

Survivorship Care, Health-Related Quality of Life, and Social Drivers of Health Among Black Prostate Cancer Survivors at an Academic Cancer Center

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Abstract

Purpose

Black men experience the highest global burden of prostate cancer (CaP). This study examined health-related quality of life (HRQOL) and social drivers of health (SDOH)-related distress among Black prostate cancer survivors (CaPS) and compared HRQOL with findings from a comparable cohort.

Methods

This cross-sectional analysis used baseline data from a larger intervention study. Descriptive statistics and Welch's two-sample t-tests were conducted.

Results

A total of 134 Black CaPS completed the baseline survey. Most were aged > 55 years (94.0%), identified as U.S.-born African American (90.3%), and were initially diagnosed with stage I–III disease (79.8%). Mean overall Functional Assessment of Cancer Therapy–General (FACT-G) score was 83.9 (SD = 17.8). Physical well-being had the highest mean subscale score (23.8, SD = 4.8), followed by functional well-being (20.4, SD = 6.6), social/family well-being (19.8, SD = 7.1), and emotional well-being (19.8, SD = 3.8). Mean SDOH Distress Scale score was 55.5 (SD = 23.8), with healthcare costs and insurance coverage among the most reported sources of distress. The mean FACT-G total was descriptively 8.9 points higher than the derived comparison mean (83.9 vs. 75.0).

Conclusions

Survivorship challenges persisted among Black CaPS across functional, social/family, and emotional domains. SDOH-related distress further highlights the social and financial challenges that may affect survivorship. These findings underscore the need for culturally responsive, multilevel survivorship interventions that integrate psychosocial support and address financial hardship and other social drivers of health to promote equitable, whole-person survivorship care for Black men with prostate cancer.

Introduction

Globally, Black men experience the greatest prostate cancer (CaP) burden of any racial or ethnic group, experiencing higher incidence, more advanced stages at diagnosis, greater morbidity and mortality, and poorer survivorship outcomes compared with men from other racial and ethnic groups [1–3]. These disparities are multifactorial and reflect the complex interplay of biological, social, environmental, and healthcare system factors [4–8]. Studies examining patient-reported outcomes of Black prostate cancer survivors (CaPS) have documented impairments in health-related quality of life (HRQOL) associated with

cancer, its treatment, and social drivers of health (SDOH) [9–11]. Despite bearing a higher burden of prostate cancer, Black CaPS remain underrepresented in survivorship and HRQOL research, limiting understanding of their multidimensional, whole-person survivorship needs and the development of interventions designed to address them [12].

HRQOL is an important outcome across the cancer continuum, as poorer HRQOL has been associated with adverse clinical outcomes and reduced survival in several cancer populations [11, 13–15]. Among CaPS, the effects of prostate cancer and its treatment can extend well beyond disease control. Treatment-related sequelae, including urinary incontinence, sexual dysfunction, fatigue, and adverse effects associated with hormonal therapy, can persist into survivorship and negatively affect physical functioning, emotional well-being, intimate relationships, and social functioning [16–18]. SDOH-related stressors, such as healthcare affordability, insurance concerns, access to supportive services, and other social and economic circumstances, may further compound these challenges.

To address unmet survivorship needs and advance equity in prostate cancer care, the Inclusive Cancer Care Research Equity (iCCaRE) Consortium was established through the U.S. Department of Defense HEROICA initiative (DoD; W81XWH22-1-0970). Within the consortium, Pilot Project 3 (PP3) focuses on whole-person survivorship care through the development of a digital, tailored Prostate Cancer Survivorship Care Guide (SCG) Toolkit for Black CaPS. Guided by the Science of Survivorship framework, the intervention was designed to address medical, psychosocial, and SDOH-related needs that may influence survivorship and HRQOL [11, 19, 20–22].

The present study used baseline (T1) data from the PP3 feasibility study to characterize HRQOL and SDOH-related distress among Black CaPS prior to receipt of the intervention. Specifically, we examined overall HRQOL and physical, functional, emotional, and social/family well-being, as well as SDOH-related sources of distress. We also compared overall HRQOL in our cohort with that reported in a comparable study of Black CaPS to contextualize the HRQOL experiences of participants in the present study. By characterizing the multidimensional survivorship needs of Black CaPS, this study seeks to inform the refinement and implementation of culturally responsive, whole-person survivorship interventions and contribute to the evidence base for more equitable prostate cancer survivorship care.

