	(25.9 - 42.5)	39.5	(31.0 - 48.8)
Some other race or ethnicity	21.3	(16.5 - 27.2)	30.3	(25.5 - 35.5)
I do not describe myself as only one race or ethnicity	24.5	(21.5 - 27.8)	34.7	(31.3 - 38.2)
Sex				
Female	21.0	(19.0 - 23.2)	36.8	(34.0 - 39.8)
Male	24.6	(22.3 - 27.1)	29.6	(27.5 - 31.7)
Academic Grades				
Mostly A	18.7	(16.2 - 21.6)	28.5	(25.6 - 31.5)
Mostly B	21.5	(19.2 - 24.1)	32.3	(29.3 - 35.3)
Mostly C	27.1	(24.2 - 30.1)	37.7	(34.6 - 40.9)
Mostly D and F	36.4	(30.0 - 43.4)	39.3	(31.8 - 47.3)
County				
Hawaii	25.5	(23.0 - 28.2)	32.3	(30.2-34.5)
Honolulu	21.4	(19.2 - 23.8)	28.6	(26.9-30.3)
Kauai	26.8	(24.6 - 29.2)	32.8	(30.6-35.2)
Maui	26.2	(24.0 - 28.4)	30.2	(28.1-32.3)
Overall	22.9	(20.9 - 24.9)	33.3	(31.4 - 35.3)

Characteristics of High Schools Students

In Hawaii, 22.9% of high school students did not see a dentist and 33.3% reported a toothache in the past year. High School students that self-identified as Other Pacific Islander, Hispanic, and Native Hawaiian were less likely to have a dentist within the past year. Toothache was more common among those describing themselves as Other Pacific Islander and Hispanic. Those reporting academic grades of mostly D and F had the highest prevalence estimates of no dental visit and toothache. Japanese had the lowest prevalence estimates of not seeing a dentist and having a toothache. Those reporting academic grades of mostly A and mostly B also had low prevalence estimates of not seeing a dentist in the past year and having a toothache.

Discussion

This analysis highlights estimates of no dental visit and toothache in the past year among public high school students in Hawaii and provides information on characteristics associated with these outcomes. In Hawaii, nearly 1 out of 4 students did not see a dentist and nearly 1 out of 3 reported a toothache in the past year. The American Academy of Pediatric Dentistry recommends a dental checkup at least twice a year for most children with more frequent visits in those indicated by individual patient’s risk status/susceptibility to disease.⁴ A large proportion of high school students are not even seeing the dentist at least once a year. In light of the data presented in this fact sheet and the documented clinical findings found in even younger (i.e., 3rd grade) children, efforts are needed to promote the importance of routine oral health care to help minimize disease. The high number of students reporting a toothache within the last year is concerning and calls for increasing awareness regarding the negative effects of episodic care and its impact on academic success.

Oral health of children in Hawaii needs to be improved in a comprehensive fashion. Strategies identified in the 3rd grade children report included 1) community-based prevention programs; 2) screening and referral services; and 3) restorative dental care.³ These strategies are applicable to children of all ages and important in promoting healthy oral health for adolescents in Hawaii.

References

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