

Cancer Prevention Strategies Among California
Farmworkers: Preliminary Findings

Cancer Prevention Strategies Among California Farmworkers: Preliminary Findings

David F. Goldsmith, PhD, and Gil C. Sisneros, MPH

ABSTRACT: This study was conducted to identify barriers to cancer prevention and evaluate the effectiveness of a cancer prevention project to increase screening for cervical and breast cancer among Spanish-speaking farmworkers in California's Central Valley. Bilingual health educators met with farmworker communities near Merced and Modesto, CA, to determine barriers that prevented women from seeking screening for breast and cervical cancer. Using information from focus groups and health fairs, a targeted outreach protocol was developed that will eventually enroll 2,500 farmworkers in a cancer education and screening program. Participants received a presentation in Spanish on breast and cervical cancer that included a pretest and post-test to assess increases in knowledge. Clients were encouraged to attend Golden Valley Health Centers Inc. (GVHC) to receive free breast and cervical cancer screenings. Vouchers, redeemable for modest personal hygiene gifts by clients, were tracked to assess prevention behavior when appointments were kept at GVHC.

Sixty farmworkers attended focus groups and 363 attended health fairs to provide input to the cancer prevention program. As of December 1, 1995, 1,732 female farmworkers were enrolled in an outreach program designed to increase knowledge and promote cancer screening. Data from pretests and post-tests indicated a statistically significant increase in knowledge about cancer and its prevention among participants. Furthermore, 317 participants redeemed vouchers for cancer screenings at GVHC.

Active community collaboration and culturally appropriate intervention strategies, employed in conjunction with clinical services, can be successful in increasing cancer prevention awareness and screenings among female farmworkers.

Studies indicate that agricultural populations have an elevated risk for cancers of the prostate, lung, bladder, brain, lymphatic system, soft tissues, and skin (Zahm & Blair, 1993). Among California Hispanics, the most common cancers for men are prostate, lung, colorectal, non-Hodgkin's lymphoma, and Kaposi's sarcoma. For women, the most common cancers are breast, cervix, colorectal, lung, and uterine (Perkins, Morris, Wright, & Young, 1995).

The accomplishments of this project were due to the efforts of Alicia Bullard, Ramon Delgado, Henrieta Gomez, Sandra Lozano, Patrick Marioni, Catalina Ortiz, Belinda Ruiz, Karen Stum, Maria Vega, Maria Velasquez, the staff at GVHC, and the farmworkers. Copies of the study, pre- and post-tests, and intake surveys can be obtained by contacting Dr. Goldsmith. This research was supported by Centers for Disease Control Cooperative Agreement No. UO3/CCL911881-01 and is based in part on a presentation given at the Society for Public Health Education meeting held Oct. 28-29, 1995, in San Diego, CA. For further information, contact: David F. Goldsmith, PhD, Agricultural Cancer Prevention Project, California Public Health Foundation, 2001 Addison St., Suite 210, Berkeley, CA 94704.

To address these concerns, the Agricultural Cancer Prevention Project (ACPP) conducted a study to identify barriers for cancer control and to develop intervention programs to reduce cancer incidence and mortality among rural populations. The ACPP closely interacts with Golden Valley Health Centers, Inc., (GVHC) with clinics in Merced and Stanislaus counties. GVHC (formerly known as Merced Family Health Centers, Inc.) is a federally qualified migrant health center.

The target population for this study was located within the catchment area of GVHC, which has 13 rural clinics at 10 locations. The rural clinics are distributed throughout Merced and Stanislaus counties in California's Central Valley. The clinics serve approximately 30,000 patients, of which 71 percent are Hispanic, and 25 percent are migrant and seasonal farmworkers.

Merced and Stanislaus counties have populations of 170,401 and 370,522 with a Hispanic population (primarily of Mexican descent) of 33.8 percent and 24.4 percent, respectively. Overall, the median income is \$28,269 and \$32,923, and 19.9 percent and 14.1 percent have incomes below the federal poverty level in Merced and Stanislaus counties, respectively. Of the total female population in these counties, an estimated 56.5 percent and 9.3 percent are aged 18-64 and 65 and older, respectively. There are approximately 100,000 migrant and seasonal farmworkers in Merced and Stanislaus counties (Hall & Richard, 1994). The leading agricultural commodities for both counties are dairy products, tomatoes, almonds, and poultry (Chesbrough & Tippett, 1992).

