Cancer fatalism and adherence to national cancer screening guidelines: Results from the Hispanic Community Health Study/Study of Latinos (HCHS/SOL)

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ABSTRACT

Background: Sociocultural factors, such as health insurance status, income, education, and acculturation, predict cancer screening among U.S. Hispanics/Latinos. However, these factors can be difficult to modify. More research is needed to identify individual-level modifiable factors that may improve screening and subsequent cancer outcomes in this population. The aim of this study was to examine cancer fatalism (i.e., the belief that there is little or nothing one can do to lower his/her risk of developing cancer) as a determinant of adherence to national screening guidelines for colorectal, breast, prostate, and cervical cancer among Hispanics/Latinos.
Methods: Participants were from the multi-site Hispanic Community Health Study/Study of Latinos (HCHS/SOL) Sociocultural Ancillary Study (N = 5313). The National Cancer Institute (NCI) Health Interview National Trends Survey was used to assess cancer fatalism and receipt of cancer screening. Adherence was defined as following screening guidelines from United States Preventive Services Task Force and the American Cancer Society during the study period.
Results: Adjusting for well-established determinants of cancer screening and covariates (health insurance status, income, education, acculturation, age, Hispanic/Latino background), lower cancer fatalism was marginally associated with greater adherence to screening for colorectal (OR 1.13, 95% CI [.99–1.30], p = .07), breast (OR 1.16, 95% CI [.99–1.36], p = .08) and prostate cancer (OR 1.18, 95% CI [.97–1.43], p = .10), but not cervical cancer.
Conclusions: The associations of cancer fatalism were small and marginal, underlining that sociocultural factors are more robust determinants of cancer screening adherence among Hispanics/Latinos.

1. Introduction

Hispanics/Latinos comprise 18% of the population in the United States (U.S.) [1] and are one of the largest and most rapidly growing ethnic minority groups in the nation, accounting for more than half of the overall growth in the United States between 2000 and 2010 [2].

Cancer has surpassed cardiovascular disease as the leading cause of death among Hispanics/Latinos [3,4]. Effective cancer screening prevents the development of colorectal and cervical cancer by commonly detecting abnormal cells and growths before they progress to malignancies [5–12]. For colorectal, cervical, breast, and prostate cancer, screening can also improve treatment and survival outcomes by

detecting early-stage malignancies when treatment is more effective [13–17]. Nevertheless, relative to non-Hispanic/Latino Whites, Hispanics/Latinos in the United States demonstrate lower rates of screening for colorectal, breast, prostate, and cervical cancer [18–26] and are more likely to be diagnosed at advanced stages of cancer [27–33].

Sociocultural factors, such as health insurance, income, education, and acculturation, have been shown to predict use of preventive services and cancer screening among U.S. Hispanics/Latinos [34–47]. Compared to non-Hispanic/Latino whites, Hispanics/Latinos are more likely to have less educational attainment, live below the federal poverty level, and be foreign-born [48,49]. Furthermore, approximately 37% of Hispanic/Latino adults lack health insurance and 28% do not have a usual or primary care provider, compared to only 13% and 16% of non-Hispanic/Latino whites, respectively [50]. However, sociocultural factors (e.g., health insurance status, income, education, and acculturation) that contribute to cancer disparities in Hispanics/Latinos can be difficult to modify. Therefore, more research is needed to identify individual-level modifiable factors that can be targeted to improve screening adherence and subsequent cancer outcomes in this population.

Cancer fatalism is broadly defined as deterministic beliefs about cancer, including the powerlessness of humans to influence cancer outcomes, the definitive role of external causes in the development of cancer, and the inevitability of death after a cancer diagnosis [51–53]. One facet of cancer fatalism, the belief that there is little or nothing one can do to lower his/her risk of developing cancer, is the focus of the current study. Research demonstrates that Hispanics/Latinos generally report greater cancer fatalism and lower cancer screening self-efficacy, which often corresponds with lower rates of cancer screening intention and participation [54–65]. No study has previously examined the relationship between cancer fatalism and cancer screening among Hispanics/Latinos using data from the Hispanic Community Health Study/ Study of Latinos (HCHS/SOL) – the only population-based cohort study of Hispanics/Latinos in the U.S. In the current study, we were particularly interested in examining the relationship between cancer fatalism and adherence to cancer screening guidelines (rather than base rates of screening) when adjusting for well-established determinants of cancer screening like the previously mentioned sociocultural factors.

