Oral Health Care Receipt and Self-Rated Oral Health for Diverse Asian American Subgroups in New York City

Molly Jung, MPH, Simona C. Kwon, DrPH, Neile Edens, PhD, Mary E. Northridge, PhD, MPH, Chau Trinh-Shevrin, DrPH, and Stella S. Yi, PhD, MPH

Objectives. To identify determinants of receipt of annual oral health examinations and self-rated oral health among diverse Asian American subgroups.

Methods. We used data from the Community Health Resources and Needs Assessment, a community-based survey of Asian American immigrant adults conducted in the New York City metropolitan region from 2013 to 2016 (n = 1288). We used multivariable logistic regression models to assess determinants of oral health care receipt and self-rated oral health.

Results. Failure to receive an annual oral health examination was common in this sample (41.5%) and was more frequent for participants who were younger and male and those who had poorer English fluency and lower educational attainment. Not having dental insurance versus having private dental insurance resulted in 2 to 3 times the odds of nonreceipt of oral health care and poor self-rated oral health.

Conclusions. Nonreceipt of annual oral health examinations and poor self-rated oral health were common across Asian American subgroups. Facilitating dental insurance sign-up and providing in-language services may improve oral health care access and ultimately oral health among Asian American immigrants. (*Am J Public Health.* 2017;107:S94–S96. doi:10.2105/AJPH.2017.303661)

Asian Americans are the fastest growing immigrant group in the United States.[1] Yet, evidence-based programs and policies to promote health are not possible, because they often are not represented in research. In recent data from New York City, Asian American adults compared with other racial/ethnic groups were most likely to report not having seen a dentist in the past year.[2,3] Similarly, Asian American children were most likely to never have had a dental visit[4] and to have a high prevalence of dental caries.[5] Asian Americans in previous studies have been represented predominantly by Chinese Americans or in aggregate.[2–6] Whether results disaggregated by Asian American subgroup show different findings is unknown. Our objectives were to identify determinants of receipt of annual oral health examinations and self-rated oral health in a diverse sample of Asian Americans.

METHODS

We conducted a cross-sectional analysis of data from the Community Health Resources and Needs Assessment at the NYU School of Medicine Center for the Study of Asian American Health. This in-person community-based survey of low-income, self-identifying adults of Asian descent was conducted in the New York City metropolitan region from 2013 to 2016 and was administered in the participant's preferred language.

Oral Health Outcomes

To assess receipt of an annual oral health examination, participants were asked, "When was the last time, if ever, you received a check-up for oral/dental health?" Responses included the following: in the past 12 months, 1 to 2 years ago, 2 to 3 years ago, 3 or more years ago, and never. Receipt of an oral health examination was categorized into a binary variable (in the past 12 months vs other responses). Self-rated condition of the mouth and teeth was evaluated by the following question: "How would you describe the condition of your mouth and teeth?" Responses included the following: very good, good, fair, and poor. Self-rated condition of the mouth and teeth was categorized into a binary variable (poor vs other responses).

Determinants

The following potential determinants of oral health care that were identified a priori were included in the analysis: age (18–44, 45–64, or ≥ 65 years), gender, residence (each of the 5 New York City boroughs and other, which included neighboring areas in New Jersey), ethnic group (South Asian [Asian Indian, Bangladeshi, Pakistani, Himalayan, Sri Lankan], East Asian [Chinese, Korean, Japanese], Southeast Asian [Filipino, Vietnamese, Cambodian], and Arab), nativity (US-born or foreign-born), English fluency

ABOUT THE AUTHORS

Molly Jung is with the Department of Epidemiology, Johns Hopkins University School of Public Health, Baltimore, MD. Simona C. Kwon, Chau Trinh-Shevrin, and Stella S. Yi are with the Department of Population Health, New York University, New York, NY. Neile Edens is with Common Threads, Austin, TX. Mary E. Northridge is with the Department of Epidemiology and Health Promotion, New York University College of Dentistry, New York.

