Research Article

Filling the Void: A Multi-Component, Culturally Adapted Smoking Cessation Program Integrating Western and Non-Western Therapies

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Abstract

Background: *Smoking is especially prevalent among Native Hawaiians. The 2002 Behavioral Risk Factor Surveillance System revealed that 33.8% of Hawaiians were current smokers. Native Hawaiians have the highest age-adjusted lung cancer incidence and mortality rates and the highest prevalence of asthma among all ethnicities.* ***Purpose:*** *This study describes the outcomes of a culturally appropriate, integrated smoking cessation program.* ***Methods:*** *Each participant (n=209) was exposed to multiple treatment options—Hawaiian therapies, Western pharmacotherapy, acupuncture, and fitness training—and was permitted to opt for the program of personal preference. Pre-post program evaluation, with three-, six-, and twelve-month follow-up, was performed.* ***Results:*** *Of the 177 participants who attended two or more sessions, 59% (n=105) quit or reduced smoking by one half, and 23% (n=41) quit. The three-, six-, and twelve-month quit rates were 23% (n=40), 15% (n=27), and 15% (n=27), respectively.* ***Discussion:*** *There is limited data available on quit rates for culturally specific, multi-component smoking cessation programs. A variety of methods and treatments, including pharmacological, lifestyle, alternative, and behavioral therapies, have enhanced smoking cessation program outcomes.* ***Translation to Health Education Practice:*** *Through the development of a multi-component program that integrated Western methodologies with traditional healing practices, a void was filled. Similar culturally informed methods may enhance future efforts in designing ethnic-specific smoking cessation programs.*

BACKGROUND

Cigarette smoking has been identified as the leading preventable killer in the United States, with an annual national death toll of more than 440,000 individuals.[1] In 2003, an estimated 22.1% of adults in America smoked cigarettes.[2] When figures due to lost productivity and excess medical expenditures are combined, the annual economic burden caused by smoking exceeds $150 billion, or $7.18 for each pack of cigarettes sold in the United States.[3]

Smoking is especially prevalent among Native Hawaiians. The 2002 Behavioral Risk Factor Surveillance System (BRFSS) revealed that 33.8% of Hawaiians surveyed were current smokers (up from 26.5% in 1999).[4] Native Hawaiians have the highest age-adjusted lung cancer incidence and mortality rates and the highest prevalence of asthma among all ethnicities.[5,6] In a study of a small Native Hawaiian population (n=257) on the island of Moloka'i, 42% of the males smoked cigarettes regularly.[7] In a separate survey, more than 25% of the female Hawaiian/Pacific Islander youths interviewed reported having smoked in the past month.[8]

According to a 1990 survey conducted by the State of Hawai'i Alcohol and Drug Abuse Division among 2,157 students attending high school on the Wai'anae Coast, over half of the Hawaiian/part-Hawaiian students reported that one or both of their parents smoked. Likewise, in a pediatric asthma management program funded by the Hawai'i Medical Service Association Foundation and conducted by the Wai'anae Coast Comprehensive Health Center (WCCHC) in 1999–2001, smoking was observed

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in 75% of the homes visited.[9] Among WCCHC patients, smoking prevalence reflected that of the community. A chart review of the 4,082 active adult records containing documentation regarding smoking status revealed that 2,193 (54%) of the individuals were current smokers. It should also be noted that an additional 2,206 records contained no documentation, so smoking prevalence may be higher.

