Diabetes Academy: Utilization of Video Education for Expansion of Updated Asian American Diabetes Screening Guidelines

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ABSTRACT

Prior longstanding screening guidelines for type 2 diabetes (T2D) set by the American Diabetes Association (ADA) was generalized around a body mass index (BMI) of ≥ 25 with associated risk factors. However, new research that emerged displaying disaggregated epidemiological incidence of T2D in Asian Americans was vastly different from the generalized American population. Certain sub-groups of Asian Americans, such as Pacific Islanders and Filipinos, had a higher prevalence of diabetes when compared to ethnic groups considered as high risk, such as African Americans and Native Americans. Furthermore, research suggested that Filipino women had a higher central-peripheral adiposity ratio when compared to African American women, which is more indicative of T2D risk. Currently Asian Americans have an obesity prevalence nearly 1/3 of the aggregate United States population, suggesting that the previous BMI setpoint of 25 failed to diagnose Asian Americans early enough. With this research, the ADA revised its guidelines to lower the BMI cutoff for Asian Americans to 23 in order to catch the Asian American who is normal appearing and normal weight, yet metabolically obese. This project explores the potential of video education in encouraging health literacy of Asian Americans to pursue screening for T2D screening early to avoid devastating insidious end-stage disease.

BACKGROUND

Diabetes

Diabetes is the leading cause of non-traumatic lower extremity amputations, vision loss, end stage renal disease, and a predictor of mortality following acute coronary syndrome. Despite the grave and morbid end stage manifestations, T2D often prevents diabetic patients from seeking early screening and subsequent treatment due to late onset of signs and symptoms. Generalized ADA guidelines recommend screening in adults > 45 years with a BMI ≥ 25 kg/m² with associated risk factors including sedentary lifestyle and a history of cardiovascular disease.

Diabetes in Asian Americans

Disaggregated data shows high prevalence of diabetes amongst Pacific Islanders (18.3%), Filipinos (16.1%), and South Asians (15.9%) compared to traditionally high risk groups, such as Latinos (14.0%), African Americans (13.7%), and Native Americans (13.4%). However, the measured BMI of these Asian American groups lag far behind their high risk counterparts. Morphology based on computed tomography shows higher visceral:peripheral adiposity in Filipino women when compared to matched African American women which had a related higher odds ratio (OR=2.30) in comparison. 50.9% of Asian Americans living with T2D remain undiagnosed. And the updated screening guidelines of BMI ≥ 23 kg/m² specifically for Asian Americans can have the potential to include one in three previously undiagnosed T2D cases according to previous unrevised guidelines.

OBJECTIVES

- The objective of this project is to identify and implement effective video presentation to encourage health literacy amongst viewers and to facilitate enhanced early diabetes screening of Asian Americans.

METHODS

In collaboration with the YouTube (Alphabet Inc., Mountain View, California) science educator and medical student Armando Faigl, we planned, illustrated, and directed a comprehensive video that underwent serial revisions after screenings with audiences of a diverse range of educations and backgrounds.

A 1-5 Likert rating survey (1=very unfamiliar, 5=very familiar or 1=strongly disagree, 5=strongly agree) was created to assess viewer demographics and familiarity before and after video intervention of diabetic screening guidelines. A three month follow-up will be initiated to assess any successful referrals either of self, family, or friends to watch the educational video and receive appropriate screening as necessary. A trial series was gathered at the Filipino Undergraduate Society for Health Annual Health Summit 2017. Statistics and a painted students’ test was generated using SPSS Statistics (IBM Corporation, Armonk, New York).

An accompanying website was created at 23screen.me to showcase this video and directly link to the survey.

RESULTS

This proof of concept series included 23 participants (16 female, 7 male). The mean age was 22 years (range 18-32 yrs). The mean height was 1.63 meters (range 1.50-1.80 m) and mean weight was 59.6 kilograms (range 40.8-86.2 kg). All but one (white) participants were Asian American. 20 participants were non-diabetic and 3 participants were unsure of current status.

The mean knowledge of ADA guidelines for the general population pre-video was 2.70 and post-video was 4.35. The mean knowledge of ADA guidelines for the Asian American population pre-video was 1.87 and post-video was 4.35. There was a statistically significant difference between pre- and post-video knowledge evaluated. ADA guidelines for the general population (p=0.0001) and for the Asian American population (p=0.0001).

Viewer assessment was further evaluated:
- Was the video informative? (mean=5.00)
- Was the information explained in a manner appropriate for the general population? (mean=4.96)
- Was the video enjoyable? (mean=5.00)

CONCLUSIONS

- The video approach to the updated ADA screening guidelines for the Asian American population is a viable method of improving knowledge of viewers.
- Further evaluation is needed at three month followup to assess longevity and sustainability of health literacy amongst viewers’ community.
- Further evaluation is needed as the video is released in its final format.

REFERENCES