The Health Belief Model [66] posits that engagement in health-promoting behaviors such as cancer screening is influenced by an individual's beliefs, including perceived susceptibility to an illness, perceived severity of an illness, perceived benefits of engaging in a health-promoting behavior, perceived barriers of engaging in a health-promoting behavior, and self-efficacy. Cancer fatalism may be particularly important when examining screening for colorectal, breast, prostate, and cervical cancer since lifestyle and health behaviors (such as overweight/obesity, sedentary behavior, smoking, alcohol consumption, poor diet, unprotected sex) are major risk factors for these cancers [67–70]. In fact, the majority individuals who are diagnosed with breast, colorectal, and prostate cancer have no known family history [71–73] and infection by the human papillomavirus (HPV) is the most important risk factor for cervical cancer [74]. Previous studies have demonstrated that cancer fatalism is associated with worse health behaviors, including a lower likelihood of exercising weekly, eating five or more fruits and vegetables daily, and seeking cancer information [51,52]. We posit that individuals who believe that there are health-promoting behaviors that can prevent cancer are more likely to be adherent to cancer screening, which is related to improved outcomes through both prevention and early-detection. From the lens of the Health Belief Model, cancer fatalism, or the belief that there is little or nothing one can do to lower his/her risk of developing cancer, reflects a deterministic view of susceptibility to cancer and possibly a perception that there is little benefit to adhering to cancer screening guidelines. Therefore, the purpose of the current study was to examine cancer fatalism as a determinant of adherence to the national cancer screening

guidelines for colorectal, breast, prostate, and cervical cancer established by the United States Preventive Services Task Force and American Cancer Society among participants from the HCHS/SOL, a multi-center population-based cohort study of Hispanics/Latinos in the U.S. We hypothesized that lower cancer fatalism would be associated with greater adherence to cancer screenings for all four cancer types, even when adjusting for sociocultural factors that have been shown to be associated with screening behavior (i.e., health insurance, income, education, acculturation).

2. Methods

2.1. Participants

The Hispanic Community Health Study/Study of Latinos (HCHS/ SOL) is a multi-center observational study of 16,415 Hispanic/Latino men and women ages 18 to 74 years old in the United States.

2.2. Procedure

A detailed description of the Hispanic Community Health Study/ Study of Latinos (HCHS/SOL) has been previously published [75,76]. Briefly, using a two-stage probability sampling of households in selected census tracts, participants were recruited from four regions in the United States between 2008 and 2011: Bronx, New York; Chicago, Illinois; Miami, Florida; and San Diego, California. The Sociocultural Ancillary Study of the HCHS/SOL [77] enrolled a subset of 5313 participants who completed an additional psychosocial assessment, including measures of cancer screening and cancer fatalism. Institutional Review Board (IRB) approval was obtained at each field center and at the HCHS/SOL coordinating center.

2.3. Measures

2.3.1. Cancer screening

Cancer screening was assessed using the National Cancer Institute (NCI) Health Interview National Trends Survey (HINTS) [78] in accordance to the United States Preventive Services Task Force (USPSTF) and the American Cancer Society (ACS) screening guidelines. A detailed description of cancer screening guidelines and the questionnaire has been previously published by Valdovinos and colleagues [79]. Receipt of the following cancer screening tests was assessed: mammogram, Pap smear, fecal occult blood test (FOBT), colonoscopy/sigmoidoscopy, and prostate-specific antigen (PSA) test. Adherence to colorectal, breast, cervical, and prostate cancer screening was defined as a dichotomous variable (adherent versus non-adherent). Each type of cancer screening was assessed separately within the recommended age group and sex. Adherence was defined as receipt of screening within recommended timeframes according to guidelines from USPSTF and ACS that were in effect during the study years (2008–2011) [80]. Briefly, for colorectal cancer, men and women ages 50 and older were classified as adherent if they reported receipt of either a FOBT within 1 year, colonoscopy within 10 years, sigmoidoscopy within 5 years, or both a colonoscopy and sigmoidoscopy within 10 years. For breast cancer, women ages 40 and older were classified as adherent if they reported receipt of a mammogram within 2 years. For cervical cancer, women ages 18 and older were classified as adherent if they reported receipt of a Pap smear within 2 years. For prostate cancer, men ages 50 and older were classified as adherent if they reported receipt of a PSA test within 1 year.