Methods

Study Design and Settings

PP3, *Whole Person Care Survivorship to Improve HRQOL in Black Prostate Cancer*, is an iCCaRE study focused on developing and evaluating a digital Prostate Cancer-Survivorship Care Guide (SCG) Toolkit for diverse Black CaPS to address the multidimensional survivorship needs of Black prostate cancer survivors.

The present cross-sectional analysis used baseline (T1) survey data collected as part of the PP3 SCG Toolkit feasibility study. The study protocol was reviewed and approved by the Institutional Review Board

(IRB) of City of Hope Comprehensive Cancer Center (COH) and Mayo Clinic. All participants provided informed consent before study participation.

Participants

Purposive sampling was used to recruit Black CaPS through urology and oncology clinic registries at City of Hope Comprehensive Cancer Center. Participants were eligible if they were: i) self-identified as Black men (born in the U.S., Caribbean, or Africa); ii) diagnosed with prostate cancer between 2000 and 2025; iii) able to speak and understand English; iv) able to have access to a standard smartphone/tablet/computer with internet access and ability to download apps; and v) aged 21 years and over.

Potential eligible participants were initially contacted by email with information about the study and study team contact information. Approximately 1-week post-email, a study staff member followed up with a direct phone call to both non-responders and responders. This call served to provide further study information, answer any questions, and begin enrollment. The recruitment protocol allowed for up to five email invitations and four telephone contact attempts. Participation was voluntary, and informed consent was obtained before enrollment.

A total of 148 Black CaPS initiated the baseline survey, of whom 134 completed the baseline survey, resulting in a completion rate of 90.5%. The present analysis included the 134 participants who completed the baseline survey.

Data Collection

Baseline data collected from April to September in 2025, using Research Electronic Data Capture (REDCap) electronic data capture tools hosted at City of Hope [22, 23]. Following informed consent, participants received an email or text message containing a secure link to access the baseline survey. REDCap is a secure, web-based software platform designed to support data capture for research studies, providing 1) an intuitive interface for validated data capture; 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages; and 4) procedures for data integration and interoperability with external sources [22, 23]. No personal identifiers were collected.

Measures

The baseline survey assessed demographic and clinical characteristics, treatment history and treatment-related effects, comorbidities, survivorship care and access, HRQOL, and SDOH-related distress. HROQL was assessed using the Functional Assessment of Cancer Therapy-General (FACT-G), EuroQol 5-Dimension survey (EQ-5D-5L), and the SDOH Distress scale.

Functional Assessment of Cancer Therapy–General (FACT-G)

FACT-G is a 27-item scale designed to measure four domains of HRQOL in cancer patients: physical, social, emotional, and functional well-being. Coefficients of reliability and validity were uniformly high [24, 25]. Questions are phrased so that higher numbers indicate a better health state, leading to some items being reverse scored. Response options for the FACT-G consist of a 5-point Likert scale ranging from 0 (Not at all) to 4 (Very much). Questions measure the respondents' health state over the last 7 days via four subscales: Physical Well-Being (PWB, 7 questions), Social/Family Well-Being (SWB, 7 questions), Emotional Well-Being (EWB, 6 questions), and Functional Well-Being (FWB, 7 questions).

EuroQol 5-Dimension 5-Level (EQ-5D-5L)

EQ-5D-5L is a standardized HRQOL measure that consists the EQ-5D descriptive system and the EQ visual analogue scale (EQ VAS). The EQ-5D descriptive system comprises five dimensions: mobility, self-care, usual activities, pain and discomfort, and anxiety and depression [26, 27]. The five levels in each dimension are worded as (1) 'not /no problems', (2) 'slight problems', (3) 'moderate problems', (4) 'severe problems' and (5) 'unable to' (mobility, self-care, usual activities), 'extreme' (pain/depression), or 'extremely' (anxiety/depression). Sum the scores from each dimension, yielding a total of 5–25. Higher scores indicate worse health status.

The EQ VAS records the patient's self-rated health on a vertical visual analogue scale from 0 to 100 where the endpoints are labelled 'The best health you can imagine (100)' and 'The worst health you can imagine (0)', with a higher score indicating better perceived health [26, 27].

