

ETHNIC VARIATION IN HEALTH-RELATED QUALITY OF LIFE AMONG LOW-INCOME MEN WITH PROSTATE CANCER

Objective: To describe and compare health-related quality of life (HRQOL) among Hispanic, African-American, and Caucasian men with localized prostate cancer.

Design: Observational study of low-income, ethnically diverse men with non-metastatic prostate cancer.

Setting: Statewide public assistance program in California.

Participants: 208 men (51 Caucasian, 115 Hispanic, and 42 African-American men) with non-metastatic disease.

Interventions: Radical retropubic prostatectomy, radiation therapy, and hormonal therapy.

Main Outcome Measures: Validated instruments measured general and disease-specific HRQOL, anxiety and fear of recurrence, spirituality, symptom distress, and self-efficacy.

Results: Hispanic men with prostate cancer were less educated, more often in significant relationships, and had more variable incomes compared with men of other ethnic/racial backgrounds. In univariate analyses, Caucasian men reported better physical function but less spirituality, while Hispanic men reported worse sexual function. Multivariate analysis revealed that Hispanic men had significantly worse physical function, bowel function, and bowel bother. African-American men experienced greater anxiety over recurrence. African-American and Hispanic men were more spiritual than Caucasian men.

Conclusions: Greater attention to demographic variations in HRQOL may allow physicians to improve outcomes across ethnicities in low-income men with prostate cancer by offering more specialized counseling and providing referral to social support systems. (*Ethn Dis.* 2005;15:461-468)

Key Words: Disadvantaged, Ethnicity, Health-Related Quality of Life, Prostate Cancer, Quality of Life

Tracey L. Krupski, MD; Geoffrey Sonn; Lorna Kwan, MPH; Sally Maliski, PhD; Arlene Fink, PhD; Mark S. Litwin MD, MPH

INTRODUCTION

Surgery and radiation therapy constitute the primary treatment modalities for men with localized prostate cancer, yet little conclusive evidence suggests a differential survival benefit.¹⁻⁴ Because of similar likelihood of survivorship, quality of life is particularly important for men treated for prostate cancer.

Given the disproportionately high prostate cancer burden among ethnic minorities, investigators have postulated that health-related quality of life (HRQOL) is particularly pertinent.^{5,6} Ethnic minorities are relatively poor and as such more likely to be publicly insured or relegated to safety-net hospitals.⁷ Gaskin et al found that safety-net hospitals served predominantly racial and ethnic minorities, who were more likely to have incomes below the federal poverty level when compared with patients of non-safety-net hospitals.⁸ Additionally, low income is independently associated with worse quality of life in all eight domains of the SF-36, which suggests that poverty may compound the burden of cancer among disadvantaged groups.^{9,10}

The effect of treatment for localized prostate cancer on HRQOL has been amply described for Caucasian men.¹¹⁻¹⁵ These studies found that surgery and radiation both may impair disease-specific HRQOL to a greater degree than general HRQOL. Both treatment modalities may result in uri-

nary and sexual dysfunction, although the time course of these effects varies among treatments. However, the few studies assessing the independent influence of ethnicity on HRQOL in minorities with prostate cancer have focused on African Americans, who have been shown to have worse general HRQOL than Caucasians.^{15,16} Lubeck et al found that African-American men had lower baseline scores in most domains of general and disease-specific HRQOL and experienced a slower return to baseline after treatment than did Caucasian men, after controlling for differences in disease stage.¹⁵ Although studies have compared pathologic outcomes between Hispanic and non-Hispanic White men, HRQOL outcomes in Hispanic men have not been extensively evaluated.¹⁷⁻²⁰

We had a unique opportunity to assess the HRQOL in a low-income, ethnically diverse population receiving free prostate cancer treatment through a statewide public assistance program. Within this cohort of universally disadvantaged men, we sought to describe and compare HRQOL among Hispanic, African-American, and Caucasian men.