2.3.2. Cancer fatalism

Cancer fatalism was measured using the National Cancer Institute (NCI) Health Interview National Trends Survey (HINTS) [78], which assesses different cancer-related health beliefs. Participants were asked to rate their agreement with the following statement: "There's not much you can do to lower your chances of getting cancer." on a four-point

Likert-type scale (1 = *strongly agree*, 2 = *somewhat agree*, 3 = *somewhat disagree*, 4 = *strongly disagree*). *Note that higher scores reflect lower cancer fatalism.*

2.3.3. Demographic & sociocultural factors

A sociodemographic questionnaire was used to assess age, annual household income, total years of education, and Hispanic/Latino background (i.e., Dominican, Central American, Cuban, Mexican, Puerto Rican, South American, and mixed/other). Health insurance status was assessed via self-report and was dichotomized such that participants who reported either public or private insurance were categorized as insured and those that reported no insurance were categorized as uninsured. Two facets of U.S. acculturation were assessed using the language and ethnic social relations subscales of the Short Acculturation Scale for Hispanics (SASH) [81] (Language subscale: English version α = .80, Spanish version α = .85; ethnic social relations subscale: English version α = .65, Spanish version α = .71). Higher scores in the language and ethnic social relations subscales indicate a higher degree of English language use and U.S. American social relations, respectively.

2.4. Data analysis

Analyses were conducted using SAS (9.4). Pearson correlations were conducted in order to examine bivariate associations among primary study variables, including cancer fatalism and sociocultural factors (i.e., age, income, education, health insurance status, and two facets of acculturation [language use and ethnic social relations]). In our primary analyses, we examined the relationship between cancer fatalism and adherence to national cancer screening guidelines when adjusting for sociocultural variables by conducting a series of logistic regression analyses. For each cancer-specific screening (i.e., colorectal, breast, cervical, prostate), cancer screening adherence (0 = non-adherence, 1 = adherence) was simultaneously regressed on cancer fatalism and the sociocultural variables listed above.[1] Logistic regression analyses also controlled for Hispanic/Latino background and field center; however, differences in cancer fatalism and cancer screening adherence by Hispanic/Latino background and study center were not examined as these analyses are outside the scope of the current study and require complex modeling in order to account for the collinearity between Hispanic/Latino background and study center. All analyses using inferential statistics accounted for the multi-site survey design and sample weights to produce weighted population estimates [75].

3. Results

Table 1 displays the sociodemographic characteristics of the HCHS/SOL target population. Most participants were not born in the U.S. (7–16%) and slightly more than half had health insurance (52–59%) and a combined household income at or below $20,000 (53–59%). Screening adherence also varied by cancer type (breast: 71%; cervical: 74%; colorectal: 58%; prostate: 35%). Table 2 displays a correlation matrix for primary study variables, including cancer fatalism and sociocultural factors. Younger age (r = −0.11, p < .0001), higher income (r = 0.16, p < .0001), more education (r = 0.23, p < .0001), and a higher degree of English language use (r = 0.18, p < .0001) and U.S. American social relations (r = 0.15, p < .0001) were associated with lower cancer fatalism. Health insurance status was not associated with cancer fatalism (p > .10).

The relationship between cancer fatalism and sociocultural factors with adherence to national screening guidelines for colorectal, breast,

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[1] Sex was only included in models examining adherence to colorectal cancer screening guidelines since screening guidelines for the other three cancer types (i.e., breast, cervical, and prostate) are sex-specific.

