Published in final edited form as:

J Cancer Educ. 2018 June ; 33(3): 640–648. doi:10.1007/s13187-017-1167-x.

African-American and Caribbean-born Men's Perceptions of Prostate Cancer Fear and Facilitators for Screening Behavior: A Pilot Study

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Abstract

This study describes how a concurrent exploratory mixed methodology (CEMM) approach was used to investigate perceptions of prostate cancer (CaP) fear and facilitators of screening behavior in African-American (AA) and Caribbean-born (CB) black men for instrument development. A quantitative paper-based questionnaire was modified, adapted, and administered to participants from the Personal Integrative Model of Prostate Cancer Disparity Survey and the Powe Fatalism Inventory. Focus groups and individual interviews were conducted and analyzed using thematic analysis. Of the 31 participants, 17 (55%) were CB Black men and 14 (45%) were AA men. CB Black men reported significantly higher mean perception of CaP treatment scores compared to AA men (8.23 verses 6.14; $p < 0.05$). Overall, the focus group and interview data revealed highly interrelated key themes. These themes included perceived barriers to CaP screening (e.g., healthcare affordability); misconceptions about CaP (e.g., limited knowledge); and misinformation about CaP (e.g., conflicting CaP screening information from healthcare providers). Feeling responsible to make sure family members were taken care of, and the role of a significant other were reported as motivation for visiting the doctor. As a result of the CEMM design, a reliable survey instrument was developed to measure CaP fear and facilitators for screening behavior within subpopulations of AA men, which is important because despite their shared genetic ancestry AA and CB black males may have very different lifestyles.

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Authors' Contributions Ewan K. Cobran carried out the study, participated in the sequence alignment and design of study, performed quantitative & qualitative analysis, and drafted the paper. Jori N. Hall and William D. Aiken conducted qualitative analysis and drafted the paper. All authors read and approved the final paper.

Ethics Statement The study protocol was reviewed and approved by the Howard University Institutional Review Board (IRB-II-PNAH-16).

Declaration of Conflict of Interests

The author(s) declare that they have no conflict of interests.

Keywords

Health Behavior; Screening and Prevention; Minorities; Men's Health

Introduction

An estimated 180,890 new cases of prostate cancer (CaP) will occur in the United States during 2016 [1]. However, men of Sub-Saharan African descent appear to suffer disproportionately from CaP compared to men of other races or ethnicities [2, 3]. African-American men have the highest death rate for CaP of any racial or ethnic group in the United States, 2.4 times higher than in white men [4]. The healthcare burden of CaP in African-American men assumes increased significance because of poor provider-patient communication, lack of provider interpersonal skills, language barriers, and miscommunication within the medical system. These barriers to early CaP prevention in minority men have been well documented in the medical literature. Specifically, African-American men are more likely to be diagnosed with an advanced stage [5, 6], have lower access to health care [7–9], less trust of providers [10, 11], and have an underlying perceived fear that manipulating the prostate will interfere with virility [12–14].

Further, little attention has been paid to documenting variation in CaP among subpopulations of African descent. Historically, disparities research has used broad categories in the United States, typically those of “black” and “white,” or census classifications [15]. Individuals of African descent are placed within overarching “black” groupings [15–17] while heterogeneity *within* black populations is ignored [18]. Rebbeck et al., [3] reported age-standardized CaP incidence rates in 2008, ranging from 159.6 per 100,000 among African-American to 71.1 in the Caribbean and 17.5 in Africa. Whereas, age-standardized CaP mortality rates in 2008, ranged from 22.4 per 100,000 among African-American to 26.3 in the Caribbean and 12.5 in Africa [3]. However, very little research documents the incidence and mortality associated with CaP in subgroups of black populations within the United States. Blacks from the Caribbean constitute the largest subgroup of black immigrants in the US [15, 19], with nearly one million persons of English-speaking West-Indian ancestry and over 500,000 [20]. Although many African-Americans have been in the United States for generations, immigrants from the Caribbean are raised, and currently live, in distinct economic, political, geographic, and cultural environments [15]. This is important because African-American and Caribbean-born black males have very different lifestyles [12, 21–23] despite their shared genetic ancestry. Unfortunately, there is limited research on the role of personal cultural beliefs and values on individual screening behavior among subgroups of black men as it relates to CaP prevention and treatment [24].

Odedina et al., [24] found the men's overall attitude toward CaP was favorable with African-Americans of American origin and African-born black men reporting higher perceived CaP severity, and greater concerns about the seriousness of CaP compared to Caribbean-born black men. However, additional investigation on the impact of cultural beliefs on CaP screening behaviors among subgroup of black men is needed.

