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Development and feasibility of a community-based, culturally flexible colorectal cancer prevention program

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Background

Increased colorectal cancer screening is estimated to be responsible for over half a million fewer colorectal cancer cases in the last three decades. [1] Despite this prevention success, total cancer incidence in diverse communities remains high [2], and colorectal cancer remains one of the most commonly diagnosed cancers in the United States [3]; possibly due to modern industrialized lifestyle factors such as increased adiposity and insufficient physical activity, which increase colorectal cancer risk [4]. Therefore, colorectal cancer prevention strategies target diet, physical activity, and/or screening behaviors.

Comprehensive cancer centers are an important resource for direct patient care and may serve as facilitators for community-based prevention efforts in their catchment areas [5, 6]. Racial and ethnic disparities in colorectal cancer incidence and survival [3] highlight the need for targeted messaging as communities across the U.S. become more diverse, representing increasingly multi-cultural settings for prevention efforts. [7] Houston, Texas, is an example of such an area, with 145 languages spoken and city information offered in six languages. Increased population diversity requires cancer institutions to tailor prevention messaging for a variety of communities. The aim of this paper is to describe the development and feasibility of a comprehensive cancer center's culturally flexible, multi-component colorectal cancer prevention program. Key elements of the program are presented, and community implementation explored.

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Compliance with Ethical Standards:

Conflict of Interest: The authors declare that they have no conflict of interest.

Methods

Setting and Participants

A three-session Colorectal Cancer Education Program (CCEP) was developed and delivered by the Community Relations and Education (CRE) team at The University of Texas MD Anderson Cancer Center, which funded the project.

The audiences of the CCEP were people over 40 years old, as recommended screening begins around age 50 [8]; Houston's Hispanic and Asian communities were targeted as they represent major minority groups in the area that may face cultural and linguistic barriers to traditional health resources [9]. In order to simplify administrative procedures, the CRE team partnered with community sites to promote and host the workshops. Sites included community centers, non-profit organizations and places of worship and were recruited by leveraging existing relationships. Each site had a coordinator or point of contact who worked closely with the CRE team to recruit, plan and implement the program.

Program Components

The CCEP was available in English, Spanish and Vietnamese. Separate sessions were held for each language available depending on the site. The three-session format included Colorectal Cancer 101, Physical Activity class and a Healthy Cooking demonstration explained below (Figure 1). Each session lasted approximately one hour and were taught by trained, bilingual health education specialists.

Colorectal Cancer 101—The Colorectal Cancer 101 class covered risk factors of colorectal cancer and screening exams. The course included a slideshow presentation, culturally appropriate brochures and action cards, and promotional items with key messages. The presentation focused on the basics of colorectal cancer biology, statistics, modifiable and non-modifiable risk factors, details of screening exams and available resources.

Healthy Cooking Demonstrations—Cooking demonstrations began with a short review of dietary factors that impact colorectal cancer risk such as red meat and fiber intake. Recipes were demonstrated and all participants were given an opportunity to taste the final dishes. During the demonstration, key skills of healthy cooking were highlighted [10]. Recipes were translated and given as handouts during classes, as well as posted to an institutional recipe site (www.mdanderson.org/recipes) [11].

Physical Activity Class—Physical activity classes lasted for 30-45 minutes, followed by a brief discussion to reinforce concepts of colorectal cancer risk reduction. All physical activity classes included both demonstration and class participation.

Results/Implementation

The CCEP was conducted from June 2016 to February 2017. All events were free of charge to participants and community host sites. Small incentives were offered to participants such as water bottles, and \$20 gift cards were offered for participants that attended at least two of the three classes. During the program period, eleven three-session courses (33 total classes)

were conducted at nine unique organizations in Houston and surrounding areas. Classes were usually held weekly for a three-week series. A total of 1,054 participants attended the 33 classes combined (Figure 1). This included 770 unique participants and 284 that attended at least two of the three classes. Average attendance was 31.94 and varied little from week to week.

Program adaptation

The CCEP utilized a similar process for every site, but modifications were made to accommodate each community center's physical space as well as cultural adaptations for each individual group. When possible, the adaptations made were decided with members of the target community. The Colorectal Cancer 101 presentation used diverse images to better reflect the community being targeted and highlighted statistics pertinent to racial / ethnic subgroups during the course.

Cooking demonstrations were developed with community input to ensure relevance to an individual group's needs and interests. The culinary instructor conducted a short discussion with participants regarding recipes, ingredients, or techniques the group would be interested in using during the subsequent cooking demonstration. Recipes suggested by the group were altered or developed using an evidence-based framework of healthy cooking [10].

Physical activity classes were also adapted for different groups and included a variety of aerobic movements and accompanying music. For predominately Asian communities, MD Anderson partnered with a local Tai Chi academy to have certified instructors provide Tai Chi and qigong classes for participants.

Discussion

The CCEP is a feasible, flexible, multi-component colorectal cancer prevention program facilitated by a comprehensive cancer center in a large urban area. The program partnered with nine unique community organizations and conducted 33 individual classes to 1,054 participants across multiple ethnic groups.

Current comprehensive cancer center prevention strategies vary by malignancy, institution, and target audience. Colorectal cancer prevention is a sensible target for institutions given the prevalence of colorectal cancer in the nation, the disparity among different racial/ethnic groups, the dramatic impact appropriate screening can have on survivorship, and the growing evidence that modifiable lifestyle factors significantly contribute to risk [3, 4]. Nutrition and exercise interventions, as well as screening-focused programs are relevant to colorectal cancer prevention, allowing institutions to vary approaches based on community want and need.

Comprehensive cancer center prevention efforts may target established education centers such as schools with structured curricula [12] or develop more organic networks of community partners to support the dissemination of cancer prevention messaging in catchment areas. One example is the partnership between the Wisconsin Division of Public Health and the University of Wisconsin Comprehensive Cancer Center, which leverages the

state public health department to connect with local communities in the region [6]. A more targeted network approach includes the Greater Denver Latino Cancer Prevention Network, a collaborative of over 23 Latino community-based organizations in partnership with the University of Colorado Comprehensive Cancer Center (UCCCC) to promote awareness, cancer risk factors, screening recommendations and minority participation in research [13]. UCCCC also formed a separate network of partnerships with local safety-net clinics to provide free colonoscopy to older, uninsured Coloradans [14].

The CCEP utilizes a combination approach by offering a structured, class-based curriculum, while also leveraging community partnerships in an effort to reach specific communities. It also utilizes a participatory approach in program planning and implementation, which allows the program to adjust for diverse groups; this is essential in multicultural catchment areas. The program costs were approximately \$1,933 per year, excluding staff time, or about \$1.70 per class participant. The CCEP program has been used as a model for tobacco prevention and cessation efforts undertaken by the institution.

The strength of this communication includes the unique partnership model between a comprehensive cancer center and community organizations and the diversity of the community sites. Vietnamese, Chinese, and Hispanic groups were reached, as were others in the general community. Future projects should consider evaluating the efficacy of the CCEP in different populations by integrating measures of knowledge acquisition, behavior change and implementation/dissemination into programming.

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Fig. 1. Process of CCEP and total sites by language

This scheme shows how community sites and the cancer center organized classes and total number of unique sites, classes and participants by language of class. Four of five Spanish language classes took place at community centers and one at a school. Four Vietnamese classes took place at a refugee center and one Chinese language class at a Buddhist temple. English only classes included one breast cancer survivor group and one women's health fair. CRE = Community Relations & Education