Social Drivers of Health (SDOH) Distress Scale

SDOH Distress Scale was adopted by the corresponding author, Dr. Ashing, and is a 5-point Likert scale ranging from 1 (No Stress) to 5 (Extreme Stress). It has 35 items and covers 4 domains of concern: Economic/Healthcare (9 items), Societal/Neighborhood (8 items), Social/Emotional (4 items), and Illness/Substance (14 items) [28]. The range of total distress scores is from 35–175, and the ranges for each domain are 9–45 for Economic/Healthcare, 8–40 for Societal/Neighborhood, 4–20 for Social/Emotional, and 14–70 for Illness/Substance. A higher score indicates more stress on the domains/items.

Comparison Study

To contextualize HRQOL in the present cohort, we compared FACT-G scores with those reported by Ogunsanya et al. (2024) in a study of ethnically diverse Black men with prostate cancer in the United States [29]. Ogunsanya et al.'s study assessed HRQOL using the Functional Assessment of Cancer Therapy-Prostate (FACT-P) measure, which includes five domains: PWB, EWB, SWB, FWB, and a CaP subscale (PCS).

The Ogunsanya et al. study included 108 CaPS and reported a mean FACT-P total score of 114.0 (SD = 24.1; theoretical range, 0–156), with comparatively lower scores in the social/family, functional, and emotional well-being domains [29]. Because the present study administered the FACT-G rather than the FACT-P, comparisons were restricted to the four HRQOL domains common to both instruments. A FACT-G-equivalent total score for the Ogunsanya et al. cohort was derived by summing the reported mean scores for PWB, SWB, EWB, and FWB. The prostate cancer-specific subscale of the FACT-P was excluded from this comparison.

Statistical Analysis

Participant characteristics, clinical factors, HRQOL, and SDOH-related distress were summarized using descriptive statistics. Categorical variables were reported as frequencies and percentages, and continuous variables were summarized using means and standard deviations (SDs), as appropriate.

For FACT-G, EQ-5D-5L, and SDOH Distress scales, mean and SD for total scores and domain scores were reported. Additionally, in this study, the SDOH Distress scale was recoded as ternary items (combined 'Extreme Stress' with 'A lot of Stress', combined 'Some Stress' with 'Little Stress', and 'No Stress') to present frequencies and percentages for each distress item.

Regarding the comparison, FACT-G total and subscale scores were calculated according to standard scoring procedures. Mean HRQOL scores in the present cohort were compared with published values from Ogunsanya et al. Welch's two-sample t-tests based on the published means, SDs, and sample sizes were used for the four FACT-G subscale comparisons. Because the published SD for the derived comparison total was unavailable, the total-score difference was reported descriptively without an inferential test.

All statistical analyses were conducted using Stata Statistical Software, version 19.5 [30].

Results

Demographic Characteristics and Medical History

A total of 134 CaPS were included in this study. As shown in Table 1, most participants were aged over 55 years (94.0%) and identified as US-born African Americans (90.3%). Over half of CaPS were married/living with a partner/partnered/member of an unmarried couple (70.8%), had a college degree (58.2%), and had an annual household income above \$75,000 (56.0%). Nearly half were retired at the time of study participation (46.3%).

Table 1
Demographic Characteristics and Medical History of Prostate
Cancer Survivors (N = 134)

Demographic Characteristic	n	%
Age Range		
35 or younger	1	0.7
36–45	1	0.7
46–55	6	4.5
56–65	50	37.3
66–75	68	50.7
75+	8	6.0
Race/Ethnicity		
African American/Black (US-born)	121	90.3
African American/Black (African origin)	5	3.7
African American/Black (Caribbean origin)	5	3.7
African	1	0.7
More than one race	2	1.5
Marital Status		
Married/living with partner	93	69.4
Single/Never married	21	15.7
Divorced	13	9.7
Separated	3	2.2
Member of unmarried couple/Partnered	2	1.5
Widowed	2	1.5
Education		
College graduate (4 + years)	78	58.2
Some college/technical school	37	27.6
High school graduate/GED	19	14.2
Annual Household Income		
Less than \$35,000	15	11.2

Demographic Characteristic	n	%
Age Range		
\$35,000–\$49,999	18	13.4
\$50,000–\$74,999	11	8.2
\$75,000–\$99,999	21	15.7
\$100,000–\$199,999	39	29.1
\$200,000+	15	11.2
Refused	15	11.2
Employment Status		
Retired	62	46.3
Employed for wages	47	35.1
Self-employed	12	9.0
Disability/workers compensation	7	5.2
Out of work > 1 year	4	3.0
Out of work < 1 year	1	0.7
Unable to work	1	0.7
Medical History		
Stage at Diagnosis		
Stage 1	54	40.3
Stage 2	33	24.6
Stage 3	20	14.9
Stage 4	10	7.5
Not sure	17	12.7
Treatment Received		
Radiation therapy	65	48.9
Surgery	51	38.4
Other	12	9.0
Hormonal therapy	5	3.8
Treatment Side Effects		

