


Increasing Melanoma Screening Among Hispanic/Latino Americans: A Community-Based Educational Intervention

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Abstract

Melanoma incidence is increasing among Hispanics/Latinos in California. This community-based project reached out to a rural Hispanic/Latino community in North San Diego County to provide melanoma prevention and screening education. At a local community health fair, bilingual volunteer lay health workers led 10- to 15-minute-long information sessions on melanoma disease, risk factors, and skin self-examination techniques. Pearson chi-square analyses of participants' ($N = 34$) responses to pre- and postintervention evaluation surveys indicate significant increases in knowledge, risk awareness, and self-efficacy for self-screening. The results revealed that Hispanics/Latinos in a low socioeconomic stratum might be at moderate to high risk for developing melanoma. Their low annual income, low level of education, occupational sun-exposure, and lack of access to health care are likely factors that deter at-risk Hispanics/Latinos from seeking health care.

Keywords

community health promotion, Hispanic/Latino, melanoma skin cancer, self-efficacy, self-screening behavior

Melanoma, a malignancy that manifests with skin lesions and metastasizes to internal vital organs, claims the lives of many people every year in the United States. In 2014, an estimated 9,710 melanoma deaths occurred while 76,100 persons were newly diagnosed with melanoma (Surveillance Epidemiology and End Results Program, 2015). The incidence is continuously increasing, and the Skin Cancer Foundation (2015) forecasts that 1 in 50 Americans will develop melanoma in their lifetime. Its prevalence is highest among individuals with fair skin, freckling, and light hair (American Cancer Society, 2015).

Recent studies have also shown steadily increasing incidence of melanoma among people with more pigmented skin, especially among Hispanics/Latinos (Heckman & Cohen-Filipic, 2012; Hu & Kirsner, 2011). Many Hispanics/Latinos have been showing poorer prognoses due to their delayed action in obtaining health care until late stages of the disease, often after the melanoma has metastasized (Hernandez et al., 2013). This increasing mortality rate among Hispanics/Latinos could easily be decreased if the simple and inexpensive efforts of sun protection and early screening for diagnosis were taken.

Whereas Hispanics/Latinos comprise 15% of the U.S. population, the percentage increases to 38% in California, making Hispanics/Latinos the second largest ethnic group

after the 40% of Whites (California Pan-Ethnic Health Network, 2014). Unfortunately, there is deficient knowledge and understanding about melanoma incidence and its associated factors for Hispanics/Latinos (Hernandez et al., 2013). Therefore, the underrepresented and perhaps unreported cases of melanoma among Hispanics/Latinos should be considered a critical issue for the overall population health.

Several factors contribute to Hispanics/Latinos' being at risk for melanoma. First, many Hispanics/Latinos are involved in outdoor occupations such as landscaping and agricultural work, forestry, fishing, mining, and construction labor (LeBlanc et al., 2008). People in outdoor occupations frequently have excessive exposure to ultraviolet radiation.

Second, Hispanics/Latinos in the United States are often of low socioeconomic status (SES) and are underserved by established health care systems. The median income for

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California Hispanic/Latino households is \$43,856, and 21.1% have income below poverty level. Fifty-two percent of California adult Hispanics/Latinos have no high school diploma, which is near five times the rate of their White counterparts (California Pan-Ethnic Health Network, 2014). Consequently, individuals of low SES often have numerous barriers in obtaining health care, such as low income, low health literacy, inadequate resources and transportation, low health insurance enrollment, and limited access to local community public health programs. This paucity of health care resources and community support is likely to result in suboptimal knowledge and awareness in preventive care and screening for various preventable diseases (Oliveria, Heneghan, Cushman, Ughetta, & Halpern, 2011).

Third, there is a lack of awareness among many health care providers about Hispanics/Latinos' increased risk for melanoma. This results in deficient time spent for total-body screening examination and skin cancer prevention education for Hispanics/Latinos in health care settings (LeBlanc et al., 2008; Oliveria et al., 2011). Although the common skin cancer prevention measures are limiting excessive ultraviolet exposure and topical sunscreen use, frequent visual screenings such as skin self-examination and total body skin examination conducted by health providers are indispensable for early detection of melanoma (Kasparian, McLoone, & Meiser, 2009). These three factors presumably contribute to the increasing incidence of melanoma among Hispanic/Latino Americans, as well as the higher late-stage presentation and mortality rates.

As there are many modifiable risk factors for Hispanics/Latinos, the role of public health education for skin cancer prevention and self-surveillance is crucial. People who are educated in skin cancer prevention are more likely to self-screen regularly and bring any suspicious lesions to the attention of a health care provider (Coups et al., 2013). Also, those who perform self-screening adequately have a positive attitude, greater confidence in health-seeking behaviors, and better health outcomes (Pertl et al., 2010).

