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Cutaneous Melanoma and Other Skin Cancer Screening Among Hispanics in the United States: A Review of the Evidence, Disparities, and Need for Expanding the Intervention and Research Agendas

Skin pigmentation and sun sensitivity vary widely among US Hispanics,¹ whose median number of nevi (the strongest melanoma risk factor) is somewhat lower than in whites yet higher than in Asians or blacks.² The correlation between number of nevi and age is stronger in Hispanics and non-Hispanic whites than in other ethnorracial groups.² Among Hispanics, acculturation to the United States might lead to decreased sun safety practices.³ Nationwide data from 1992 through 2007 reveal that melanoma incidence among Hispanics increased by more than 22%.^{4,5} Hispanics display higher rates of thick melanoma at diagnosis, and in the absence of cure, targeted prevention might be the best strategy for countering the epidemic.⁶ Hence, our objective was to synthesize the evidence about skin cancer screening among US Hispanics.

See Practice Gaps at end of letter

Methods. We identified observational population-based US studies on melanoma or other skin cancer screening that evaluated participants of Hispanic descent, without any age, time, or language restrictions. Hispanic or Latino ethnicity was defined as Mexican, Puerto Rican, Cuban, or Central or South American heritage regardless of race.⁷ Screening techniques included skin self-examination (SSE), clinical skin examination (CSE), dermoscopy, and biopsy. We conducted an extensive literature search through October 2010 using MEDLINE (from 1950), EMBASE (from 1974), CancerLit (from 1963), and Lilacs (from 1982) and reviewed the bibliographies of all relevant articles. The following keywords and indexing terms were used: *melanoma, skin neoplasms, self-examination, early detection of cancer, and mass screening.* From the 1029 retrieved articles, we excluded duplicates, reviews, non-US studies, and those with patient or survivor samples, selecting 138 articles for detailed review. Studies with missing ethnorracial data were excluded. Nine studies met all inclusion criteria, and from each we extracted the age range, population type, health care access status, setting, number and/or percentage of Hispanics with reported melanoma or other

skin cancer screening, year of assessment and measurement method.

Results. The reviewed articles⁸⁻¹⁶ are summarized in the **Table**. Heterogeneity was observed in sample size and composition, SSE and CSE definitions, and screening reference periods. An estimate of the relative odds ratio for CSE by ethnicity was available in only 1 study, indicating that Hispanics were almost 40% less likely to report a recent CSE than non-Hispanic whites.⁸ Overall, SSE was reported by 14% to 50% of Hispanics, while CSE was reported by 7% to 17%. Only 1 study showed screening rates by sex, with 18.2% of Hispanic women and 8.3% of Hispanic men reporting SSE within the past 2 months.⁹ Research with nationally representative samples documented a decreasing trend in CSE prevalence, possibly attributable to measurement modification in the most recent assessment.⁸ Specifically, 5.6%, 5.7%, and 3.7% of Hispanics reported a recent CSE in 1992, 1998, and 2000, respectively (the corresponding percentages among whites were 11.4%, 12.5%, and 8.9%).⁸ No studies on dermoscopy or skin biopsies by Hispanic ethnicity were found; also none pertained to melanoma screening among children or adolescents. All 9 studies relied on self-reports, and none documented CSE validation. The paucity of research along with considerable heterogeneity in sample characteristics and screening measures prevented subgroup analyses or meta-analyses.

Comment. The US Hispanic population is rarely the focus of melanoma screening research despite sufficient epidemiologic evidence that this population merits increased attention. Our review suggests that Hispanics' high rate of advanced melanoma could be attributed to insufficient prevention initiatives,^{6,10,11} lack of SSE instruction or awareness about signs or symptoms,¹² delay in seeking follow-up care for suspect lesions,¹³ and decreased risk awareness among individuals and physicians.¹² Our review further suggests that health care access might not be the strongest enabling factor in melanoma screening of Hispanics.

A limitation of this review was the inability to make skin color or skin sensitivity distinctions among Hispanics because such data were not provided in the studies. One of the reviewed studies noted that Hispanics were less likely than non-Hispanic whites to report oral cancer screening,¹¹ whereas another study observed a significant link between CSE and breast, colorectal, or prostate cancer screening.⁸

Recent research highlights the lack of relevance of skin cancer to Hispanics, whose knowledge about the disease is not derived primarily from physicians but rather from the media,¹⁷ which has also been identified as a reason for SSE.¹³ However, applicability of the ABCDE rule for Hispanics remains to be clarified. Research notes that physicians' experience with non-Hispanic whites and melanoma diagnosis patterns might not be relevant to Hispanics.⁶ The extremely high costs for thick melanoma management further

Table. Summary of Observational Epidemiologic Studies on Melanoma/Skin Cancer Screening Involving US Hispanics, 1992-2006