METHODS

Program

Improving Access, Counseling, and Treatment for Californians with Prostate Cancer (IMPACT) is a program that provides free prostate cancer treatment to indigent men. Eligibility for the program includes California residence, biopsy-proven prostate cancer, lack of health insurance, and a household in-

From the Departments of Urology and Health Services, David Geffen School of Medicine and School of Public Health, Jonsson Comprehensive Cancer Center, University of California, Los Angeles, California (TLK, GS, LK, SM, MSL. AF).

Address correspondence and reprint requests to Tracey L. Krupski, MD; UCLA Department of Urology; Box 951738; Los Angeles, CA 90095-1738; 310-206-8183; 310-206-5343 (fax); tkrupski@mednet.ucla.edu

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come at or below 200% of the Federal Poverty Level.

All IMPACT enrollees receive a manual that explains the various benefits they receive through the program and introduces them to the research component known as the Men's Health Survey. The manuals are prepared in English and Spanish and are distributed to enrollees based on preference. If the research consent is not returned in two weeks, the enrollee is contacted by telephone to seek consent. Enrollees are clearly informed that receipt of IMPACT benefits is not contingent upon study participation. The University of California, Los Angeles (UCLA) Human Subjects Protection Committee approved all consent and data collection protocols, and all are Health Insurance Portability and Accountability Act (HIPAA) compliant.

Participants

Although IMPACT is available to all eligible patients with prostate cancer, we excluded participants with metastatic disease, as defined by positive bone imaging study or intractable bone pain, from this analysis because their HRQOL profile is vastly different.

Data Collection

We used telephone interviews, administered in English or Spanish by trained language-matched interviewers, and self-administered questionnaires to collect health information. We used a battery of validated instruments to collect information on spirituality, general and disease-specific HRQOL, anxiety, and symptom distress. Participants received a \$10 honorarium for each completed telephone interview and self-administered questionnaire. We employed chart abstraction to obtain Charlson Comorbidity Index, date of biopsy, clinical parameters (prostate-specific antigen [PSA], Gleason score, and stage), and treatment information from the IMPACT clinical database.

Instruments

General and Disease-Specific HRQOL

We evaluated general HRQOL with the RAND Medical Outcomes Study Short Form 12-Item Health Survey, version 2 (SF-12). The SF-12 measures general HRQOL in two composite scores (physical and mental) and eight multi-item subscales (physical functioning, emotional well-being, role limitations from physical or emotional problems, pain, energy, social functioning, and general health perceptions). The Physical (PCS) and Mental (MCS) Component Summaries correlate well with the SF-36 summary scales ($R^2=0.89$ and 0.76).^{10,21} The PCS and MCS are normalized to the population mean of 50 and standard deviation of 10. The eight sub-scales are scored from 0–100 with higher scores indicating better outcomes. Validity of the SF-36 is robust in Hispanics.²²

We assessed disease-specific HRQOL with the UCLA Prostate Cancer Index short form (PCI-SF).¹² The PCI-SF uses 15 items to quantify prostate cancer-specific HRQOL in six domains of urinary, sexual, and bowel function and bother. Two items from the urinary function scale, one item from the bowel

function scale, and three items from the sexual function scale were removed from the original UCLA Prostate Cancer Index to create the PCI-SF, which correlates well with the full PCI. The function scales assess incontinence, proctitis, and erectile difficulties, while the bother scales indicate how troubled the patient is by the respective symptoms.²³ Higher scores on the 0–100 scales indicate better outcomes. With the exception of items relating to social interactions, the English-Spanish translations demonstrated excellent understanding ($\kappa=.81$) in a heterogeneous group of bilingual men.²⁴

Psychosocial Health

We assessed anxiety secondary to fear of cancer recurrence with an instrument validated in leukemia survivors²⁵ that has performed well in men with prostate cancer.²⁶ All items are rated on a five-point Likert scale from "not at all" to "very much" and then summed. Higher scores indicate less fear of recurrence.

We measured self-efficacy with the Perceived Efficacy in Patient-Physician Interactions short form (PEPPI), which assesses a confidence in the ability to communicate with one's physician. The PEPPI performed well in measures of reliability ($\alpha=0.93$) and discriminant and convergent validity.²⁷ The five items are scored on a scale of 1 (very confident) to 5 (not confident at all) and summed, with a maximum score of 25. Higher scores reflect lower self-efficacy.