A uniting factor among those who smoke seems to be the desire to quit. A 2002 nationwide survey found that 52% of smokers had attempted to quit in 2001, compared with 45% in 1996.[10] Another survey indicated that even though 70% of smokers possessed a strong desire to quit, only 5.7% maintained nonsmoker status 12 months after quitting.[11] According to the 2000 Native Hawaiian Smokers Study, 71% of the respondents desired to quit or smoke less, and 70% had tried to quit smoking at some point in their lives. However, only 28% of those interviewed reported awareness of smoking cessation programs.[12]

PURPOSE

Smoking cessation programs are the most efficacious means of producing short-term public health benefits, with programs designed for and implemented among specific groups being the most cost-effective type.[13,14] Yet, culturally competent smoking cessation programs for Native Hawaiian populations are virtually nonexistent. A recent literature review unearthed only two peer-reviewed studies of smoking cessation among Asian American/Pacific Islanders, and none for Native Hawaiians specifically—as one researcher put it, this population is "not 'hard-to-reach,' but hardly reached."[15] Despite the magnitude of tobacco use and associated health risk among Native Hawaiians, there is a paucity of smoking cessation research for this population. In response to this disparity of services in the face of obvious need, the WCCHC developed an integrated smoking cessation program specifically tailored to its predominantly Native Hawaiian population.

METHODS

Setting

As the largest community health center in Hawai'i, the WCCHC also services the most Native Hawaiians in the state. In 2004, the WCCHC provided services to 24,048 individuals: 52% were Native Hawaiian; 68% were below the federal poverty level; 17% were uninsured; and 50% were insured by Medicaid and/or QUEST. WCCHC comprises seven clinic sites that offer the following range of services: primary care; specialty care; emergent care (24-hour); laboratory (24-hour); radiology (24-hour); dental; pharmacy; preventive health/health education; medical nutrition therapy/women, infants, and children (WIC); case management; chronic disease management; Native Hawaiian healing; integrative/alternative medicine; lifestyle enhancement; behavioral health; transportation; health career training; and a wellness center.

Study Design and Participants

The study design was a pre-post program evaluation with follow-up at three, six, and twelve months. Smoking status was self-reported and not validated by biochemical analysis. However, participants had no incentive to be untruthful—there was no contest to be won, and participation was completely voluntary. A formal control group was not included, although smoking incidence data was collected on 72 individuals who smoked and were enrolled in the WCCHC diabetes collaborative register. These 72 individuals had sociodemographic characteristics similar to those of the smoking cessation program participants, but none took part in that program. Over a period of one year, not one of these 72 individuals quit smoking.

Participants were either referred to the program by a WCCHC provider or self-referred. There was no charge for program participation. Over the course of three years, 209 individuals participated. Sixty-two percent of these participants were Asian American/Pacific Islander, including 50% of Native Hawaiian ethnicity. The remaining 38% were Caucasian, African American, and Hispanic. Twenty-three percent had private insurance, 44% Medicaid/Medicaid-managed care, 11% Medicare, and 22% unknown. Forty-nine percent were female, and 51% male. All participants were 18 years or older.

Program Format

The program consisted of four weekly group sessions (repeated consecutively each month) conducted by a multidisciplinary team that included a physician, a certified smoking cessation trainer, a certified smoking cessation counselor, and a traditional Hawaiian healing practitioner. The culturally adapted program curriculum was based on the U.S. Department of Health and Human Services Clinical Practice Guidelines for Treating Tobacco Use and Its Dependence. At the initial session, the physician conducted individual comprehensive medical evaluations and discussed the various Western pharmacotherapies (EZ Quit, Bupropion [Zyban/Wellbutrin], and nicotine-replacement therapies such as Nicotrol/Nicoderm]) that were available. The focus of the second session was on various forms of relaxation such as self-*lomilomi* (massage) and meditation, while the third session targeted traditional Hawaiian conflict resolution (*ho'oponopono*) and reduction of potential smoking triggers. During the final session, participants discussed how to maintain a healthy lifestyle through nutrition and exercise. Relapse prevention techniques, acupuncture, lifestyle enhancement activities, *lomilomi,* and a group *pa'ina* (celebration) were also integrated into the sessions.