Demographic Characteristic	n	%
<i>Age Range</i>		
Yes	71	53.0
No	63	47.0
Comorbid Medical Conditions		
Yes	77	57.5
No	57	42.5
Top 3 Comorbid Medical Conditions (n = 77)		
Hypertension/High Blood Pressure	21	27.3
Diabetes (Type 1/2/Pre-diabetes)	17	22.0
Kidney Disease/Kidney Stones	7	9.1
Mental Health Conditions		
Yes	9	6.7
No	125	93.3
Genetic/Genomic Testing		
No	80	59.7
Unsure	36	26.9
Yes	18	13.4

Most participants were initially diagnosed at Stage 1–3 (79.8%), 13.4% reported having undergone genetic or genomic testing, and most reported comorbidities (57.5%). Among CaPS with comorbidities, the top three diseases they reported were hypertension (27.3%), diabetes (22.1%), and kidney disease/kidney stones (9.1%). Most participants reported no mental health condition (93.3%). Radiation therapy was the most common treatment (48.9%), followed by surgery (38.4%), and hormonal therapy (3.8%); 9.0% CaPS received other treatments. Notably, over half of CaPS reported experiencing side effects due to the treatment (53.0%)

Care Quality, Access, and Survivorship Care

Tables 2 and 3 summarize participants' self-reported experiences with cancer care quality, healthcare access, and survivorship care. The majority (68.9%) indicated their healthcare providers offered information about prostate cancer survivorship, whereas 31.1% reported receiving no such information. Approximately 80% reported feeling adequately involved in treatment decision-making. Among

participants who received survivorship care information, approximately 60% received it within one month, whereas approximately 17% reported waiting more than six months.

Table 2
Access and Utilization of Cancer Survivorship Care (N = 134)

Item	n	%
<i>Received survivorship care information after diagnosis</i>		
Yes	91	68.9
No	41	31.1
The doctor made you feel included in treatment decision-making		
A lot	106	79.1
Somewhat	18	13.4
A little	5	3.7
Unsure	2	1.5
Not at all	3	2.2
Time to receive survivorship care information		
Less than one month	79	59.9
More than 1 month but less than 3 months	20	15.2
More than 3 months but less than 6 months	11	8.3
More than 6 months	22	16.7
Seen a doctor for follow-up cancer care in past 12 months		
Yes	121	90.3
No	13	9.7
Seen or talked to any healthcare provider in past 12 months		
Yes	125	93.3
No	9	6.7
Delayed getting care in past 12 months		
Yes	11	8.4
No	120	91.6
Last saw doctor for oncology re-evaluation		
Less than 3 months	67	50.0
More than 3 months but less than 6 months	24	17.9
More than 6 months but less than 1 year	28	20.9

Item	n	%
<i>Received survivorship care information after diagnosis</i>		
More than 1 year	15	11.2
Usual place for cancer follow-up care		
Medical Center/Comprehensive Cancer Center	98	73.1
Private doctor's office	29	21.6
Community cancer/oncology practices	4	3.0
County hospital	3	2.2
Difficulty keeping follow-up appointments after treatment		
Very Easy	88	65.7
Easy	33	24.6
Unsure	10	7.5
Difficult	1	0.7
Very Difficult	2	1.5
Awareness of national or local survivorship resources		
Not at all	57	42.5
A little	31	23.1
Somewhat	31	23.1
A lot	15	11.2
Access to patient portal to review online medical records		
Yes	97	72.4
Somewhat	15	11.2
A little	9	6.7
Not at all	13	9.7

Table 3
Quality of Survivorship Care Information Received (N = 134)