We captured symptom distress with the Symptom Distress Scale (SDS), which assesses the degree of discomfort perceived by patients for 10 specific cancer symptoms. The SDS has good reliability as demonstrated by a reliability coefficient α of 0.82. Items are scored from 1 to 5 and summed, with higher scores representing greater distress.²⁸

We evaluated spirituality with the 12-item Functional Assessment of Chronic Illness Therapy-Spiritual Well Being Scale (FACIT-Sp) based on the

Table 1. Univariate analysis of demographic and clinical variables by ethnicity

		Caucasian (N=51) N (%)	Hispanic (N=115) N (%)	African American (N=42) N (%)	Other (N=16) N (%)	P-value
Age	mean age	58.98	63.27	58.76	65.12	<0.01
	<60	23 (45)	23 (20)	22 (52)	3 (19)	
	60-65	26 (51)	67 (58)	16 (38)	7 (44)	
	>65	2 (4)	25 (22)	4 (10)	6 (37)	
Educational attainment	<high school	7 (13.73)	74 (64.35)	9 (21.43)	2 (12.50)	<0.01
	high school graduate/some college	29 (56.86)	37 (32.17)	27 (64.29)	6 (37.50)	
	college graduate	15 (29.41)	4 (3.48)	6 (14.29)	8 (50)	
Income level, per month	0	2 (3.9)	17 (14.8)	2 (5)	3 (18.8)	0.00
	\$1-\$1500	42 (82)	66 (57)	26 (62)	5 (31.2)	
	>\$1501	7 (13.7)	32 (28)	14 (33)	8 (50)	
Relationship status	living with spouse/partner	24 (47.06)	82 (71.30)	17 (40.48)	11 (68.75)	0.01
	significant relationship but not living together	9 (17.65)	13 (11.30)	8 (19.05)	1 (6.25)	
	not in a significant relationship	18 (35.29)	20 (17.39)	17 (40.48)	4 (25.00)	
Comorbidity-Charlson Index	0-1	34 (73.91)	66 (62.86)	26 (70.27)	10 (66.67)	0.57
	>1	12 (26.09)	39 (37.14)	11 (29.73)	5 (33.33)	
Baseline PSA	≤10	29 (61.70)	58 (59.79)	18 (46.15)	10 (71.43)	0.30
	>10	18 (38.30)	39 (40.21)	21 (53.85)	4 (28.57)	
Gleason Sum	≤7	45 (90.00)	91 (85.05)	34 (82.93)	13 (86.67)	0.79
	>7	5 (10.00)	16 (14.95)	7 (17.07)	2 (13.33)	
Clinical stage	localized	42 (82.4)	31 (73.8)	80 (70.8)	15 (100)	0.05
	local/regional	9 (17.6)	11 (26.2)	33 (29.2)	0	
	unknown	3				
Months from biopsy	mean months	18.0	14.6	10.8	16.8	0.26

core instrument of the Functional Assessment of Cancer Therapy-General.²⁹ The FACIT-Sp has been validated across languages, cultures, and literacy levels.^{30,31} The summed score ranges from 0-48, with higher scores representing more spirituality. The FACIT has good reliability (Cronbach $\alpha=0.87$) and has been validated against a variety of instruments.³¹

Statistical Analysis

Descriptive statistics are presented for demographics and clinical characteristics. Categorical variables were compared across ethnic groups (Caucasian, African-American, Hispanic, and other) by using chi-square or Fisher exact tests, and continuous variables (general and disease-specific HRQOL and psychosocial outcomes) were compared by using analysis of variance (ANOVA). The SF-12 domains were scored in accordance with the relevant handbook.²¹ The

UCLA-PCI was scored as described in prior publications.¹² The Tukey test was used to determine which pairwise analyses were responsible for the significant findings in the ANOVA.