Although, patient preference and utility for CaP screening has been well documented by Krahn et al., [25], Flood et al., [26], Davison et al., [27], Ramsey et al., [28], Partin et al., [29] and Gries et al., [30], these studies had very little or no men of African descent. More broadly, despite the increasing their representation in Western population, there are comparatively few data regarding the preference for cancer screening of either Caribbean immigrants or Caribbean native [15]. This study sought to examine CaP fear and facilitators for screening behavior in African-American and Caribbean-born Black men using a concurrent exploratory mixed methodology research approach for instrument development. The design was selected to evaluate the feasibility and acceptability the modified Powe Fatalism Inventory, and the modified Personal Integrative Model of Prostate Cancer Disparity (PIPCaD) survey, prior to administration to a larger study sample which: (1) explored the associations between nativity, perceptions of CaP fatalism, and CaP screening behaviors in African-American and Caribbean-born black men; and (2) investigated whether predictors for CaP screening within the last year varied by perceptions of CaP fatalism and nativity. This study presents the process and results of the development of the survey instruments. Further, the novelty of the current study is the provides the addition of a concurrent exploratory mixed methodology design presently absent from the research literature concerning CaP fear and facilitators for screening behaviors for African-American and Caribbean-born black men.

Methods

Study Setting

A concurrent exploratory mixed methods study was conducted from October 2011 to January 2012 in Southeast Florida. Southeast Florida is one the most ethnically/racially diverse regions in the United States of America, with growing representation from most major racial/ethnic groups [31]. About one in three African-American Southeast Florida residents are foreign-born, compared to less than one in ten nationwide [31]. Not surprisingly, given the geographic proximity, a large share of the African-American population in Southeast Florida has roots in the Caribbean [31]. Thus, the large ethnic and diverse Caribbean population in Southeast Florida made it an ideal location to examine perceptions of CaP fear and facilitators for screening behavior in men of African descent. Participants who self-identified as English speaking and between the ages of 39–75 years old were included. Whereas, participants who were non-English speakers and were unable to read at the fifth-grade level were excluded. Additionally, the survey instruments, focus group and interview discussion questions, institutional review board approval, and recruitment flyer/letter were mailed to directors of senior centers, community sponsors of health fairs, barbershops, and other predominantly African-American and Caribbean organizations in Southeast Florida, to recruit potential participants, and provide onsite space for data collection [32].

Conceptual Framework

The Powe Fatalism Model, provided the conceptual framework for this study. The Powe Fatalism Model was originally developed to explain factors associated with an individual's decision to participate in fecal occult blood testing for colorectal cancer [33]. According to

the model, the likelihood that an individual will participate in colorectal cancer screening depends on intervening variables, such as their perception of cancer fatalism, knowledge of colorectal cancer, and general demographic influences such as race, age, gender, education, and income [33]. The Powe Fatalism Model was modified for application to this study by retaining the general influences, intervening variables, and outcome subscales.

Instrument Development

The PIPCaD survey was validated in a cross-sectional study of 2,864 Black men in Florida to evaluate perceived susceptibility, severity, attitudes, outcome beliefs, behavioral control, prostate cancer fatalism, religiosity, temporal orientation, and acculturation relative to prostate cancer screening and prevention [34]. Comprehensive details of the methodology for the PIPCaD survey have already been provided in previous publications [34, 35]. The PIPCaD survey was modified to reduce respondent fatigue and to explore the feasibility and acceptability for the current sample. The PIPCaD survey was modified by retaining the CaP early detection behavior, attitude towards CaP detection, prevention, knowledge, and acculturation subscales. Further, a perception of CaP treatment subscale was added, which was defined as, the degree to which participants perceived some treatments for CaP can cause problems with the ability to have sex, and make it harder to control their urine [32, 36]. The overall concepts measured by the modified PIPCaD survey includes knowledge of the CaP prevention, detection, and fatalism, attitude towards CaP treatment, age, access to health insurance, doctor recommendation of CaP screening, acculturation, educational attainment, and family history of CaP.

The Powe Fatalism Inventory is a 15-item scale used to assess cancer fatalism [33]. The questions are designed to assess the following four attributes of fatalism (1) inevitability of death, (2) pessimism, (3) fear, and (4) predetermination [33]. The Powe Fatalism Inventory was modified from a binary scale (yes or no) to a 5-point Likert-type scale anchored by (1) strongly disagree to (5) strongly agree for items related to the inevitability of death, pessimism, fear, and predetermination. The Powe Fatalism Inventory was modified from a binary scale to a 5-point Likert-type scale to capture the intensity of participants' perception of cancer fatalism.

