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Evaluation of Culturally Appropriate Community Health Education on Diabetes Outcomes

Association of Asian Pacific Community Health Organizations
Waianae Coast Comprehensive Health Center

INTRODUCTION

Preliminary evidence based on experiences of staff at a number of health centers suggest that health education plays a critical role in improving health access and outcomes for underserved populations. However, there have been no definitive studies to support this claim due in part to the current lack of health education data collection and evaluation to demonstrate its essential impact on quality of care. Without sufficient understanding of its impact, health education will continue to be inadequately financed, if at all. In fact, the lack of definitive data about health education has been a crucial barrier to demonstrating its value and securing financial support for these essential services at community health centers. This study seeks to fill this information gap by examining the impact health education has in improving HbA1c outcomes of health center patients with diabetes.

As part of the Enabling Services Accountability Project, the Association of Asian Pacific Community Health Organizations (AAPCHO), in collaboration with Waianae Coast Comprehensive Health Center (WCCHC), examined the impact of health education utilization on underserved diabetes patients at WCCHC, a federally qualified health center serving predominantly Native Hawaiian patients. The study compared active and nonactive health education users on diabetes HbA1c or blood sugar levels, an essential measure of diabetes. The results indicated that increased health education visits are associated with improved HbA1c levels, and thus are essential to patient health care. Through this project, we demonstrate the vital role of health center educational services in reducing diabetes health disparities. This project also illustrates the importance of developing long-term federal and state initiatives and funding to fully support these essential and currently poorly-reimbursed services at community health centers across our nation.

METHOD

Sample

Setting:

Waianae Coast Comprehensive Health Center (WCCHC), a federally qualified health center located in Waianae, Oahu, Hawaii. WCCHC serves over 25,000 patients, 73% of whom are at or below 200% poverty level and 76% are Asian Americans, Native Hawaiians and Other Pacific Islanders (APIOs).

Sample:

The sampling frame included adult diabetes patients (>18 years old) at WCCHC with three or more primary care visits annually between 1/1/02-12/31/05.

Groups:

Active Group: Diabetes patients with 2 or more health education visits annually between 2002-2005 (195 patients: 46% Male, 54% Female; Mean Age = 47.9 years).

NonActive Comparison Group: Diabetes patients with less than 2 health education visits annually between 2002-2005 (73 patients: 53% Male, 47% Female; Mean Age = 51.9 years).

Data Collection

Archival electronic patient records were used for analysis.

Patients were randomly drawn from the eligible patient population into the two groups based on administrative and clinical data.

Analysis of Covariance

Independent Variables: Group (Active, NonActive); Gender (Male, Female)

Covariates: Age; 1st HbA1c value (baseline)

Dependent Variable: 2nd HbA1c value (average: 12 months later)

Fig. 1 Race/Ethnicity

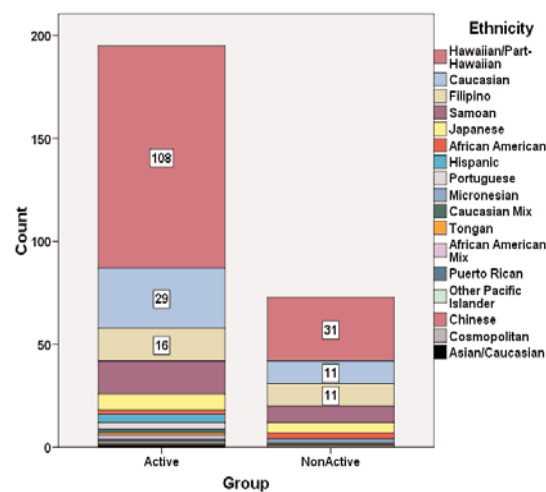
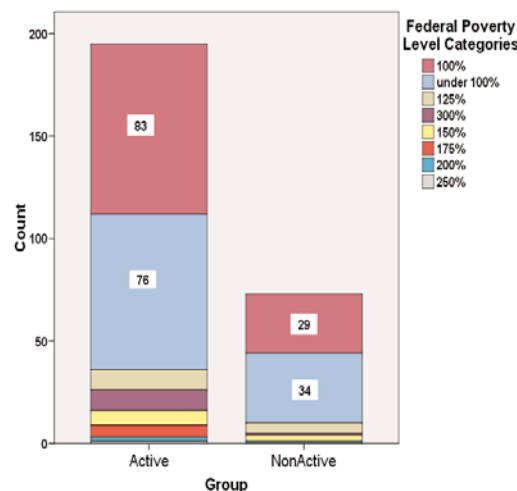