Multivariate analysis was conducted for all of the disease-specific domains and psychosocial domains regardless of significance level in univariate testing. However, the only measures of general HRQOL included in the model were the two composite scores, PCS and MCS. The covariates were selected based on a priori hypothesis from literature review. Using generalized linear regression models focusing on contrasts for pairwise mean differences between the ethnicities; we calculated parameter estimates, *P* values, and *R*² values. We further calculated adjusted means for all of the aforementioned HRQOL outcome variables. The means were controlled for the following covariates:

relationship status was dichotomized into committed relationship vs not (committed as referent); highest educational attainment was categorized as less than high school, high school graduate, and some college vs college graduate (college graduate as referent); Charlson Comorbidity Index was dichotomized into scores of 0 or 1 versus >2 (0 or 1 as referent); biological aggressiveness by Gleason >6 (Gleason <6 as referent); clinical stage was categorized as localized and local/regional (localized as referent); and treatment type included radiation, radical retropublic prostatectomy, hormonal ablation, and watchful waiting (watchful waiting as referent). We further controlled for age and months since biopsy. A Bonferroni correction with an overall error rate of 0.05 was used to assess the multiple comparisons. All statistical analyses were conducted in SAS 8.02 (SAS Institute, Cary, NC).

Table 2. Univariate analysis of health-related quality of life and psychosocial variables across ethnic groups

	Caucasian (N=51)		Hispanic (N=115)		African American (N=42)		Other (N=16)		P-value
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
UCLA-PCI									
PCI Sexual Function	48.63	35.58	28.44	26.93	43.66	33.90	19.25	23.44	<0.01*
PCI Sexual Bother	43.00	40.10	27.85	35.57	34.75	38.27	25.00	36.51	0.10
PCI Urinary Function	77.26	26.45	68.03	30.74	67.82	32.07	66.39	31.28	0.28
PCI Urinary Bother	68.62	38.67	65.78	35.70	71.42	33.84	57.81	32.55	0.59
PCI Bowel Function	82.58	20.31	72.11	26.44	78.34	25.46	69.31	33.23	0.06
PCI Bowel Bother	81.00	29.25	68.08	33.59	77.97	29.32	70.31	30.57	0.07
SF-12									
Physical Functioning	80.39	26.60	62.50	35.08	65.47	34.01	66.66	22.49	0.01**
Role-Physical	71.56	29.79	64.49	35.45	59.45	31.47	67.18	22.30	0.35
Emotional Well-Being	46.56	11.20	46.95	13.09	45.23	12.01	46.87	10.70	0.89
Role-Emotional	75.73	26.62	71.38	28.06	73.47	25.34	72.50	22.26	0.81
Pain	80.88	26.26	68.69	31.56	73.78	39.55	68.75	29.58	0.11
Energy	52.45	26.57	55.43	29.94	55.95	34.57	56.25	23.27	0.91
Social Functioning	74.01	30.39	70.61	32.96	69.64	33.37	73.21	28.52	0.90
General Health	66.86	24.63	46.73	28.12	55.83	26.77	59.00	23.91	<0.01**
Physical Composite Score	51.49	9.74	44.72	12.09	46.36	11.97	46.41	9.66	<0.01**
Mental Composite Score	1.51	7.69	42.98	8.10	42.81	7.09	42.85	6.55	0.73
Psychosocial									
Symptom Distress	18.13	5.90	19.34	6.70	20.07	8.90	21.31	8.00	0.37
FACIT-Sp	34.03	9.40	41.10	6.90	39.43	7.90	38.73	8.10	<0.01***
Anxiety	16.31	4.10	16.16	4.80	18.30	4.70	17.06	4.00	0.08
PEPPI	19.82	4.40	21.66	4.60	21.54	4.10	20.93	4.40	0.10

* Differences between Caucasians and African Americans with Hispanic and Others (bold)

** Differences between Caucasians with Hispanic (bold).

*** Differences between Caucasians with Hispanics and African Americans (bold).

RESULTS

Of 385 IMPACT enrollees, 335 patients consented to participate in the Men’s Health Survey. The reasons given by the 50 who refused included 41 not interested, 6 too ill, and 3 unable to reach. Of those who consented, 289 (86%) completed the telephone and written questionnaires by the time of this analysis. Sixty-five patients with metastatic disease were excluded from the analysis, leaving 224 in the study sample.