Item	Good n (%)	Fair n (%)	Poor n (%)	Not Received n (%)
Cancer information (e.g., stage, surgery)	100 (75.2%)	18 (13.5%)	3 (2.3%)	12 (9.0%)
Treatment received (e.g., chemotherapy, radiation, surgery)	106 (79.7%)	11 (8.3%)	0	16 (12.0%)
Possible treatment side effects	85 (64.4%)	29 (22.0%)	6 (4.6%)	12 (9.1%)
Cancer follow-up care and screening	108 (81.2%)	12 (9.0%)	7 (5.3%)	6 (4.5%)
Major co-morbidities (e.g., diabetes, arthritis)	52 (39.1%)	29 (21.8%)	8 (6.0%)	44 (33.1%)
Health advisories (e.g., risk reduction, nutrition, stress management)	65 (49.2%)	38 (28.8%)	8 (5.9%)	21 (15.4%)
Quality of life issues (e.g., physical symptoms, emotional issues)	64 (48.9%)	36 (27.5%)	8 (6.1%)	23 (17.6%)
Contact information for follow-up providers	81 (61.4%)	22 (16.7%)	7 (5.3%)	22 (16.7%)
Community resources (e.g., housing, finance, childcare)	48 (36.4%)	27 (20.5%)	7 (5.3%)	50 (37.9%)
Overall quality of survivorship care	74 (56.5%)	29 (22.1%)	7 (5.3%)	21 (16.0%)

Participants most frequently rated as “good” the survivorship information they received regarding cancer follow-up care and screening (81.2%), treatment (79.7%), cancer-related information (75.2%), possible treatment side effects (64.4%), and contact information for follow-up providers (61.4%). In contrast, information related to broader whole-person survivorship needs was less consistently provided. Specifically, 63.6% of participants reported that information about community resources, including housing, financial assistance, and childcare, was insufficient or not provided. Similar gaps were reported for information about major comorbidities (60.9%) and quality-of-life concerns, including physical symptoms and emotional issues (51.1%). Overall, 56.5% of participants rated the quality of survivorship care information they received as good.

Most participants reported favorable access to healthcare during the previous 12 months. Specifically, 93.3% reported having seen or spoken with a healthcare provider, 91.6% reported no delays in obtaining care, 90.3% had seen a physician for follow-up cancer care, and 90.3% reported that keeping follow-up appointments after treatment was easy. In addition, 90.3% reported access to a patient portal for

reviewing their medical records. However, 88.7% reported limited or no awareness of national or local survivorship resources.

HRQOL Status

The mean FACT-G total score was 83.9 (SD = 17.8), indicating favorable HRQOL. Among FACT-G subscales, physical well-being (PWB, M = 23.8, SD = 4.8) had the highest mean score, followed by functional well-being (FWB, M = 20.4, SD = 6.6), emotional well-being (EWB, M = 19.8, SD = 3.8), and social well-being (SWB, M = 19.8, SD = 7.1).

For the EQ-5D-5L descriptive system assessment, among our CaPS, the pain/discomfort dimension had a higher mean score (M = 1.8, SD = 1.0) than other dimensions, indicating worse pain/discomfort-related quality of life. Anxiety/depression dimension, usual activities dimension, and mobility dimension had similar mean scores, as 1.5 (SD = 0.7), 1.4 (SD = 0.7), and 1.5 (SD = 0.8), respectively. The mean score of the self-care dimension was lowest (M = 1.1, SD = 0.5), indicating better self-care functional ability among our CaPS. Additionally, the mean score of the EQ-5D-5L sum score was 7.2 with an SD of 3.0, indicating a favorable overall HRQOL. Participants reported a mean EQ VAS score of 71.9 (SD = 17.9), reflecting their self-rated overall health. Detailed HRQOL findings are presented in Table 4.

Table 4
Health-Related Quality of Life Status of Prostate Cancer
Survivors (N = 134)

Measure	Mean	SD	Min	Max
FACT-G Subscales				
Physical Well-Being	23.8	4.8	4	28
Social Well-Being	19.8	7.1	0	28
Emotional Well-Being	19.8	3.8	4	24
Functional Well-Being	20.4	6.6	0	28
FACT-G Total	83.9	17.8	24	108
EQ-5D Domains				
Mobility	1.5	0.8	1	5
Self-Care	1.1	0.5	1	4
Usual Activities	1.4	0.7	1	4
Pain/Discomfort	1.8	1.0	1	5
Anxiety/Depression	1.5	0.7	1	4
EQ-5D Sum Score	7.2	3.0	5	19
EQ-5D VAS	71.9	17.9	16	100

SDOH Distress Status

The mean SDOH Distress Scale score was 55.5 (SD = 23.8, range 35.0-175.0). CaPS reported more Illness/Substance stress (M = 19.1, SD = 8.3), followed by Economic/Healthcare (M = 16.1, SD = 8.0), Societal/Neighborhood (M = 13.2, SD = 6.8), and Social/Emotional (M = 7.0, SD = 4.0),

Regarding the frequencies and percentages, Healthcare costs and insurance coverage were the most frequently reported sources of substantial distress, with 20.2% of participants reporting “a lot” or “extreme” stress related to these concerns. Financial concerns and employment were also prominent, with 19.4% and 13.5% of participants, respectively, reporting a lot or extreme stress.