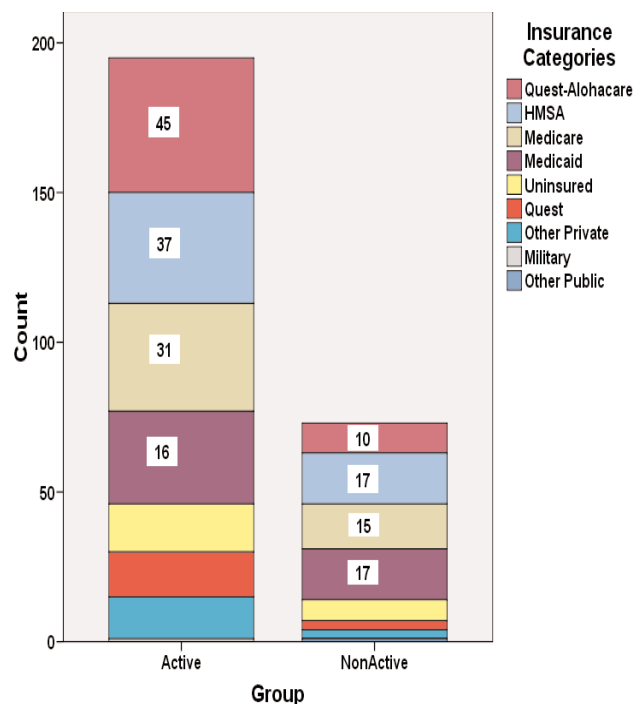
Fig. 2 Poverty Level



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Fig. 3 Insurance Status



HEALTH EDUCATION

Diabetes health education at WCCHC is unique as it is based upon the Chronic Care Model that adopts a multidisciplinary approach that includes disease management, medication management, insulin administration & apparatus management (self-monitoring blood glucose for Diabetes Mellitus). Furthermore, WCCHC services are culturally appropriate and tailored to the underserved populations it serves. For example, the health education staff are from the community and therefore are able to develop rapport from shared experiences, facilitating and sustaining engagement.

The majority of the health education services included in this study were related to diabetes, although diabetes patients may have received them for other conditions. They were defined as: (1) health education or provision of materials to an individual or family on disease management or (2) education and monitoring of chronic disease through self-management plan.

Since 2000, there has been a decreasing number of diabetes health educators at WCCHC as funding to cover the services has been inadequate to serve the growing numbers of diabetes patients. This study demonstrates the important role of health center educational services in improving diabetes and supports national efforts to demonstrate the value of these essential and currently non-reimbursed services at community health centers.

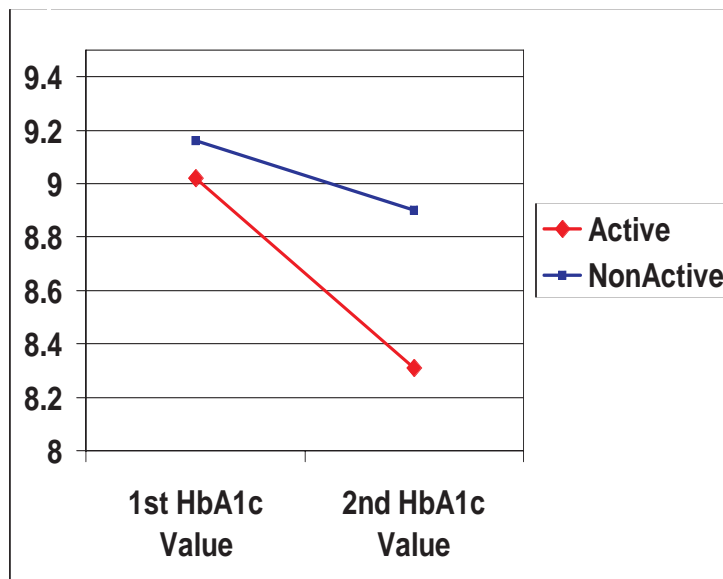
RESULTS

There were no significant differences between Active and Nonactive groups by gender, age, ethnicity, poverty level, or insurance (Fig. 1,2,3), indicating that diabetes patients in the two groups have similar demographic profiles. A significant difference existed between diabetes health education Active and NonActive users at 12-months after baseline HbA1c value ($F=5.6, p<.02$). There was a main effect of HbA1c values indicating that HbA1c values improved for both groups ($F=133.5, p<.00$) (Fig. 4). These results suggest that health education improved diabetes outcomes for AAPI patients, and thus are essential to improving quality of diabetes care for these populations.

CONCLUSIONS / IMPLICATIONS

- ♦ The study demonstrates the critical impact of health education on patient health and the importance of sustaining funding for critical health education services at community health centers.
- ♦ Culturally & linguistically appropriate health education services are integral components of health center care for underserved populations and reduce barriers to care and health disparities.
- ♦ More research is necessary to determine whether other related factors impact diabetes health outcomes, such as presence or attention of providers, number of providers available, and timing of health education service.

Fig. 4 HbA1C Value by Group



LIMITATIONS

There are several limitations to consider in interpreting results. First, although results are promising, it is important to note that health education services were not specific to diabetes management and prevention. Health education sessions were not consistent throughout the study period of 2002-2005 with major fluctuations in health education staffing. In future studies, it will be important to more specifically measure the types and levels of health education and staffing available for these programs. This study also raises issues about the importance of sustaining health education services at community health centers and other healthcare providers. Health education services may have a significant impact as long as there is continual support for sustaining these services. We also cannot exclude the impact of the presence or attention of providers and continuity of care and care management on patients that may have influenced behavior and lead to improvement in their HbA1c levels. We plan to conduct more research to assess the impact of health education and continuity of care on diabetes outcomes.