Researchers interested in this alarming public health issue recommend community education targeting rural and underserved communities as a priority (Hu & Kirsner, 2011; Oliveria et al., 2011; Pollitt et al., 2011). The concentrations of high-risk Hispanics/Latinos are often found in those communities where prevention and screening education programs are likely underprovided. Developing community-based skin cancer screening programs in local community health care centers and health fair events are effective approaches for disseminating melanoma education (Hernandez et al., 2013).

Therefore, a melanoma prevention education project at a community health fair was implemented in an effort to reach out to a rural community in Fallbrook, California. The purpose of this educational intervention was to teach Hispanics/Latinos of a low SES about risk factors for and self-monitoring of melanoma. The intervention's effects on knowledge, awareness, and self-efficacy for self-screening were evaluated.

Method

This community-based health promotion project was an evidence-based practice designed to determine the feasibility and initial merit of such an intervention. The project obtained the approval from the Loma Linda University Institutional Review Board.

Setting and Participants

This project was implemented at the Fallbrook Community Health and Fitness Fair held on November 16, 2013, in Fallbrook, California. This free annual health promotion event was cosponsored and advertised by County agencies (Fallbrook Healthcare District, County Parks/Fallbrook Community Center, and the Fallbrook Elementary School District). The venue provided various activities, prizes, and health screening programs for children and adults. Self-selected participants met the following inclusion criteria: non-White, Hispanic/Latino, age 18 or older, and living in Fallbrook and North San Diego County, California. Participant confidentiality and anonymity were assured during the process of obtaining informed consent.

Intervention

The educational session included lecture, discussion, and hands-on demonstration to meet the following objectives:

- Identify common melanoma risk factors
- Discuss photo images of melanomas and atypical moles
- Describe ABCDE (i.e., Asymmetry, Borders, Color, Diameter, and Evolution) rule for melanoma surveillance based on 2013 American Academy of Dermatology and 2013 American Cancer Society guidelines
- Demonstrate self-screening skin examination

Each bilingual Hispanic/Latino volunteer lay health worker (LHW) led a 10- to 15-minute education session for the groups of three to four participants. At the end of each session, participants had the opportunity to ask questions and assess their moles with a national board certified dermatologist.

Prior to the intervention, the LHWs were trained for 8 hours in lecture, discussion, and hands-on demonstration to perform skin examination by a dermatology nurse practitioner. The use of bilingual Hispanic/Latino LHWs was vital to the implementation of this educational intervention given the language and cultural skills required. Because this approach of collaborating with LHWs produced positive outcomes in removing the cultural barriers in a melanoma prevention education (Hernandez et al., 2013), it was selected for this similar project.

Procedure and Instruments

Participants were assessed immediately before and after the intervention using self-report paper-and-pencil measures (in English and Spanish versions) administered by LHWs. An adapted version of the Risk, Concern, and Knowledge Assessment Questionnaire tool (RCKAQ; Gillespie, Watson, Emery, Lee, & Murchie, 2011) was used to collect data pre-intervention. The RCKAQ assessed demographics and four types of assessment: personal-risk assessment (i.e., skin color, skin reaction in the sun, frequency of intentional sun exposure), level of concern (i.e., perceived threats for melanoma and involvement of health care providers), photoprotective behavior (i.e., frequency of outdoor recreation activities, possible reactions to finding new moles), and melanoma knowledge (i.e., familiarity with melanoma and its risk factors; see Table 1).

An adapted version of the Skin Examination Questionnaire (SEQ; Hernandez et al., 2013) was administered before and after the educational intervention to evaluate the effectiveness of the intervention. The six-item SEQ assessed melanoma screening knowledge, awareness, and self-efficacy (Table 2). One optional open-ended question assessed the participants' perspectives related to melanoma education (Table 3).

Total Cost

The total expense for this community intervention was \$72.44 (approximately \$2.13 per participant) for purchasing educational literature and incentive gifts (i.e., sunscreen and water bottles). LHWs and other supporting members of the project donated their services.

Data Analysis

SPSS (version 22, SPSS Inc., Chicago, IL) was used to manage and analyze the data. Responses to RCKAQ subscales were summed and analyzed separately and collectively. Measures of central tendency were used to analyze these responses as well as those obtained for the SEQ and the demographic questions. The difference in SEQ awareness of disease, knowledge of surveillance, and self-efficacy between baseline and postintervention was analyzed using chi-square testing. The written responses to an optional open question on posttest were thematically analyzed.