prostate, and cervical cancer are presented in Table 3. Adjusting for sociocultural factors and covariates (i.e., age, income, health insurance status, education, Hispanic/Latino background, sex [colorectal cancer screening only]), lower cancer fatalism was marginally associated with greater adherence to screening for colorectal (OR 1.13, 95% CI [.99–1.30], p = .07), breast (OR 1.16, 95% CI [.99–1.36], p = .08) and prostate cancer (OR 1.18, 95% CI [.97–1.43], p = .10), but not cervical cancer (p > .10). Having health insurance was a robust predictor of adherence to screening for all four cancer types (colorectal: OR 2.70, 95% CI [1.97–3.70], p < .0001; breast: OR 2.92, 95% CI [2.09–4.07], p < .0001; prostate: OR 2.80, 95% CI [1.70–4.61], p < .0001; cervical: OR 1.87, 95% CI [1.33–2.62], p = .0004). Higher income was associated with greater adherence to screening for colorectal (OR 1.08, 95% CI [1.01–1.16], p = .02) and prostate (OR 1.11, 95% CI [1.01–1.23], p = .04) cancer, but not breast or cervical cancer (p's > .10). A higher degree of U.S. American social relations was associated with greater adherence to prostate cancer screening (OR 1.52, 95% CI [1.01–2.28], p = .05) and marginally greater adherence to colorectal screening (OR 1.31, 95% CI [.98–1.76], p = .07), but not screening for breast or cervical cancer (p's > .10). A higher degree of English language use was associated with lower adherence to breast (OR .75, 95% CI [.60–.93], p = .009) and cervical cancer (OR 0.80, 95% CI [.65–.99], p = .04), but not screening for colorectal and prostate cancer (p's > .10). Men were less likely to be adherent to colorectal cancer screening than women (OR .76, 95% CI [.60–.97], p = .03). Older age was associated with greater adherence to screening for colorectal, breast, and prostate cancer (colorectal: OR 1.06, 95% CI [1.03–1.08], p < .0001; breast: OR 1.04, 95% CI [1.01–1.07], p = .007; prostate: OR 1.05, 95% CI [1.02–1.08], p = .003), whereas younger age was associated with greater adherence to cervical cancer screening (OR 0.98, 95% CI [.97–.99], p = .0004). Education was not associated with greater adherence to cancer screening across the four cancer types (p's > .10).

4. Discussion

The primary aim of this study was to examine cancer fatalism (i.e., the belief that there is little or nothing one can do to lower his/her risk of developing cancer) as a determinant of adherence to national guidelines for colorectal, breast, prostate, and cervical cancer screening in a large, population-based sample of the Hispanics/Latinos from Hispanic Community Health Study/Study of Latinos (HCHS/SOL). Adjusting for well-established determinants of cancer screening (i.e., health insurance status, income, education, acculturation), lower cancer fatalism was marginally associated with greater adherence to screening for colorectal, breast, and prostate cancer. Results suggest that increasing an individual's confidence in his/her ability to take action to lower his/her risk of developing cancer may be a viable intervention target to increasing screening adherence for the three most common cancers among Hispanics/Latinos [4]. Nevertheless, the effects of cancer fatalism were small and marginal, underlining that sociocultural factors like health insurance status, income, and acculturation are more robust determinants of cancer screening adherence among Hispanics/Latinos. These results await replication before recommendations to reduce cancer fatalism among Hispanics/Latinos are warranted.

Importantly, individuals who were older, lower income, less educated, and less acculturated to the U.S. (i.e., lower degree of English language use and U.S. American social relations) reported greater cancer fatalism. These findings highlight the importance of considering age, income, education, and U.S. acculturation when working with Hispanics/Latinos to improve adherence to national cancer screening guidelines, as these factors may help identify individuals who need additional support increasing confidence in their ability to lower their risk of developing cancer.

As previously reported [79], having health insurance was a robust

Table 1
Sociodemographic Characteristics.

	Breast Cancer Screening	Cervical Cancer Screening	Colorectal Cancer Screening	Prostate Cancer Screening
	Unweighted n = 2,262	Unweighted n = 2,960	Unweighted n = 2,239	Unweighted n = 802
Age, M (SE)	52.93 (0.38)	44.26 (0.45)	59.41 (0.23)	59.33 (0.33)
Female, %	100%	100%	56%	0%
U.S. Born, %	9%	16%	7%	9%
Have Health Insurance, %	55%	52%	59%	59%
Income, %				
Less than $10,000	25%	20%	24%	21%
$10,001-$20,000	34%	36%	34%	32%
$20,001-$40,000	28%	30%	28%	29%
$40,001-$75,000	8%	9%	8%	10%
More than $75,000	5%	4%	6%	7%
Years of Education, M (SE)	11.30 (0.16)	11.71 (0.13)	11.00 (0.17)	11.32 (0.24)
Adherently Screening, %	71%	74%	58%	35%
Cancer Fatalism, %				
("There's not much you can do to lower your chances of getting cancer")				
Strongly agree	18%	15%	21%	20%
Somewhat agree	26%	27%	26%	27%
Somewhat disagree	30%	30%	28%	27%
Strongly disagree	27%	28%	26%	26%
SASH Social Relations, M, (SE)	2.13 (0.03)	2.18 (0.02)	34.97 (0.30)	2.15 (0.03)
SASH Language, M, (SE)	1.70 (0.04)	1.90 (0.04)	1.72 (0.05)	1.83 (0.07)
Hispanic/Latino Background, %				
Dominican	13%	13%	10%	9%
Central American	7%	8%	7%	6%
Cuban	22%	19%	29%	32%
Mexican	33%	37%	27%	25%
Puerto Rican	17%	15%	20%	20%
South American	6%	5%	6%	6%
More than one/Other	2%	3%	1%	1%
Study Center, %				
Bronx	31%	32%	29%	28%
Chicago	12%	15%	12%	13%
Miami	33%	29%	39%	40%
San Diego	24%	24%	21%	19%