Social and emotional stressors were also reported. Approximately 1 in 8 participants reported substantial distress related to marriage or romantic relationships and the death of someone close to them. Approximately 10% reported a lot or extreme stress related to housing, access to specialty care, discrimination or racism, and emotional well-being. Item-level SDOH distress findings are presented in Table 5.

Table 5
Societal/social Determinants/Drivers of Health Distress Status of Prostate Cancer Survivors (N = 134)

Economic/Healthcare (M = 16.1, SD = 8.0, Min = 9.0, Max = 45.0)	Extreme/A lot of Stress n (%)	Some/Little Stress n (%)	No Stress n (%)
Healthcare cost/coverage	27 (20.2%)	58 (43.3%)	49 (36.6%)
Primary care/Med Home	12 (9.0%)	45 (33.8%)	76 (57.1%)
Specialty care	13 (9.7%)	47 (35.1%)	74 (55.2%)
Technology/Internet	6 (4.5%)	34 (25.4%)	94 (70.2%)
Telehealth e.g. Pt portal	10 (7.5%)	36 (27.1%)	87 (65.4%)
Housing	13 (9.7%)	31 (23.1%)	90 (67.2%)
Employment	18 (13.5%)	31 (23.3%)	84 (63.2%)
Education	7 (5.3%)	24 (18.1%)	102 (76.7%)
Money/finances	26 (19.4%)	57 (42.5%)	51 (38.1%)
Societal/Neighborhood (M = 13.2, SD = 6.8, Min = 8.0, Max = 40.0)			
Resources/Green space	10 (7.5%)	32 (23.9%)	92 (68.7%)
Pollution	11 (8.2%)	47 (35.1%)	76 (56.7%)
Physical activity	10 (7.5%)	34 (25.4%)	90 (67.2%)
Healthy food	13 (9.8%)	36 (27.1%)	84 (63.2%)
Social services access	12 (9.0%)	33 (24.6%)	89 (66.4%)
Transportation	11 (8.2%)	29 (21.6%)	94 (70.2%)
Discrimination/racism	13 (9.7%)	60 (44.8%)	61 (45.5%)
Crime/violence	5 (3.7%)	29 (21.6%)	100 (74.6%)
Social/Emotional (M = 7.0, SD = 4.0, Min = 4.0, Max = 20.0)			
Family life	9 (6.8%)	33 (25.0%)	90 (68.2%)
Marriage/romantic relationships	17 (12.8%)	41 (30.8%)	75 (56.4%)

<i>Economic/Healthcare</i> (M = 16.1, SD = 8.0, Min = 9.0, Max = 45.0)	Extreme/A lot of Stress n (%)	Some/Little Stress n (%)	No Stress n (%)
Loneliness/isolation	10 (7.5%)	40 (29.9%)	84 (62.7%)
Emotional wellbeing	13 (9.7%)	50 (37.3%)	71 (53.0%)
<i>Illness/Substance</i> (M = 19.1, SD = 8.3, Min = 14.0, Max = 70.0)			
Serious injury/illness in self	5 (3.7%)	29 (21.6%)	100 (74.6%)
Serious injury/illness in close family	7 (5.2%)	35 (26.1%)	92 (68.7%)
Death of someone close	17 (12.7%)	48 (35.8%)	69 (51.5%)
Marijuana use in self	3 (2.3%)	11 (8.3%)	119 (89.5%)
Marijuana use in close family	5 (3.8%)	22 (16.5%)	106 (79.7%)
Smoking in self	5 (3.8%)	13 (9.8%)	115 (86.5%)
Smoking in close family	4 (3.0%)	22 (16.7%)	106 (80.3%)
Alcohol use in self	4 (3.0%)	25 (18.8%)	104 (78.2%)
Alcohol use in close family	5 (3.8%)	22 (16.7%)	105 (79.6%)
Drug/medication abuse in self	3 (2.3%)	8 (6.1%)	121 (91.7%)
Drug/medication abuse in close family	5 (3.8%)	14 (10.5%)	114 (85.7%)
CBD use in self	3 (2.3%)	10 (7.6%)	119 (90.2%)
CBD use in close family	2 (1.5%)	16 (12.1%)	114 (86.4%)
Are there any other areas of your life that are stressful	10 (7.5%)	26 (19.6%)	97 (72.9%)