The ACPP is a three-year project, currently in its final year, consisting of two protocols: one addresses skin cancer prevention among farmers, while the other addresses breast and cervical cancer among Spanish-speaking farmworkers. In the first half of the project, significant progress was made on the development of outreach plans for the breast and cervical cancer protocol, and this article summarizes the preliminary findings from the farmworker health education and intervention programs.

Whether due to obstacles such as low income and lack of access to health care, cultural practices, or personal modesty, Hispanic women are less likely than white women in the United States to have ever had a Pap smear or a mammogram (Elder, et al., 1991). Cervical cancer is the second most common tumor site after breast cancer among Hispanic women in California. Incidence data for the years 1988 to 1992 clearly demonstrate that Hispanic

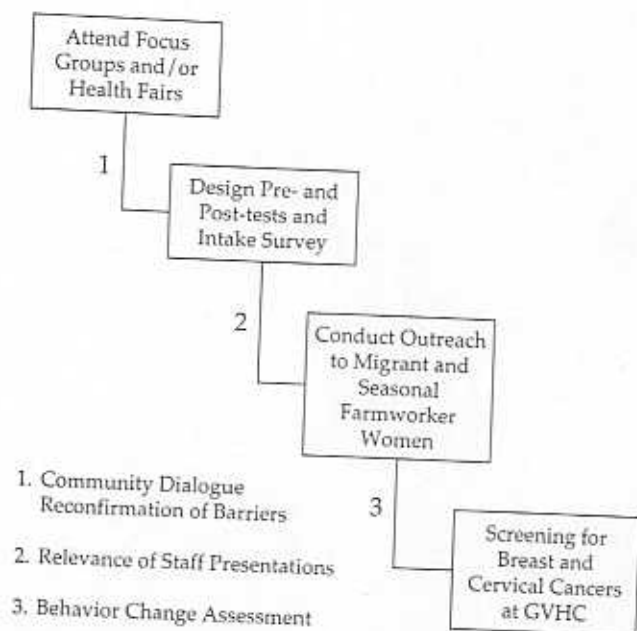
women in California have more than double the rate of cervical cancer incidence compared with non-Hispanic white women: 17.1 per 100,000 compared to 7.5 per 100,000 (Perkins, et al., 1995). Although Hispanic women overall have lower mortality rates for breast and all female genital cancers, cervical cancer mortality is twice that of whites: 4.3 per 100,000 among Hispanic women compared with 2.2 per 100,000 for non-Hispanic white women (Perkins, et al. 1995). Because cervical cancer is fully preventable, one effective way to lower this risk is to conduct cancer prevention education and encourage annual Pap smears with active follow-up of abnormal results. This was the approach undertaken in this study.

Methods

Focus Groups, Health Fairs, and Barriers to Screening. The project conducted five focus group meetings with migrant and seasonal farmworkers in its first year. Sixty community members participated in the focus groups, 24 men and 36 women. The primary objective was to gather information to design a culturally appropriate cancer prevention program. Specific information was gathered on: (1) knowledge and attitudes concerning cancer etiology and treatment; (2) beliefs and practices regarding cancer screening and early detection; (3) concerns regarding occupational exposure to pesticides; and (4) barriers to cancer screening.

In addition to the focus group meetings, the project staff conducted eight health fairs at migrant camps between May and August of 1993. The health fairs were conducted in collaboration with several agencies, including Migrant Head Start and the Merced County Health Department, and were part of an effort to lower barriers between health service providers (GVHC) and the farmworker community. The primary objectives were to: (1) orient the medical staff of GVHC to the environmental setting of the migrant population; (2) provide the farmworkers the opportunity to interact with medical and project staff in informal settings; and (3) provide and test several methods of delivering cancer prevention information to mostly Spanish-speaking populations. In addition, basic health care services, such as blood pressure, vision, and cholesterol screenings were provided free of charge. A total of 363 migrant farmworkers participated in the health fairs and provided feedback to ACPP staff on the protocol. The information gathered from focus groups and health fairs was used to design

Figure 1. Steps in the Prevention Study Process.



a culturally appropriate health education and cancer prevention program linked to GVHC for screening exams.