The intent of the weekly sessions was to introduce participants to the options available at the WCCHC. Aside from Western medical and alternative smoking cessation therapies, participants received free access to WCCHC's gym, furnished with an array of *FreeMotion* weight machines. All exercise activities were conducted under the supervision of certified training personnel. The newly constructed dining pavilion, conveniently situated adjacent to the gym, offered inexpensive, healthy meals to participants. The Traditional Hawaiian Healing Center provided the following: *lomilomi* for

relaxation and stress relief, since increased smoking has frequently been related to increased stressful experiences[16]; *ho'oponopono* to resolve the sort of personal/interpersonal conflicts that can contribute to an individual's overall stress level[17]; *la'au lapa'au,* or the use of traditional Hawaiian herbs such as *'awa* or kava (although the mechanism for the effectiveness of *'awa* is not completely understood, preliminary research suggests that the kavapyrones found in kava may bind to areas in the brain associated with addiction, thereby acting as an anticraving agent)[18]; and *la'au kahea* (spiritual and faith healing). This array of options allowed each participant to create an individualized treatment plan.

Because Native Hawaiians are highly family-oriented, support systems were encouraged throughout the program. These could either be program buddies or small, comfortable groups of friends and/or family members (*kokua* groups). The inclusion of *kokua* groups helped to provide support throughout the duration of the program and to create an infrastructure for enhancing long-term smoking cessation maintenance.

RESULTS

Patient Encounters

A total of 209 individuals participated in the smoking cessation program. For the sake of consistency, and because it is difficult to effect change without a minimum number of visits, the smoking cessation and reduction results discussed below include only those who attended two or more sessions (n=177), as a limiting factor for the denominator.

Participants entered the smoking cessation program at various times across the three-year continuum of the program. Weekly session attendance ranged from one to twenty individuals, with an average weekly rate of 6.09 individuals. Fourteen percent (n=30) of the participants were lost to follow-up.

Smoking Cessation and Reduction Rates

Mean tobacco use decreased from 1.24 packs per day pre-program to .74 packs per day post-program. Fifty-nine percent (n=105) of the participants quit or decreased tobacco use by one half after attending two or more sessions. Twenty-three percent (n=41) quit smoking completely after attending two or more sessions. Quit rates were tracked at three, six, and twelve months post-program. Of the 41 individuals who quit smoking, 40 (23% of 177) were smoke-free at three months post-program, 27 (15% of 177) at six months, and 27 at twelve months.

DISCUSSION

There are limited data available on quit rates for culturally specific, multi-component smoking cessation programs. In the only comparable study of which we are aware, Nevid and Javier[19] reported a twelve-month abstinence rate of 8%, with a dose-response relationship shown between group session attendance and smoking abstinence. A variety of methods and treatments, including pharmacological, lifestyle, alternative, and behavioral therapies, have been well documented in enhancing smoking cessation program outcomes.

Allowing each participant in WCCHC's program to individualize treatment options led to difficulties in data collection. Although each participant was exposed to all the treatment options, specific data on how many individuals opted for Hawaiian therapies, Western pharmacotherapy, acupuncture, and fitness training, and how these data may have influenced quit rates, is unavailable. WCCHC's innovative and integrated model of health care is the focus of this paper. An inquiry into how individual treatment options impacted study results would be an interesting area for future research.

TRANSLATION TO HEALTH EDUCATION PRACTICE

The Surgeon General recently identified the elimination of tobacco-related disparities as a top priority, emphasizing that "achieving this goal will require stronger research efforts to find new and more effective interventions for our nation's diverse population groups."[20] Although tobacco use is pervasive among Native Hawaiians, an acute lack of culturally appropriate smoking cessation services remains.

Through the development of a multi-component program that integrated Western methodologies with traditional healing practices, the WCCHC was able to fill a void in its community by meeting the needs of an otherwise hard-to-reach population. This culturally sensitive approach to smoking cessation resulted in positive outcomes among program participants. Similar inventive and culturally informed methods may enhance future efforts in designing ethnic-specific smoking cessation programs.

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