Table 1 presents the demographic and clinical variables by ethnicity. The “other” ethnicity was a heterogeneous group of eight Asians, one Native American, five unknown, and two who declined to state an ethnicity. Their demographic and univariate data are presented for completeness, but because of the heterogeneity in ethnicity, we ex-

cluded them from the final multivariate analysis. The “other” group was significantly older. Hispanic men were more likely to be involved in a significant relationship and less likely to have completed high school. We defined localized disease as no evidence of recurrence after treatment for low-risk disease and local/regional as high risk of recurrence or rising PSA following treatment. No significant differences were noted in these categories; for each ethnicity >70% had localized and less than one third had local/regional disease. Finally, income differed among the three groups, all of which were poor, with Hispanic men having the greatest variation.

In univariate analyses, the only disease-specific parameter significantly different among the groups was sexual function (Table 2); Hispanic and other ethnic minority men reported significantly worse sexual function than Afri-

can Americans and Caucasians. In general HRQOL, the physical domains varied, while no differences were noted in emotional domains. Physical function, general health perceptions, and physical composite scores all reflected better function among the Caucasian men when compared to Hispanic men. Caucasian men also reported significantly lower spirituality scores than African-American or Hispanic men on the FACIT-Sp.

Multivariate analyses found five outcomes in which ethnicity had a significant effect (Table 3). Physical function, bowel function, bowel bother, anxiety, and spirituality differed significantly when compared by ethnicity. In Table 4, we calculated the adjusted means for each ethnicity by using the model results to allow for comparisons among ethnic groups. Analysis of adjusted means revealed that Hispanic men had

Table 3. Regression analysis of HRQOL outcomes on ethnicity (Caucasian as referent)

	Parameter Estimate	P-value	Adjusted R squared
Physical Composite Score			
Hispanic	-5.58	0.02	0.05
African American	-3.62	0.17	
Mental Composite Score			
Hispanic	0.87	0.60	-0.04
African American	2.02	0.27	
Urinary Function			
Hispanic	-5.13	0.37	0.13
African American	-6.12	0.32	
Bowel Function			
Hispanic	-12.43	0.01	0.04
African American	0.92	0.86	
Sexual Function			
Hispanic	-9.70	0.12	0.15
African American	-0.73	0.91	
Urinary Bother			
Hispanic	-6.32	0.38	0.03
African American	5.25	0.50	
Bowel Bother			
Hispanic	-14.11	0.03	0.04
African American	2.57	0.71	
Sexual Bother			
Hispanic	-11.16	0.16	0.01
African American	-5.53	0.51	
Anxiety			
Hispanic	-0.95	0.28	0.21
African American	2.62	<0.01	
Symptom Distress			
Hispanic	2.34	0.10	0.02
African American	0.99	0.52	
Self efficacy			
Hispanic	0.95	0.30	0.01
African American	1.70	0.09	
Spirituality			
Hispanic	4.96	<0.01	0.14
African American	4.87	<0.01	

All models controlled for age, relationship status, education level, income, comorbidities, Gleason score, clinical stage, time since biopsy, and treatment type.

physical composite scores significantly worse than Caucasian men by six points, or more than one-half standard deviation. SF-12 scores revealed that the physical function and general health perception domains drove the lower PCS score among Hispanic men. Hispanic men also reported significantly worse bowel function than Caucasians

or African Americans ($P=.01$, $P<.01$) and worse bother than African Americans ($P=.01$). African-American men experienced less anxiety than Hispanics or Caucasians ($P<.01$, $P<.01$). Lastly, Caucasian men had significantly lower spirituality scores on the FACIT-Sp than did African-American or Hispanic ($P<.01$, $P<.01$) men.

DISCUSSION

Our study revealed different HRQOL profiles for low-income Hispanic, African-American, and Caucasian men with non-metastatic prostate cancer. These differences persisted even after adjusting for age, relationship status, education, income, comorbidities, Gleason score, time since biopsy, and treatment. We identified several important findings.