Intervention Protocol. Figure 1 shows the steps used in the cancer prevention study design. During 1994 and 1995, 1,732 clients from Merced and Stanislaus counties were contacted by the project staff of health educators. The target sampling frame included migrant and seasonal farmworkers and contacts were made in private homes, migrant camps, laundries, and other social gathering places (though not at the workplace). Participants included women employed in agriculture, age 18 and older, predominantly of Hispanic-Mexican ethnicity, mostly monolingual in Spanish with an average eighth grade education or less and a reported household income of \$5,000 or less.

Data from the intervention portion of the study were collected from voluntary, in-person contacts (1,732 women) using seven bilingual health educators during cancer prevention education presentations. Various types of interventions were offered by the health educators, including one-on-one discussions, informal groups, volunteer peer educators (McNicholas, et al, 1991), and formal presentations to

organizations (such as Migrant Head Start) and migrant camps. However, each type of intervention covered the same topics: general information about cancer; specific information about the cervix, breasts, and reproductive organs; specific details about breast self-exams, clinical breast exams, mammograms, pelvic exams, and Pap smears; and the importance of screening and early detection. Each educational encounter was planned to last approximately 40 minutes.

The project also used volunteer peer educators, *promotoras*, recruited and trained by the project staff to provide cancer education. The *promotoras*, recognized as community leaders, conducted educational sessions with women among their social networks. This approach builds upon the existing cultural values, trust, and leadership skills of the *promotora* to provide cancer education and encourage women to participate in cancer screenings.

Maria Vega, a project health educator, developed an innovative intervention method, the "Pap Party," to improve the attractiveness of the health education effort (Vega, Sisneros, & Goldsmith, 1995). A Pap Party was hosted in a community volunteer's home or migrant camp and usually attended by approximately 10 women. Using informal teaching methods, the health educators provided prevention education on breast and cervical cancers. Instruments used during cervical exams and female anatomy models were used during the Pap Party and other presentations, to describe and explain what occurs during a cervical or breast examination. Participants received modest personal hygiene and health gifts and were encouraged to recruit other women for future Pap Parties in their communities and migrant camps.

All of the health education activities consisted of a 40-minute interactive session that encouraged women to actively participate and ask questions. During each session, cancer prevention information (following American Cancer Society guidelines) was provided. In addition, practical information on what to expect during an exam and questions to ask the doctor were discussed in a culturally appropriate manner. During each session, the following survey instruments were administered: a baseline questionnaire (covering personal attributes, education, work, and history), a pretest, and post-test. The pretest and post-test were comprised of true and false knowledge questions on the cancer issues covered in the session.

Following the educational exchange, an array of outreach services, available through the project and designed to overcome identified barriers, were shared

with the participants. These services may have included assistance in obtaining transportation, how to fill out GVHC registration forms, the basics steps to scheduling a screening and interacting with the clinic's systems, and income and age criteria to qualify for a free cancer screening. Information on these outreach services was provided during each session, and participants took advantage of them over a period of time that varied from one week to a month. On some occasions, project staff provided translation services during clinical visits or accompanied older Spanish-speaking women on their first pap smear or mammogram. At the end of the 40-minute educational session, vouchers were given to each woman and tracked to determine if clients kept their appointments. When appointments at GVHC were completed, the vouchers were redeemed for a second personal health gift provided as an incentive. To determine retained knowledge, second follow-up post-tests are being administered to 10 percent of the contacts approximately 45 days after the initial education session. Mean knowledge scores from the first post-tests and second post-tests will be compared in future research studies.

Special attention was given to the design of each data collection instrument. Priority was given to language issues, including those related to the respondent's formal schooling in Spanish, importance of regional dialects, and appropriate phrasing of terms and concepts. All of the instruments were available in Spanish and English. When necessary, the health educators read the information in the questionnaires, pretests, and post-tests and instructed subjects on the process of completing the instruments. *T* tests were used to determine the statistical significance of change in mean scores between pre- and post-test results.