HRQOL Status Comparison to A Reference Study

Table 6 compares FACT-G scores in the present cohort with those derived from the study by Ogunsanya et al. We calculated the total score using the data provided in the validation study, and the mean total score was 75.0. The mean total score of our CaPS was descriptively 8.9 points higher than the derived comparison mean (83.9 vs. 75.0); no inferential test was performed because the published SD for the derived total was unavailable.

Table 6
FACT-G Total Score Comparison to the Validation Study ^a

FACT-G Measure	PP3 Study (N = 134) Mean ± SD	Ogunsanya et al. (N = 108) Mean ± SD	Mean Diff.	Welch t (df)	p-value	95% CI for Diff.
Physical Well-being	23.8 ± 4.8	20.1 ± 7.5	3.7	4.49 (174.8)	< 0.001*	2.09, 5.39
Social Well-being	19.8 ± 7.1	19.2 ± 6.0	0.6	0.75 (239.5)	0.456	-1.03, 2.29
Emotional Well-being	19.8 ± 3.8	17.3 ± 6.3	2.5	3.68 (168.5)	< 0.001*	1.18, 3.90
Functional Well-being	20.4 ± 6.6	18.4 ± 6.8	2.0	2.30 (226.6)	0.022*	0.29, 3.71
Total	83.9 ± 17.8	75.0, SD not available	8.9	—	—	—
a. Welch two-sample t-tests were used for the four subscale comparisons. The total FACT-G comparison was descriptive because the published SD for the derived total was unavailable.						

To better understand the sub-domain HRQOL status, we also compared FACT-G HRQOL subscales between our CaPS and the validation study, which are presented in Table 5. Our CaPS reported higher means in all four sub-domains: PWB (23.8 vs. 20.1, $p < 0.001$), SWB (19.8 vs. 19.2, $p = 0.46$), EWB (19.8 vs. 17.3, $p < 0.001$), and FWB (20.4 vs. 18.4, $p = 0.022$); especially, PWB, EWB, and FWB were all significantly higher.

Discussion

This study provides a multidimensional assessment of survivorship experiences among CaPS, with particular attention to HRQOL, SDOH-related distress, healthcare access, and the quality and availability of survivorship care information. Several important findings emerged. First, more than half of participants reported treatment-related side effects and at least one comorbid medical condition, underscoring the complexity of survivorship needs beyond prostate cancer alone. Second, although most participants reported favorable access to healthcare and involvement in treatment decision-making, important gaps remained in the content and timeliness of survivorship care information, particularly regarding community resources, comorbidities, and quality-of-life concerns. Third,

participants reported relatively favorable overall HRQOL compared with selected prior studies, but social/family and emotional well-being remained important areas of concern. Finally, financial, healthcare, and social stressors were prominent sources of SDOH-related distress. Taken together, these findings highlight the importance of survivorship models that extend beyond disease surveillance to address the medical, psychosocial, financial, and social needs of Black CaPS.

The high prevalence of treatment-related side effects and comorbid conditions observed in this study is consistent with previous research demonstrating that prostate cancer survivorship is often accompanied by persistent physical and functional challenges [31, 32]. Prior studies have shown that comorbidity burden may complicate prostate cancer management and can influence treatment decisions, competing mortality risk, and the likelihood of experiencing treatment-related toxicities [33]. These findings reinforce the need for survivorship care information that is comprehensive, understandable, and responsive to the full range of health concerns experienced after prostate cancer treatment.

Despite generally favorable reports of healthcare access, the quality and completeness of survivorship care information varied considerably. A related concern was the limited awareness of national and local survivorship resources. Although most participants reported access to healthcare services and patient portals, nearly nine in ten were not fully aware of available survivorship resources. This finding suggests that the availability of resources does not necessarily translate into awareness, accessibility, or use. Community-based organizations, cancer support programs, peer networks, faith-based organizations, and national survivorship organizations may provide valuable assistance with psychosocial support, financial navigation, transportation, education, and other needs; however, these resources are unlikely to benefit survivors if they are not routinely incorporated into survivorship care and referral pathways. Previous studies have emphasized that community and national support resources can help survivors navigate post-treatment challenges and reduce feelings of isolation during survivorship [34]. Strengthening the connection between clinical care and community-based resources may therefore be an important component of whole-person survivorship care.