Correspondence should be sent to Stella S. Yi, PhD, MPH, Department of Population Health, NYU School of Medicine, 550 First Ave, VZN Suite 844, New York, NY 10016 (e-mail: stella.yi@nyumc.org). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

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TABLE 1—Distribution and Multivariable Associations Between Determinants of Oral Health and Nonreceipt of an Annual Oral Health Examination and Poor Self-Rated Oral Health in Asian Americans: New York City, 2013–2016

	Annual Oral Health Examination		Self-Rated Status of Mouth and Teeth	
	Prevalence of Nonreceipt (n = 1288), %	OR (95% CI) of Nonreceipt vs Receipt[a]	Prevalence of Poor Self-Reported Status (n = 1268), %	OR (95% CI) of Poor vs Not Poor Status[a]
Age, y				
18–44	44.2	1.71 (1.12, 2.62)	7.5	0.53 (0.30, 0.94)
45–64	39.8	1.06 (0.70, 1.61)	15.9	0.83 (0.50, 1.40)
≥ 65	36.6	1 (Ref)	25.6	1 (Ref)
Gender				
Female	38.7	1 (Ref)	14.6	1 (Ref)
Male	45.1	1.35 (1.05, 1.74)	11.5	0.85 (0.58, 1.24)
Place of residence				
Bronx	71.4	3.11 (1.57, 6.16)	19.2	2.43 (0.92, 6.40)
Brooklyn	37.9	1.15 (0.65, 2.03)	10.1	0.72 (0.33, 1.61)
Manhattan	28.3	1 (Ref)	14.6	1 (Ref)
Queens	39.2	1.02 (0.59, 1.77)	15.0	1.13 (0.54, 2.36)
Staten Island	28.4	0.72 (0.33, 1.57)	3.1	0.36 (0.07, 1.92)
New Jersey	33.6	0.98 (0.52, 1.86)	8.9	0.83 (0.32, 2.12)
Ethnic group				
South Asian	42.0	1.48 (0.89, 2.47)	11.2	0.98 (0.39, 2.47)
East Asian	33.1	1.06 (0.61, 1.85)	19.2	1.58 (0.62, 4.02)
Southeast Asian	57.3	1.65 (0.90, 3.02)	11.9	0.54 (0.18, 1.61)
Arab	29.4	1 (Ref)	7.0	1 (Ref)
English fluency				
Very well	36.9	1 (Ref)	5.7	1 (Ref)
Well	36.0	0.90 (0.64, 1.25)	10.0	1.16 (0.64, 2.08)
Not well	50.3	1.62 (1.05, 2.49)	19.9	1.31 (0.67, 2.58)
Not at all	54.7	2.26 (1.21, 4.23)	36.6	2.08 (0.91, 4.72)
Education				
< high school	51.7	1.20 (0.81, 1.78)	23.3	1.30 (0.73, 2.30)
High school equivalent/some college	41.8	1.01 (0.75, 1.37)	12.2	1.21 (0.74, 1.99)
College graduate	34.3	1 (Ref)	7.4	1 (Ref)
Working status				
Working	40.6	1 (Ref)	9.5	1 (Ref)
Not working	42.8	0.98 (0.73, 1.33)	18.9	0.94 (0.60, 1.46)
Income, $				
< 25 000	46.0	1.17 (0.86, 1.60)	18.9	1.10 (0.72, 1.68)
25 000–55 000	46.1	1.45 (1.06, 1.97)	9.5	0.96 (0.59, 1.59)
> 55 000	29.8	1 (Ref)	9.1	1 (Ref)
Self-reported overall health status				
Excellent	28.7	1 (Ref)	5.7	1 (Ref)
Very good	37.1	1.58 (1.02, 2.45)	7.4	1.13 (0.50, 2.53)
Good	44.0	1.90 (1.25, 2.87)	8.9	1.11 (0.53, 2.35)
Fair	49.8	2.11 (1.33, 3.34)	21.8	2.28 (1.08, 4.83)
Poor	39.7	1.28 (0.68, 2.40)	44.7	6.50 (2.80, 15.11)

Continued

(very well, well, not well, or not at all), education (< high school, high school/some college, or college), currently working, income (< $25 000, $25 000–$55 000, > $55 000, or missing), self-rated health (excellent, very good, good, fair, and poor), and dental insurance (public, private, or none).

Statistical Analysis

We used frequencies to assess the distributions of nonreceipt of annual oral health examinations and self-rated oral health by potential determinants. We used multivariable logistic regression models to estimate odds ratios and 95% confidence intervals (CI) to assess the associations between the potential determinants and the receipt of oral health care and self-rated oral health. All tests were considered statistically significant at $P < .05$. Analyses were performed in Stata version 14.0 (StataCorp LP, College Station, TX).

RESULTS

The analytic sample was composed of 1288 of the initial 1537 participants (we excluded people missing oral health data, n = 123; missing covariate data, n = 126). Half of the study participants were aged between 18 and 44 years (49%); 57% were women. The largest ethnic group represented was South Asian (42%), followed by East Asian (31%), Southeast Asian (19%), and Arab (8%). Participants were mostly foreign-born (90%) and had various levels of English fluency (31% reported speaking English very well, whereas 7% reported not speaking English at all). The participants were highly educated (40% college educated), yet the household income level was low (26% earned more than $55 000). Forty percent reported not working, and 16% reported no dental insurance.