As a result of the instrument development process, the initial version of the survey instrument consisted of a total of 72 items divided into the following constructs/domains: cancer fatalism, acculturation, spirituality, perception of CaP treatment, and CaP knowledge.

Data Collection

Quantitative and qualitative methods were done simultaneously [37, 38], had equal priority in the interpretation of the study [39] and were implemented for the mixed methods purposes of triangulation [40]. For the quantitative portion of the study, a total of 31 African-American (14) and Caribbean-born (17) men completed the paper-based questionnaire. Focus group and interview discussion topics were initially explored using an *a priori* approach based on a systematic literature review. As a result of this review, the following discussion topics were identified: perceived barriers to CaP screening, fear of CaP diagnosis,

perceptions CaP as a death sentence, motivation to go to doctor (e.g. health-seeking behavior), and the culture of lack of CaP screening in men of African descent.

A trained co-investigator with extensive qualitative expertise and experience in the Southeast Florida community worked with community members to develop the final semi-structured discussion guide to facilitate focus group discussions and individual interviews. A total of two focus group sessions consisting of five African American men per session, and two individual interviews with two Caribbean-born Black men were conducted, to explore the feasibility and acceptability of the survey instruments prior to administration of the larger study sample. Focus group sessions and individual interviews lasted between 20 and 40 minutes respectively, and were recorded to ensure accuracy.

Interviews and focus group sessions were conducted by the same facilitator to help maintain consistency in elicitation and evaluation techniques across interviews and focus groups [41]. To ensure that data saturation was achieved focus groups and interviews were conducted until sufficient data was gathered to develop the range of concepts (e.g. perceived barriers to CaP screening, fear of CaP diagnosis, perceptions CaP as a death sentence, motivation to go to doctor, and culture of lack of screening among men of African descent) that examined CaP fear and facilitators for screening behavior in African-American and Caribbean-born black men [41]. The facilitator determined the saturation point by making a qualitative judgement, supported by field notes, interviews, and focus groups that range of concepts from the *a priori* systematic literature review were adequately sampled, and no new information was generated [41–43]. To encourage participation a \$15 incentive was provided to all participants. Details of the procedures, risk, and benefit of the study were presented to each participant at the time consent was obtained. The study protocol was reviewed and approved by the Howard University Institutional Review Board (IRB-II-PNAH-16).

Analysis

Quantitative data, including survey responses, were analyzed using statistical package SPSS 23 (International Business Machine Corp., Armonk, New York). Demographic characteristics, including nativity, age, education, marital status, income, health care access, and general health were summarized in proportion and means. Independent sample t-tests were conducted to compare prostate cancer knowledge scores, perception of prostate cancer treatment and fatalism scores of African-American and Caribbean-born men. The reliability of the modified Powe Fatalism Inventory, and the modified PIPCaD Survey were calculated using Cronbach's Alpha coefficients.

Focus group and in-depth interview data were analyzed by all co-investigators using procedures of thematic analysis [44, 45]. This analysis consists of three phases. First, each focus group and interview transcript was reviewed for accuracy. Next, an open coding process guided by the literature-based *a priori* topics (perceived barriers to CaP screening, fear of CaP diagnosis, perceptions CaP as a death sentence, motivation to go to doctor and potential source of health information, and the culture of lack of CaP screening in men of African descent) as well as dominant issues raised by the participants was conducted. The final phase utilized memoing in which used theoretical notes to document key thoughts and assist with the further refinement of codes and the development of themes [46]. Discussions

were held among co-investigators to agree upon coding development and final analysis. NVivo 9 (QSR International Inc., Cambridge, Massachusetts) was used to facilitate qualitative analysis. As a result of the quantitative and qualitative data the final version of the survey for the larger study sample described previously [32], consisted of a total of 60 items divided into the following constructs/domains: cancer fatalism, acculturation, spirituality, perception of CaP treatment, and CaP knowledge. A total of 12 items were removed to improve the validity and acceptability of the final survey.

Results

Participant characteristics are presented in Table 1. Of the 31 participants, 17 (55%) were Caribbean-born Black men and 14 (45%) were African-American men. The majority of participants reported annual household income between \$0 - \$39,999 and no history of prostate cancer. African-American men reported higher high school completion compared to Caribbean-born Black men, (64% versus 35% respectively). However, Caribbean-born Black men were more likely to report having public or private health insurance compared to African-American men, (94% versus 64% respectively).