Source	Population	Hispanics, No.	Full Sample With Health Care Access	Survey Year	SSE, %	CSE, %	Screening Reference Period	Measure
Friedman et al, ¹³ 1994	Worksite skin cancer screening participants; men and women; mean age, 41 y; Texas	36	Yes	1992	NR ^a	NA	Within past year	Frequency of SSE
Robinson et al, ¹⁴ 1998	National probability sample; men and women; ages ≥18 y	120 ^b	NA	1996	35.0	NA	Within past year	"In the past year, have you closely examined yourself for signs of melanoma or skin cancer?" (yes/no)
Pipitone et al, ¹² 2002	Worksite health promotion participants; men and women; ages 18-69 y; Illinois	27	Yes	1999	15.0	NA	Within past year	Frequency of SSE
Canto et al, ¹¹ 2003	NHIS; ages ≥40 y	NA	NA	1998	NA	7.0	Within past year and/or ever	"Have you ever had your skin checked for cancer either by a dermatologist or some other kind of doctor?" and "When did you have your most recent skin exam?"
Saraiya et al, ⁸ 2004	NHIS; ages ≥18 y	930	NA	1992	NA	11.7 ^c	Ever and/or recent ^d	"Have you ever had all of your skin from head to toe checked for cancer either by a dermatologist or some other kind of doctor?" If yes, date of most recent skin examination
	NHIS; ages ≥18 y	3783	NA	1998	NA	11.0 ^c	Ever and/or recent ^d	
	NHIS; ages ≥18 y	3668	NA	2000	NA	7.1 ^{c,e}	Ever and/or recent ^d	
Arnold and DeJong, ¹⁵ 2005	Convenience sample of university students; men and women; ages 18-30 y; Massachusetts	7	Yes	NA	14.3	NA	Ever	"Have you ever closely examined your skin for signs of skin cancer or melanoma?" "If yes, which areas did you examine?"
Federman et al, ¹⁶ 2006	Female veterans; ages ≥40 y; Connecticut	10	Yes	2004	50.0	10.0	Within past 1-2 y	Performance of CSE on entire skin by primary care physician after patient is completely unclothed annually or every other year; SSE (yes/no)
Rodriguez et al, ¹⁰ 2007	Outpatients; men and women; ages ≥18 y; Florida	148	Yes	2006	NA	17.0	Within past 1-2 y	Performance of CSE on entire skin by primary care physician after patient is completely unclothed annually or every other year; SSE (yes/no)
Risica et al, ⁹ 2008	Outpatients; men and women; ages ≥18 y; Rhode Island	23	Yes	2000-2001	13.0	NA	Within past 2 mo	Examination of 7 specified body areas

Abbreviations: CSE, clinical skin examination; NA, not applicable; NHIS, National Health Interview Survey; NR, exact figure not reported; SSE, skin self-examination.

^aHispanics less likely than non-Hispanic whites to perform SSE ($P=.01$).

^bNumber might include some individuals from other ethnic groups.

^cWeighted and age-adjusted percentages.

^d"Recent" CSE for ages 18 to 39 years means within the previous 3 years; "recent" CSE for ages ≥40 years means within the previous year.

^eOdds ratio 0.61 (95% confidence interval, 0.45-0.82).

warrant an increased emphasis on developing early detection strategies.¹⁸

The Hispanic population growth rate is over 3 times higher than that of the total US population,¹⁹ which has strong implications for health care provid-

ers, policy, and research. Potential similarities in important melanoma risk factors such as skin or nevi characteristics between Hispanics and non-Hispanic whites, the high rates of thick melanoma among Hispanics, and the suboptimal prevention efforts with

Hispanics strongly reinforce the need for increased public health focus to correct misconceptions about skin cancer, improve the frequency and efficacy of SSE and CSE, and reduce existing disparities.

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PRACTICE GAPS

Suboptimal Skin Cancer Screening and Delayed Melanoma Diagnosis in Hispanics

Melanoma among Hispanics is becoming an increasingly critical public health issue as the US Hispanic population rapidly expands, and the incidence of melanoma among Hispanics steadily increases. Mounting evidence suggests that both prevention and diagnosis of melanoma need to be improved in the Hispanic community. Andreeva et al highlight 2 important screening deficiencies: (1) the rates of skin self-examinations and clinical examinations are low among Hispanics, and (2) there is limited research on skin cancer screening efforts among Hispanics. Suboptimal screening likely contributes to the disparate melanoma outcome among Hispanics who have a substantially higher proportion of melanomas diagnosed at a later stage than non-Hispanic whites.¹

While socioeconomic factors impede access to care, lower knowledge and awareness of melanoma risks among Hispanics likely delay access as well.² During clinic visits, additional barriers to appropriate melanoma screening may include providers' lack of awareness of melanoma risk in Hispanics and failure to inquire about risk factors such as family history, sun-exposure history, and changing or bleeding moles. Lack of consensus on effective early detection strategies for Hispanic patients poses another challenge, as do differences in language and cultural and/or social values that may exist between the provider and the patient.

These challenges represent opportunities for intervention, several of which can be easily implemented by dermatologists. First we need to educate ourselves and our colleagues on melanoma risk in Hispanics and dispel the public misconception that melanoma only occurs in whites. Since 1 of every 4 Americans will be Hispanic by 2020 according to the Census Bureau, heightened awareness of melanoma disparity among Hispanics is essential.