First, Hispanic men reported significantly worse general and disease-specific HRQOL, despite being comparable to the other ethnic groups with respect to comorbidities, baseline PSA, Gleason score, and clinical stage. The finding that Hispanic men scored one-half standard deviation lower on the PCS than Caucasian men suggests that they viewed their physical HRQOL worse than did Caucasian men to a clinically important degree. Although a quarter standard deviation has been described as indicating minimally detectable differences, a half standard deviation is generally accepted as indicating important differences.³²⁻³⁴ Because of the uniform IMPACT income criteria and inclusion of only early-stage prostate cancer in this analysis, the lower PCS scores likely reflect ethnic differences in perception of health rather than differences related to socioeconomic status or disease stage among participants in our study.

Among the six disease-specific domains of the UCLA PCI, bowel function was significantly worse for Hispanic men than for the other ethnic groups. This finding is surprising because only one of the treatments, radiation therapy, is usually associated with bowel dysfunction. Further, somewhat fewer Hispanic men (31%) were treated with radiation than Caucasians (35%) or African Americans (40%). Bowel problems experienced by these men may have been unrelated to the prostate cancer treatment, or some cultural difference may cause bowel dysfunction to be perceived as more troubling. Although sex-

Table 4. Adjusted mean quality of life scores, by ethnicity

	Caucasian	African American	Hispanic
General HRQOL			
Physical Composite	51	47	45
Mental Composite	42	44	43
Psychosocial			
Anxiety	17	19	16
Symptom distress	18	19	20
Self efficacy	20	22	21
Spirituality	35	40	40
Disease specific HRQOL			
Urinary function	75	69	70
Bowel function	83	84	70
Sexual function	43	42	33
Urinary bother	71	76	65
Bowel bother	81	83	67
Sexual bother	40	35	29

Means adjusted for age, relationship status, education level, income, comorbidities, Gleason score, clinical stage, time since biopsy, and treatment type.

Bolded values are significantly ($P < .05$) different from each other. If only one of the three is bolded, that value is significantly different from both the other two scores.

ual function and bother scores were worse among Hispanic men, the difference was not statistically significant. Despite the widespread perception of "machismo" in Hispanic culture, these men did not seem unduly bothered by the change in sexual function.³⁵

Our findings are in direct contrast to a population-based, longitudinal cohort study comparing disease-specific quality of life in non-Hispanic White men to African-American and Hispanic men. They found no differences in bowel function or bother by ethnicity after surgery or radiation.³⁶ We postulate that extremely low scores reported by our disadvantaged group explain the differences. However, comparisons of the reported scores for urinary function and sexual function revealed the two studies to be quite similar (bowel function scores were not reported by Johnson et al). Income levels between the two studies were also quite consistent; more than half the Hispanic incomes in the population-based study had incomes less than \$20,000 per year. One explanation is that Hispanic ethnicity as a single category is too broad, since it includes people of Mexican, Cuban,

Puerto Rican, Dominican, and Central and South American ancestry. The contradictory findings may be a function of cultural differences among these subgroups.

Another possible explanation lies in the finding that healthy Hispanics tend to perceive their health status as worse than healthy people of other races or even other Hispanic subgroups.^{37,38} For example, a Hispanic person with no known medical problems often reports overall health as "good," rather than "excellent." The perception may be cultural: that room to improve always exists. Another possibility is that the instruments used do not have construct validity across different cultures. That is, even though the UCLA-PCI may have been translated into Spanish, persons of Spanish heritage may perceive the concepts captured by the PCI differently. Additional investigation is needed to substantiate the HRQOL differences between Hispanics and other ethnicities and to delve into the causative factors.

Second, African-American men experienced significantly less anxiety related to fear of recurrence than did Hispanic or Caucasian men. Several factors

may contribute to this decreased anxiety. First, the public campaign to raise awareness of increased prostate cancer risk among African Americans may have alerted these men to the benefits of screening and treatment.^{20,39} The experience may have been personalized for African-American patients who have seen prostate cancer affect a family member, especially if the relative experienced biochemical cure.³⁹ The decreased anxiety was noted despite that African-American men were slightly more likely to have local/regional disease ($P = .05$).