The prevalence of nonreceipt of annual oral health examinations was 41.5% and was higher in younger than in older adults and in men than in women. Participants lacking receipt of annual oral health examinations were more likely to live in the Bronx (Table 1), be of Southeast Asian background, have poorer English fluency, have lower educational attainment, self-report moderate health, and lack dental insurance. In multivariable analyses, ethnic group was not associated with an increased prevalence of nonreceipt of annual oral

TABLE 1—*Continued*

	Annual Oral Health Examination		Self-Rated Status of Mouth and Teeth	
	Prevalence of Nonreceipt (n = 1288), %	OR (95% CI) of Nonreceipt vs Receipt[a]	Prevalence of Poor Self-Reported Status (n = 1268), %	OR (95% CI) of Poor vs Not Poor Status[a]
Insurance status				
Public	41.1	1.14 (0.82, 1.59)	16.0	1.42 (0.80, 2.51)
Private	30.6	1 (Ref)	6.2	1 (Ref)
No insurance	63.3	2.96 (1.99, 4.41)	16.9	2.13 (1.14, 3.99)

Note. CI = confidence interval; OR = odds ratio. ORs and 95% CIs were estimated with multivariable logistic regression models.
[a]Models included all of the covariates listed in the table.

health examinations. Lacking dental insurance compared with having private dental insurance was associated with a nearly 3-fold prevalence of nonreceipt of oral health care, and not possessing English fluency compared with being very fluent in English was associated with a 2-fold increase in nonreceipt of oral health care.

Despite the high prevalence of lack of oral health care, only 13.2% of the participants self-rated their oral health as poor. Poor self-rated oral health was higher in those who lacked access to oral health care (15.8% vs 11.4%; $P = .02$) and was reported more frequently in older versus younger age groups, women versus men, and East Asian versus Southeast Asian. Furthermore, poor self-rated oral health was more prevalent in adults with lower versus higher English fluency, lower versus higher income, poor versus excellent general health, and public or no dental insurance versus private dental insurance. In multivariable analyses, self-reported oral health was statistically significantly poorer for adults who were younger versus older, who had poor general health versus excellent health, and who did not have insurance versus did have dental insurance. When controlling for these factors, gender, ethnic background, English fluency, working status, and income were not associated with poor self-rated oral health.

DISCUSSION

Nonreceipt of annual oral health examinations was common in our sample of mostly immigrant Asian Americans living in the New York City metropolitan region. These findings are consistent with the results of a previous study of oral health care use among diverse immigrants living in the city, including adults born in China, the Dominican Republic, Haiti, India, Puerto Rico, and other Caribbean islands, where Chinese-born immigrants were the least likely to report having seen a dentist in the past year.[2] In a related study, dental insurance and a regular source of dental care were associated with higher oral health care use.[6]

We found that adults who self-reported poor general health were more likely to self-report poor oral health, but it did not fully explain the variation. Our results suggest that self-rated oral health may capture a different set of perceived health attributes that may be of interest to providers. Self-rated general health items have been shown to be valid and reliable predictors of mortality and morbidity.[7]

Our study had several limitations. We used self-report to assess receipt of oral health examinations, which may be subject to reporting bias. These results were from a community-based sample, and generalizability to Asian Americans outside of the New York metropolitan region may be limited.

This study adds to the scarce evidence base on oral health care use and self-rated oral health among low-income Asian Americans from diverse backgrounds. New models of community-based oral health promotion by community educators[6] and team-based integrated care coordinated by dental hygienists[7] may provide access to culturally tailored, cost-effective oral health care for immigrant Asian American populations.

PUBLIC HEALTH IMPLICATIONS

In our analysis of diverse, low-income, primarily foreign-born Asian Americans living in the New York metropolitan region, English proficiency, dental insurance status, and self-rated health were determinants of receipt of oral health care. Culturally tailored messages to promote dental insurance sign-up to Asian American immigrants are key to providing improved oral health care access and ultimately improved oral health. AJPH

CONTRIBUTORS

M. Jung led the analysis of the data and the writing of the article. S. C. Kwon, N. Edens, M. E. Northridge, and C. Trinh-Shevrin assisted with the interpretation of the results and the writing of the article. S. S. Yi conceptualized and supervised the study.

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HUMAN PARTICIPANT PROTECTION

The New York University institutional review board approved the survey. Written informed consent was obtained from all study participants.

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