Results

Demographics and Baseline Risks

Participants included 34 Hispanics/Latinos, 70.6% of whom were at moderate (41.2%) to high risk (29.4%) for developing melanoma (Table 1). Most (76.5%) earned

Table 1. Sample Characteristics: Demographic, Socioeconomic Status, and Risk Assessment.

Characteristic (N = 34)	n (%)
Gender	
Male	2 (5.8)
Female	32 (94.1)
Age (years)	
18-40	4 (11.7)
41-60	27 (79.4)
Older than 60	3 (8.8)
Average household income	
30,000 or less	26 (76.5)
31,000-50,000	1 (2.9)
51,000-99,000	7 (20.6)
Average education level	
Less than high school	12 (35.3)
High school	12 (35.3)
2-4 years college	9 (26.5)
Graduate school	1 (2.9)
Health insurance	
No	17 (50)
Yes	17 (50)
Outdoor worker	
No	20 (58.8)
Yes	14 (41.2)
Self-screen for moles	
No	19 (55.9)
Yes	15 (44.1)
If yes to above (self-screen), how often (n = 15)	
More than monthly	2 (13.3)
Monthly	7 (46.7)
Once or twice a year	6 (40.0)
Ever told by a health care provider to self-screen for melanoma	
No	18 (53.0)
Do not know	8 (23.5)
Yes	8 (23.5)
Ever taught by a health care provider how to self-screen for melanoma	
No	19 (55.9)
Do not know	9 (26.5)
Yes	6 (17.6)
Seen a health care provider with a skin lesion in the past 6 months	
No	30 (88.2)
Yes	4 (11.8)
How likely to see the primary care provider with a skin lesion in next 6 months	
Very likely	6 (17.6)
Likely	4 (11.8)
Not likely	24 (70.6)
Total level of risk for melanoma = Weighed personal risk + level of concern + protective behavior (N = 34)	
Low risk	10 (29.4)
Moderate risk	14 (41.2)
High risk	10 (29.4)

Table 2. Skin Examination Questionnaire Responses ($N = 34$).

Question	Pretest, n (%)	Posttest, n (%)	χ^2 ^a	p ^b
Q1. How well do you know about melanoma? (Awareness of the disease)			23.950	.000
Not at all	16 (47.1)	1 (2.9)		
Somewhat	15 (44.1)	15 (44.1)		
A lot	3 (8.8)	18 (52.9)		
Q2. I'm well aware of what may cause melanoma & how to prevent it (Awareness of the disease)			19.911	.000
Yes	15 (44.1)	32 (94.1)		
No	12 (35.3)	0 (0)		
Don't know	7 (20.6)	2 (5.9)		
Q3. I'm at risk for developing melanoma (Awareness of the disease)			10.902	.004
Yes	8 (23.5)	21 (61.8)		
No	10 (29.4)	7 (20.6)		
Don't know	16 (47.1)	6 (17.6)		
Q4. I know how to check my skin for melanoma (Knowledge of surveillance)			43.219	.000
Yes	5 (14.7)	32 (94.1)		
No	21 (61.8)	1 (2.9)		
Don't know	8 (23.5)	1 (2.9)		
Q5. I know what ABCDE rule is, and what each letter stands for in screening for melanoma (Knowledge of surveillance)			52.941	.000
Yes	2 (5.9)	32 (94.1)		
No	21 (61.8)	2 (5.9)		
Don't know	11 (32.3)	0 (0)		
Q6. How confident are you that you know how to examine a mole for asymmetrical shape, unusual color or size? (Self-efficacy)			35.774	.000
Not at all	23 (67.6)	1 (2.9)		
Somewhat	10 (29.4)	16 (47.1)		
Very confident	1 (2.9)	17 (50.0)		

Note. Q1-Q6 = Pre- and posttest Questions 1 through 6. ABCDE = Asymmetry, Borders, Color, Diameter, and Evolution.

^aChi square for difference between pre- and posttest in each question. ^b p Value for statistical significance.

Table 3. Thematic Analysis of Participants' Perspectives ($n = 16$).

Q7. (Posttest optional): Please provide any comments for future melanoma prevention education for the Hispanic/Latino communities (weighted %).	
• Utilize mass media (31.3)	"Everyone has access to TV or radio at home. We need Spanish programs teaching melanoma on TV and radio."
• Collaborate with local schools, churches, and community centers (25.0)	"Have pamphlets and melanoma prevention programs available at schools, churches and community centers."
• Health education through women of each household (25.0)	"Influence the mothers and women of the households to educate the family. Men are too busy working."
• Need for increased involvement of health care providers (12.5)	"Need more free melanoma screening programs initiated by doctors and nurses."
• Need greater involvement of local health care clinics and county agencies (6.2)	"Local government and community clinics should get involved in promoting melanoma prevention education."