Third, comparisons between African Americans and Caucasians failed to reveal a marked differences between ethnicities in most areas of disease-specific HRQOL. The reported adjusted means for bowel bother, sexual function and bother, and urinary bother were within a few points of each other. Mental component summaries (MCS) adjusted means were also within two points. The PCS scores differed by only four points. Our findings depart from those reported in the literature, but we may have lacked the power to detect significant differences. Larger studies have found that African Americans had significantly worse physical functioning ($P = .0008$), worse mental health, better sexual functioning ($P = .02$), and more sexual bother ($P = .03$).^{15,16,36}

Fourth, Caucasians reported significantly less spirituality than African Americans or Hispanics. This finding corroborates those that reveal that spiritual/existential needs were more often reported by Hispanic (61%) or African-American (41%) men compared to Caucasian men (25%; $P < .001$).⁴⁰ In this context, spirituality is distinct from religiosity in that it is not necessarily related to involvement in organized religion. Instead, it is defined as "the way in which people understand and live their lives in view of their ultimate meaning and value."^{41,42} A physician cannot force a patient to be more spiritual but may encourage spirituality as a

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source of strength in those who are already spiritual or may refer individuals to an alternate source of strength, such as a support group.

These findings about Hispanic, African-American, and Caucasian prostate cancer patients suggest that clinicians must meticulously counsel disadvantaged men about the potential adverse effects on general and disease-specific HRQOL caused by treatment for their disease. Hispanic men with prostate cancer should be informed that all methods of definitive treatment may cause adverse effects, either temporarily or permanently. For example, physicians must explain to those who consider external-beam radiation that this treatment modality has worse bowel-related side effects than surgery, a side effect that Hispanics in our study found especially distressing.⁴³⁻⁴⁶ Culturally appropriate education materials may increase knowledge of the disease process and decrease anxiety in African-American men. Lastly, those affected by prostate cancer should be referred to cancer support groups in order to increase social connectedness. Katz et al found that men enrolled in support groups reported better quality of life than other men with prostate cancer.⁴⁷

Our study has several limitations.

First, given the relatively small sample sizes, additional clinically significant differences among the ethnicities may not have been identified. Second, because we examined only those with non-metastatic disease, our results should not be applied to men with more advanced tumors. Similarly, because only impoverished, uninsured men were enrolled in the sample, the differences discovered among the three ethnicities may not be generalizable to more affluent patients. Third, differences may exist in how men of different ethnicities report the same level of function and bother. Because HRQOL is self-reported, cultural beliefs may facilitate or serve as barriers to either the reporting itself or to the perception of the ailment. This limitation may confound the differences we identified. We considered comparing ethnic men with and without cancer for each outcome in order to establish what portion of the differences were attributable to cultural beliefs as opposed to prostate cancer. However, we were unable to find a suitable comparison group in the literature. Finally, because a large number of patients were treated prior to enrolling in IMPACT, we retrospectively had to ascertain the Gleason score and clinical stage at presentation. Therefore, these surrogates for extent of disease may not reflect the true cancer burden.

CONCLUSION

We found that among men of comparably low socioeconomic status, ethnicity was independently associated with distinct general, disease-specific, and psychosocial HRQOL outcomes. Identification of such variables will allow physicians to improve outcomes across ethnicities in men with prostate cancer by offering more specialized counseling and providing referral to social support systems.

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AUTHOR CONTRIBUTIONS

Design and concept of study: Krupski, Litwin, Maliski

Acquisition of data: Krupski, Fink, Litwin, Maliski, Sonn

Data analysis and interpretation: Krupski, Kwan, Litwin, Sonn

Manuscript draft: Krupski, Fink, Litwin, Sonn

Statistical expertise: Kwan, Litwin

Acquisition of funding: Litwin

Administrative, technical, or material assistance: Krupski, Fink, Litwin, Maliski

Supervision: Fink, Litwin