Note: Percentages, means, and standard deviations reflect weighted population estimates.

Table 2
Pearson Correlations for Cancer Fatalism and Sociocultural Factors, r (p-value).

	1	2	3	4	5	6	7
1. Cancer Fatalism	1	0.15 (< .0001)	0.18 (< .0001)	0.01 (0.413)	0.23 (< .0001)	−0.11 (< .0001)	0.16 (< .0001)
2. SASH Social Relations	0.15 (< .0001)	1	0.53 (< .0001)	0.18 (< .0001)	0.21 (< .0001)	−0.07 (< .0001)	0.15 (< .0001)
3. SASH Language	0.18 (< .0001)	0.53 (< .0001)	1	0.25 (< .0001)	0.26 (< .0001)	−0.19 (< .0001)	0.23 (< .0001)
4. Health Insurance	0.01 (0.413)	0.18 (< .0001)	0.25 (< .0001)	1	0.03 (0.052)	0.15 (< .0001)	0.09 (< .0001)
5. Years of Education	0.23 (< .0001)	0.21 (< .0001)	0.26 (< .0001)	0.03 (0.052)	1	−0.19 (< .0001)	0.23 (< .0001)
6. Age	−0.11 (< .0001)	−0.07 (< .0001)	−0.19 (< .0001)	0.15 (< .0001)	−0.19 (< .0001)	1	−0.07 (< .0001)
7. Income	0.16 (< .0001)	0.15 (< .0001)	0.23 (< .0001)	0.09 (< .0001)	0.23 (< .0001)	−0.07 (< .0001)	1

SASH = Short Acculturation Scale for Hispanics. Health insurance status (0 = uninsured, 1 = insured). Note cancer fatalism is coded such that higher scores reflect lower fatalism.

predictor of adherence to screening for all four cancer types. This finding is timely and notable in the current sociopolitical context in which many individuals in the U.S., including a disproportionate number of low income and minority individuals, may lose health insurance coverage if the Affordable Care Act (ACA) is repealed [82]. Other factors associated with greater cancer screening adherence, including higher income and a higher degree of U.S. American social relations (a facet of acculturation), have been previously documented [34–47]. Of note, a higher degree English language use (another facet of acculturation) was associated with lower screening adherence for breast and cervical cancer. This finding is contrary to previous research demonstrating lower cancer screening among Hispanics/Latinos with limited English proficiency [42,83,84]. Furthermore, limited English proficiency has been shown to be associated with lower enrollment in insurance programs like expanded Medicaid coverage through ACA [4] and the current study also demonstrated that a higher degree of English language use is associated with lower cancer fatalism. Therefore, these results should be interpreted with caution and await replication. While older age was associated with greater adherence to screening for colorectal, breast, and prostate cancer, younger age was uniquely

Table 3
Cancer Fatalism and Sociocultural Factors as Determinants of Adherence to Cancer Screening Guidelines.