Table 2 compares CaP fatalism, acculturation, spirituality, perception of CaP treatment, and knowledge scores of the participants. Caribbean-born Black men reported significantly higher mean spirituality scores compared to African-American men (13.76 versus 10.70; $p < 0.05$). Caribbean-born Black men also reported significantly higher mean perception of CaP treatment scores compared to African-American men (8.23 versus 6.14; $p < 0.05$). There were no significant differences in mean CaP fatalism, knowledge, and acculturation scores.

The reliability estimates of the modified Powe Fatalism Model and the modified Personal Integrative Model of Prostate Cancer Disparity are reported in Table 3. The Cronbach's alpha for the CaP fatalism scale was 0.867. The reliability estimates for the acculturation scale was 0.711, the spirituality scale was 0.910, the perception of CaP treatment scale was 0.702, and the CaP knowledge scale was 0.601.

Overall, the focus group and interview data revealed highly interrelated key themes. These themes include perceived barriers to CaP screening; motivation to visit the doctor; misconceptions about CaP screening; and misinformation about CaP screening. These key themes are particularly robust; and, as a result, include elaborative subthemes.

Perceived Barriers to CaP Screening

The first key theme reflects the culture of not going to the doctor on a regular basis as a result of family upbringing as described by participants. In addition, participants established a link between the lack of doctor visits and being unaware of CaP screening or diagnosis.

“On a whole, men of my age...our parents really haven't been to doctors. We haven't seen our parents go to doctors – unless they actually have the last few weeks to live. Otherwise, their backs will have to be against the wall.”

“It’s a double edge sword though. We don’t go to the doctor; so we can’t find out about it [CaP]. That’s the key. If you find a way to get to these people that’s not going to the doctor then you can reduce it.”

“The ones that ain’t going to the doctor, they ain’t gone never find out it until it’s too late.”

Another barrier to CaP screening mentioned among the participants was lack of health insurance or lack of access to healthcare. Specifically, this subtheme illustrates healthcare affordability issues and how to navigate high costs.

“Old stereotype that black men don’t go to the doctor it’s true but it’s in part of 2 things you know..... health insurance the cost and you know.”

“You know most black people don’t have insurance so how you gone go to the doctor.... I ain’t got no insurance.”

“If you go into the hospital the deductible is like 5,000 or 10,000 dollars. You don’t want that. But what you want to do is get the exam so the insurance company with free exams. So you can prevent it. You go into the hospital you get the treatment and then you apply for the financial aid that’s in the hospital. That’s how you beat the system.”

“What if you ain’t no veteran and you ain’t got no health insurance. How you get health insurance?..... Medicaid..... You got to apply for Medicaid.”

A second subtheme related to perceived barriers of CaP is the fear of a CaP diagnosis.

“Some of the major reasons probably why some guys are scared of the results.”

“They scared to know that okay if they have it [CaP], how they gone have to cope with it or whatever. Or they don’t know how to cope with it.”

“You know most Afro–Americans probably just scared or skeptical about their own – they are scared of their health reasons. They don’t want to know the outcome. The outcome might be drastic.”

One participant even compared the CaP diagnosis to a death sentence.

“I think it’s a combination of things. Lack of health insurance and they probably had been at once the old people beliefs that once you get it. Once you get cancer, it’s a death sentence. So once a guy finds out he’s got cancer he gives up.”

Motivation to Visit the Doctor

Although not getting physical exams on a regular basis was reported as a culturally reinforced phenomenon, there are certain influences that can lead to visiting a doctor. One source of motivation to get medical attention, as reported by participants, was after “*something goes wrong*” such as going to the “*bathroom and you can’t urinate*.” Although, a few participants reported they were initially motivated to go to the doctor, they did not follow up with regular exams or CaP screening. A representative comment illustrates this point:

“Well, five years ago I did it with the clinic and the doctor said I was straight, but I ain’t had no exam in five years or anything.”

Feeling responsible to make sure family members were taken care of served to motivate some to visit the doctor. The role of a significant other was also considered important to provide information as why CaP screening should be sought and assist with identified medical conditions.

“See, with me, I’m married with kids; so I have to be around to try and take care of them. Hopefully send them off to school to do some things like you doing.”

“I just had a life insurance policy took out. They took blood and everything.”

“Unless it’s our wives or somebody else like that giving us information that communication is blocked; so you got to find some way to connect to these people.”