Results

Demographics. This study collected data on demographic variables (age, work histories, education, and self-defined ethnicity) and knowledge of cancer, including incidence, risk factors, preventive measures, belief variables, and information on prior use of health services. Data were collected from 2,155 clients: 80 percent (1,732) from health education encounters, 17 percent (363) from health fairs, and 3 percent (60) from focus groups. Of the health education intervention's 1,732 participants, 65 percent, 22 percent, and 13 percent were between the ages of 18

Table 1. Descriptive Information on 1,732 Participants in Health Education Intervention (Women Aged 18 Years and Older), June 1994 to December 1995.

Mean Age (\pm SD)	36.2 (\pm 13.1)
Percent Hispanic	93
Percent of women who never had a pap smear	28
Percent of women aged 50 years or older who never had a mammogram	61
Work history by crop	Tomatoes (26%) Almonds (18%) Cotton (17%)

to 30, 40 to 49, and 50 and older, respectively. (Table 1 provides some descriptive information about this sample.) The mean age was 36.2, 93 percent identified themselves as Hispanics, nearly one third of the women had never had a Pap smear, and of those aged 50 years or older, 61 percent had never had a mammogram. Their occupational histories identified tomatoes, almonds, and cotton as the top three cultivated crops.

In the focus groups, a majority of the participants acknowledged a strong fear and a fatalistic attitude toward cancer. Participants expressed anxiety concerning the suffering and pain associated with cancer. And all of the groups expressed a generalized *fatalismo* perspective toward cancer, i.e., there is virtually nothing a person can do to prevent or survive this disease. Also common was the belief that only God determines whether or not a person gets cancer. In general, a limited or fragmented knowledge existed concerning the causes of cancer and the possibility of effective treatment.

Because of *fatalismo*, conflicting information was common in all the focus groups regarding the importance of early detection and treatment of cancer. A significant portion of the women expressed embarrassment and shame associated with physical examinations of their breasts and cervixes, especially when exams were performed by male clinicians (Ruiz, 1995). Some of the women who had a Pap smear were unaware that it is a test for cervical cancer. A majority of the participants confirmed that cost, transporta-

tion, fear of the medical system, and time constraints were all barriers to accessing health and cancer screening services.

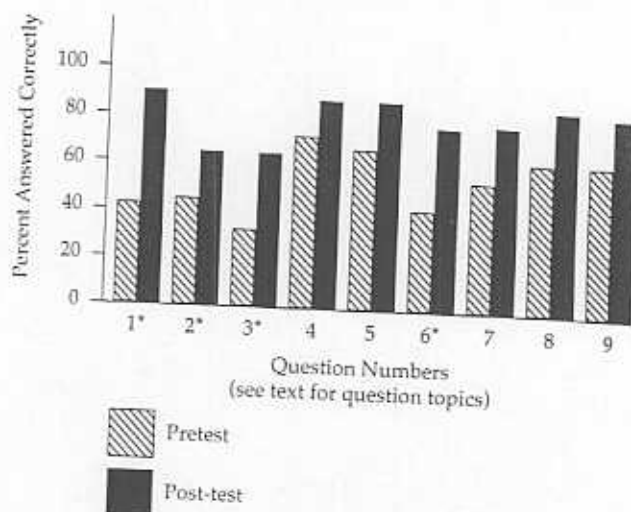
Knowledge Assessment. The intervention portion of the project enrolled 1,732 women in the health education effort. Participants demonstrated knowledge gains on all nine true and false questions comparing pre- and post-tests scores (Figure 2). The questions covered the following topics (with mean percent gains in knowledge in parentheses): (1) the prevention and curability of cancer (107%); (2) common cancers sites for Hispanic women (50%); (3) common cancers sites for Hispanic men (85%); (4) the importance of early detection for breast cancer (15%); (5) smoking as a risk factor for cancer (22%); (6) cancer incidence for the elderly compared to younger people (83%); (7) prevention of cervical cancer (43%); (8) the role of mammograms in detecting breast cancer (32%); and (9) the importance of a Pap smear in the prevention of cervical cancer (34%). The mean knowledge gained on questions 1, 2, 3, and 6 were statistically significant using *t* tests ($P < 0.05$) (Figure 2).