The HRQOL findings provide additional insight into the survivorship experiences of this cohort. The median FACT-G score was 83.9, which was higher than the 75.0 FACT-G-equivalent score derived from Ogunsanya et al. (2024) and slightly higher than the score of 82.3 reported by Hastert et al. (2021) [29, 35]. These comparisons suggest that participants in the present study experienced relatively favorable overall HRQOL compared with some previously studied populations. However, these findings should be interpreted cautiously because differences across studies in participant characteristics, disease stage, treatment history, time since diagnosis, recruitment setting, and measurement procedures may contribute to observed differences in HRQOL.

The pattern of FACT-G subscale scores is also informative. Physical well-being was the highest-rated domain, whereas social/family and emotional well-being were comparatively lower. Social and emotional challenges are particularly relevant in prostate cancer survivorship because the consequences of treatment can extend into intimate relationships, self-concept, family roles, and social functioning.

Urinary incontinence, erectile dysfunction, fatigue, and the effects of androgen deprivation therapy may influence body image, sexual identity, relationship satisfaction, and participation in social activities [36]. Our previous study also found that mental health and perceived stress play an important role in cancer care, which indicates the significance of addressing emotional distress among the Black population [37]. Collectively, these findings support survivorship models that normalize discussion of emotional well-being, sexual health, relationship concerns, and social connectedness and provide timely pathways to counseling, peer support, and other psychosocial services when needed.

Limitation

This study has several limitations. First, the sample was modest, and participants were recruited primarily from a single academic cancer center using purposive sampling. The cohort was also relatively well educated and included a substantial proportion of participants with higher household incomes, which may further limit generalizability to Black survivors experiencing greater socioeconomic disadvantage. Second, the study used a cross-sectional design and baseline data from a feasibility study. As a result, the findings describe participants' experiences at one point in time and cannot establish temporal or causal relationships. Third, the study relied on self-reported information. Self-reported measures may be subject to recall error or misclassification. In addition, the baseline survey did not collect information to disaggregate side effects (e.g., erectile dysfunction/urinary incontinence) from treatment-related complications (transfusion, re-operation, nerve or vascular injuries). Fourth, comparisons of HRQOL with previously published studies should be interpreted cautiously. The comparison with Ogunsanya et al. was based on published summary data rather than individual-level data, limiting adjustment for potential confounding factors. Finally, the present analysis was primarily descriptive. Future analyses with larger and more diverse samples should evaluate predictors of survivorship outcomes and identify subgroups who may benefit most from targeted interventions.

Despite these limitations, this study contributes to the limited literature examining survivorship experiences among Black men with prostate cancer using a multidimensional, patient-reported approach. By simultaneously examining HRQOL, SDOH-related distress, healthcare access, and the quality of survivorship care information, the study identifies important gaps that may not be apparent when survivorship is assessed solely through clinical outcomes.

Conclusions

Black CaPS in this study reported relatively favorable overall HRQOL and generally good access to healthcare, yet substantial gaps remained in whole-person survivorship care. Treatment-related side effects, comorbidities, limited information about community resources and quality-of-life concerns, and financial and healthcare-related distress remained prominent. Social/family and emotional well-being also represent important areas for continued attention.

These findings support the development of culturally responsive, multilevel survivorship interventions that integrate medical follow-up with psychosocial support, chronic disease management, financial navigation, and linkage to community resources. Comprehensive survivorship tools such as the Prostate Cancer Survivorship Care Guide Toolkit may help equip Black CaPS with the knowledge and resources needed to navigate follow-up care, manage treatment-related effects and co-occurring conditions, communicate effectively with healthcare providers, and address social and financial challenges. Strengthening connections among survivors, healthcare systems, community organizations, advocates, and researchers may help advance more equitable, whole-person prostate cancer survivorship care.

Declarations

Author Contributions:

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Compliance with Ethical Standards: This study has been approved by the Institutional Review Board (IRB) of City of Hope Comprehensive Cancer Center and the IRB of Mayo Clinic Comprehensive Cancer Center. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study. The participant has consented to the submission of the manuscript to the journal.

Data Availability: The datasets generated and/or analyzed during the current study are not publicly available due to institutional regulations. But data are available from the corresponding author on reasonable request.

Study registration: This study was not formally registered.

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