	Colorectal Cancer Screening			Breast Cancer Screening			Prostate Cancer Screening			Cervical Cancer Screening		
	B (SE)	OR (95% CI)	p	B (SE)	OR (95% CI)	p	B (SE)	OR (95% CI)	p	B (SE)	OR (95% CI)	p
Cancer Fatalism	.13 (.07)	1.13 (.99–1.30)	.07	.15 (.08)	1.16 (.99–1.36)	.07	.16 (.10)	1.18 (.97–1.43)	.10	.06 (.07)	1.06 (.92–1.23)	.40
Age	.05 (.01)	1.06 (1.03–1.08)	< .0001	.04 (.01)	1.04 (1.01–1.07)	< .0001	.05 (.02)	1.05 (1.02–1.08)	.003	−.02 (.01)	.98 (.97–99)	.0004
Sex												
Male vs. Female (ref)	−.27 (.12)	.76 (.60–97)	.03									
Income	.08 (.03)	1.08 (1.01–1.16)	.02	.01 (.04)	1.01 (0.93–1.10)	.86	.10 (.05)	1.11 (1.01–1.23)	.04	.02 (.04)	1.02 (.94–1.11)	.59
Health Insurance												
Insured vs. Uninsured (ref)	1.00 (.16)	2.70 (1.97–3.70)	< .0001	1.07 (.17)	2.92 (2.09–4.07)	< .0001	1.03 (.26)	2.80 (1.70–4.61)	< .0001	.62 (.17)	1.87 (1.33–2.62)	.0004
Education, years	.27 (.15)	1.31 (.98–1.76)	.07	.06 (.24)	1.06 (.67–1.68)	.80	.42 (.21)	1.52 (1.01–2.28)	.05	−.04 (.19)	.96 (.67–1.39)	.84
SASH Ethnic Social Relations	.13 (.11)	1.14 (.91–1.41)	.25									
SASH Language Use				−.30 (.11)	.75 (.60–93)	.009	−.22 (.15)	.80 (.59–1.09)	.16	−.23 (.10)	.80 (.65–99)	.04

SASH = Short Acculturation Scale for Hispanics. All analyses controlled for Hispanic/Latino background and study center. Note cancer fatalism is coded such that higher scores reflect lower fatalism.

associated with greater adherence to cervical cancer screening, which is congruous with the peak incidence of cervical cancer in women between ages 35 to 44 [85,86]. Hispanic/Latino men were less likely to be adherent to colorectal cancer screening than women, a pattern of results that diverges from research documenting higher overall rates of colorectal cancer screening in men than women in U.S. population-based studies [40,87–90].

4.1. Strengths & limitations

This study has several notable strengths, including the use of a large, population-based sample of Hispanics/Latinos in the U.S. and the assessment of adherence to national cancer screening guidelines for four cancers: colorectal, breast, prostate, and cervical. However, findings should be interpreted within the context of study limitations. The primary limitation of this study is its cross-sectional design. Future research should employ prospective, longitudinal designs in order to establish temporal precedence between cancer fatalism and subsequent engagement in guideline-adherent cancer screening. Another major limitation was the use of a single-item measure of cancer fatalism. Future research should examine other, more comprehensive measures of cancer fatalism. We also note that the reliability for the ethnic social relations subscale of the SASH was relatively low, therefore corresponding results await replication. The current study defined adherence according to screening guidelines from the United States Preventive Services Task Force and the American Cancer Society during the study period (2008–2011), however cancer screening guidelines change over time [80]. Most notably, guidelines regarding prostate cancer screening via PSA testing have changed significantly since the study period and PSA testing is no longer uniformly recommended for men over 50 years of age with an average risk of developing prostate cancer [80,91,92]. Furthermore, in addition to the four cancer types included in this study, there are other cancers (e.g., lung and skin cancer) for which lifestyle and health behaviors are major risk factors. Therefore, future research examine adherence to updated cancer screening guidelines and consider including adherence to screening for other relevant cancers.

Author contribution

All the authors contributed to this research and article. Conceptualization: Patricia I. Moreno, Betina Yanez, & Frank J. Penedo; Data Analysis: Patricia I. Moreno & Katy Wortman; Funding Acquisition: Frank J. Penedo & Linda C. Gallo; Writing - Original Draft: Patricia I. Moreno, Betina Yanez, Steven J. Schuetz, Katy Wortman, Linda C. Gallo, Catherine Benedict, Carrie E. Brintz, Jianwen Cai, Sheila F. Castaneda, Krista M. Perreira, Patricia Gonzalez, Franklyn Gonzalez II, Carmen R. Isasi, & Frank J. Penedo; Writing - Review and Editing: Patricia I. Moreno, Betina Yanez, Steven J. Schuetz, Katy Wortman, Linda C. Gallo, Catherine Benedict, Carrie E. Brintz, Jianwen Cai, Sheila F. Castaneda, Krista M. Perreira, Patricia Gonzalez, Franklyn Gonzalez II, Carmen R. Isasi, & Frank J. Penedo.

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Conflicts of interest

Authors do not have any conflicts of interest to declare.

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