\$30,000 or less annually, which is much less than the median household income for California Hispanics/Latinos (\$43,856). Furthermore, 35.5% had no high school diploma. Only 50% had access to care with health insurance.

Risk assessment showed that 41.2% had occupational sun exposure. Among participants, 44.1% had performed skin self-examination for moles, but 40% of these screeners were screening merely once or twice a year. Only 23.5% had a discussion about skin surveillance with their health care

providers, and 17.6% learned how to perform regular skin self-examination from their health care providers.

Comparison of Pretest and Posttest

Pre- and postintervention comparisons of responses to SEQ items indicate that the educational intervention did substantially and significantly improve general knowledge and awareness of melanoma, knowledge of self-surveillance, and self-efficacy (Table 2).

Participants' Perspectives on Melanoma Education

Thematic analysis of written responses (Table 3) revealed that many participants recommended use of media for melanoma prevention education because most Hispanics/Latinos are likely to have access to television and radio. They suggested having Spanish version programs on television to facilitate education of Hispanics/Latinos with low literacy and language barriers. Involving local schools, churches, and influencing the women of Hispanic/Latino households were also recognized as culturally competent means of delivering health education to the whole family. Greater involvement of health care providers and local health care agencies to initiate free melanoma screening programs were highly desired.

Discussion

The results indicated that many Hispanics/Latinos of a low socioeconomic stratum in North San Diego county are at moderate to high risk for developing melanoma. They have modifiable risk factors such as excessive occupational sun exposure and lack of self-screening skin examination. They also have barriers in obtaining health care such as low level of education, insufficient health education provided by health care providers, and the lack of access to health care.

If the small sample participating in this education intervention is reflective of the population, many Hispanics/Latinos of low SES are likely at moderate to high risk for developing melanoma. Their low annual income level, below high school level education, outdoor occupational sun-exposure, and lack of health care insurance are critical health-related factors that pose a potential threat to these Hispanics/Latinos. Many of these factors may also deter at-risk Hispanics/Latinos from seeking health care.

Just as Hu et al. (2009) observed, these Hispanics/Latinos living in rural communities have deficient health knowledge and literacy, and resources to get adequate health information about melanoma. As Pollitt et al. (2011) conjectured, many of them are underinsured for health care and have even greater limitation on obtaining preventive care. This finding that most participants had not been encouraged to seek a health care provider for melanoma assessment provides

further concern given LeBlanc et al.'s (2008) finding that deficient participation of health care providers in screening and educating Hispanics/Latinos about melanoma is associated with delayed detection and worse prognosis.

Participants' perspectives are in line with Hernandez et al.'s (2013) observation that cultural competence is fundamental for increasing the efficacy of melanoma education for Hispanics/Latinos. Collaborating with local church leaders, schools, and community clinic providers should be encouraged in future melanoma education for Hispanics/Latinos. Broadcasting melanoma prevention education on television and radio would necessitate the involvement of the state government and public health agencies for developing and disseminating melanoma prevention programs.

The strength of this project is that it was a cost-effective health education program. It was advantageous to utilize the existing community resources and participate in a local health fair, which provided an appropriate setting, advertisement, and other amenities for the participants. Intervention's expenses included health fair registration, material fees, and incentive gifts. Also, the use of culturally accommodating health education involving Spanish-speaking LHWs was influential; indeed, this increased the relevance of the melanoma prevention education to this Hispanic/Latino community.

One lesson learned while implementing this intervention was the need to select a venue that would target the specific population at risk for melanoma. Given the risk factors of outdoor work, a venue that attracted Hispanic/Latino men as well as women would have been ideal. Unfortunately, the health fair where this project was implemented catered to health education for children and families, and the majority of the health fair attendees were children and mothers.

Future project suggestions are culture specific and innovative melanoma education for Hispanics/Latinos. Heckman and Cohen-Filipic (2012) posit that Hispanic/Latino Americans' acculturation to the United States has negative association with their perception of melanoma risks, benefits of using sunscreen, and photoprotective behaviors. The common recreational activities associated with the acculturation and decreased photoprotection are sunbathing and tanning bed use. Consequently, need of melanoma prevention education is evident among Hispanic/Latino adolescents and young adults. Moreover, utilizing social media such as Facebook, YouTube, and Twitter would be an innovative approach to overcome temporal and spatial limitations of conventional health education methods; it will provide convenient online education for younger Hispanic populations, as well as for individuals who prefer to obtain health information from the internet and social media.

Declaration of Conflicting Interests

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