Early Intervention for Cardiovascular Disease and Periodontal Disease among South Asians in San Joaquin County

Aarjit Adhikary, B.A., 1, 2, 3
Maha Siddiqui, B.A. 1, 2, 3, 4

1 University of California Berkeley; 2 Department of Molecular and Cellular Biology; 3 Stanford Leadership Education for Aspiring Physicians. 4 City of Tracy, CA, USA.

Background

Cardiovascular disease (CVD) is the leading cause of mortality in the United States. About 1 in 4 deaths are a direct result of CVD. Asian or Pacific Islanders constitute 22.2% of CVD mortality. A large South Asian population is anticipated to be at high risk for not merely CVD, but also periodontal diseases (PD). Recent clinical trials report significant association between CVD and PD and epidemiological studies suggest increasing trends for both. A major public health concern is the lack of awareness that oral health affects heart health and can lead to mortality. Both PD disease and CVD are preventable; therefore, early intervention can lower the onset of disease and mortality.

Community Partners

Our community partners were primarily located in San Joaquin County. The project partnered with Tracy High School students, parents and members of the Tracy Islamic Center for project volunteers and event venues respectively. Other notable partners included Stanford Medical School and Stanford Center for Asian Health and Research. Our medical partners facilitated all equipment required for heart health screening, viz. digital sphygmomanometers and pulse-oximeters. Donations of healthy snacks and goody bags were provided by Safeway and Costco.

Project Description

The project aimed to achieve its goals of generating awareness on CVD and PD through clinical screening, youth leadership in medical education, educational inclusion within the campus community and a series of community awareness events.

Outcomes

There is evident lack of awareness in the South Asian community on heart health and oral health. San Joaquin County has a growing South Asian community, which in 2017 comprised of 14.3% (or 105,596) of the population. Less than 30% of this population has a college degree and there is a growing trend of educated youth moving from San Joaquin to adjacent affluent counties for better employment and education opportunities. Anecdotally evidence points to the South Asian community not seeking healthcare until it is too late. South Asians have built an increasing reliance on hospital emergency departments, which indicates the continuing challenge in public health relating to healthcare access. The South Asian community is often only aware of cultural at folk remedies for cures show reluctance to rely on medical expertise or have initiative to go to the dentist or the doctor when symptoms arise. Despite aforementioned cultural and socio economic setbacks, it remains exigent to generate awareness on preventable diseases like CVD and PD through implementing simple and achievable goals within the San Joaquin community.

Recommendations

The turnout of participants prove to be both a challenge and limitation. Expected turnouts were approximately 500 participants for screening and 50 for awareness and enrichment events, respectively. The expected turnout was not met because of conflict of academic and cultural events (graduation and funeral) organized on the same day. These conflicts of events resulted in a turnout of around 150 people. We recommend surgical planning and promotion, especially for future community events.

Acknowledgments

UC Berkeley Cal Day, Alpha Phi Sorority, Berkeley, CA., Stanford University, Stanford, CA., Costco, Safeway Community Market, Tracy, CA.

FIGURE 1: Schematic of project’s logic model which serves to alleviate the mortality of CVD and periodontal diseases in the South Asian community in San Joaquin County, by promoting community engagement, generating awareness, and bridging the hiatus between healthcare providers and patients.

FIGURE 2: Hypertension data classified by new American Heart Association (AHA 2019) guidelines.

FIGURE 3: Measure of hypertensive patients’ compliance for anti-hypertensive drugs.

Findings delineate only 9.1% under normal blood pressure category among patients on anti-hypertensive agents (viz. thiazide diuretics, calcium channel blockers, ACE inhibitors, angiotensin II receptor antagonists and beta blockers). Findings also demonstrate a strong need for intervention in promoting medication compliance for hypertensive patients.

FIGURE 4: Hypertension (HTN) by Category

FIGURE 5: Hypertension (HTN) by Category for Patients currently on Anti-hypertensives

FIGURE 6: Project volunteers conduct a Heart Health Screening in Tracy, CA. Date: 06/08/2019