Cancer Screenings. During the initial period of the health education intervention, 317 female clients, approximately 20.5 percent of 1,732 health education intervention encounters, were referred for cancer screenings to GVHC. More specifically, 183 Pap smears, 105 clinical breast exams, and 29 mammograms were completed. In addition, health educators provided information about other health education issues such as family planning, substance abuse, nutrition, and reproductive health.

Discussion

Given the well-known barriers (confirmed by focus groups) to preventive screening for farmworker populations, a 20.5 percent screening rate among the underserved from a migratory population is commendable, especially since a significant portion of the participants reported a prior screening in the last two years. The success of the cancer prevention protocol and subsequent screenings at GVHC can be attributed to bilingual peer health educators recruited from the farmworker communities in Merced and Stanislaus counties. Many of the clients indicated to staff that they perceived the health educators as strong role models and as sources for credible health advice and information on other topics. This is of critical importance because age-specific data show that Hispanic-

Figure 2. Preliminary Results: Pre- and Post-test Findings (N=1,732).



* Statistically significant at $P < 0.05$

Mexican women have striking differences in risk for starting cervical cancer from their 20s through their 80s (Goldsmith, 1996). Because of these lifelong differences, Hispanics must become their own advocates for annual Pap smears. The knowledge improvements on post-tests and participation in screenings reflects the skill and credibility of the educators and the motivation to learn by the female farmworkers.

Modeled after programs like *Por La Vida* and *Un Comienzo Sano* (Navarro, 1995), the educational outreach provided a combination of social learning, support, advocacy, and referral services to clients. Some activities provided by the outreach staff included transportation, assisting participants in becoming new patients at GVHC clinics, scheduling appointments for cancer and other health screenings, determining eligibility for California screening programs (the Breast and Cervical Cancer Control Program and the Breast Cancer Early Detection Program), translating during appointments, and providing follow-up visits for women with abnormal results. Provisions and referrals were provided for treatment services for all participants with diagnosed malignancies.

Study Limitations. This project is linked to the expressed needs of the farmworker communities in Merced and Stanislaus counties. There is the possibility that the 20.5 percent completed screening rate is underestimated because an unknown fraction may have been screened without returning vouchers or had a recent examination. Because of the personal modesty of female farmworkers and because meeting in a private home enhances sociability, the recruitment did not take place at the job site. Also, it is possible that some voluntary self-selection or prior interaction with GVHC (such as pre- or post-natal care) may explain some of the knowledge improvements. However, a screening rate of at least 20 percent is probably an indication of successful transfer of knowledge into learned behavior. Future work will compare women screened to those electing not to be screened and will also focus on male involvement in the process.

Conclusions

This cancer prevention project has been shown to be successful in increasing knowledge and, more importantly, participation in cancer screenings among Spanish-speaking farmworkers in Central California. The findings reinforce the notion that successful cancer prevention efforts among rural underserved groups must include needs assessments involving the target population in focus groups, innovative and culturally appropriate interventions, outreach support activities, and collaboration with the community (clinics, organizations, migrant camps). Also important is the involvement of bilingual female educators (culturally appropriate role models) to target Spanish-speaking women. In addition, clinics that target female farmworkers must increase efforts to provide access to female physicians, nurses, and physician assistants, preferably bilingual, so patients will keep their appointments for cancer screenings (Ruiz, 1995). Access to female health providers is critical for the participation of older, more modest, less acculturated Hispanic women in cancer screening programs, especially for mammograms.

Despite the positive results in this preliminary assessment of this project, many obstacles to improved cancer prevention persist among agricultural populations (including groups such as low-income whites, Hmong, and American Indians). Barriers include mistrust of the legal system, lack of knowledge on how to access or navigate the medical system, and limited evening or weekend hours at rural clinics. Continued support, funding, and collaborative efforts are necessary for future programs to be successful in overcoming these barriers.

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