“I had to go to the doctor when I went to the hospital and they ran tests and everything on me on me. I was straight. I had like a mild stroke. That’s how they explained it. My wife was there you’ll have to ask her.”

Misconceptions about CaP Screening

This key theme represents the misconceptions participants had about CaP screening. The majority of these misconceptions were related to screening procedures/tests to diagnose CaP. Specifically, participants reported wanting to get the blood test for prostate cancer screening because of the perception that the blood test was more accurate. In addition, participants noted confusion between screening for CaP and colonoscopy.

“So you know I go ahead and take that uncomfortable finger.” “But also, you know the last time the guy didn’t give me the blood test. But you know, I wanted to get that blood test because they say it is more accurate now so…”

“But I heard one time you could put a scope, but I ain’t heard nothing else about that.”

“But I did read there is something they can beam up your rectum to find out about it but then I didn’t hear nothing else about it so I just figured they was doing it to rich white folks but I don’t know.”

While some participants held misconceptions about CaP screening, other participants asked questions during the focus groups related to CaP risk factors and symptoms.

“If you are a smoker and black man, do you have a tendency to get prostate cancer or colon cancer or whatever?”

“But what make you - the symptoms- from the get go like when you got a cold you coughing, what symptoms will let you know that you got prostate cancer?”

And still other participants explicitly admitted that they had limited knowledge about CaP. A representative comment illustrates this point: *“Well to be frank, I didn’t know nothing about it [CaP]. I didn’t know nothing about it until I come here [the U.S.] a couple of years ago.”* A participant who learned more about CaP by completing the survey also illustrated limited

knowledge of CaP. This participant was even receptive to receiving additional information about CaP. He shared:

“I’m not too keen on it. You know what I’m saying? But this survey, you know, gives me a little more knowledge about it. I want to know more about it....If you want to send me more knowledge or whatever to learn about it, I’ll accept it.”

Misinformation regarding CaP Screening

The final key theme suggests participants received conflicting information from healthcare providers about when to get screened for CaP. For example, one participant stated “...*doctor told me you ain’t got nothing to worry about until you are 50*’. And another participant reported, “*most doctors told me I need to wait until I get 40 – between 40 and 45. Before it used to be 50, but now they are saying they want to test a little younger.*”

Discussion

In this concurrent mixed methods study designed for instrument development, we found that the modified Powe Fatalism Inventory and the PIPCaP Survey were reliable. The Cronbach’s alpha for the CaP fatalism scale was 0.87. The reliability estimates for the acculturation scale was 0.71, the spirituality scale was 0.91, and the perception of CaP treatment scale was 0.70. The Cronbach’s alpha for CaP knowledge scale was moderate at 0.60. The internal consistency of modified Powe Fatalism Inventory, and the modified PIPCaD survey was similar to other studies. Odedina et al., in a cross-sectional study of 2,864 Black men in Florida, to evaluate modifiable CaP risk reduction and detection behaviors among Black men reported Cronbach’s alpha of 0.92 for the CaP fatalism scale; 0.71 for the acculturation scale, and 0.90 for the spirituality scale [34]. However, the authors did not evaluate the perceptions of CaP treatment as barrier to screening behavior. Further, the reliability of the survey instrument for the current study, was assessed by Cobran et al., in a larger sample of 211 U.S.-born and Caribbean-born Black men in Southeast Florida [32]. The authors compared perceptions of CaP fatalism and predictors of CaP screening with PSA testing between U.S.-born and Caribbean-born Black men, and reported Cronbach’s alpha of 0.91 for the CaP fatalism scale; 0.49 for the acculturation scale; 0.87 for the spirituality scale; and 0.73 for the perception of CaP treatment scale [32].

In the present study, both the quantitative and qualitative data also suggest that African American and Caribbean-born Black males perceived lack of health insurance coverage, healthcare affordability, cancer as a death sentence, physician avoidance; and the hardship of coping with CaP diagnoses, as barriers for prostate cancer screening. These findings are consistent with previous research studies. Pedersen et al., found that African and Caribbean Black males, perceived prostate cancer as a death sentence and/or taboo topic [47]. Furthermore, fear of erectile dysfunction, sterility and decreased sex drive, lack of tradition in African-American communities concerning regular medical check-ups or other preventive care, mistrust in the health-care system were also identified as potential deterrent for CaP screening [47]. Whereas, Patel et al., found that not having health insurance, the pain and discomfort of CaP screening, not having enough information about CaP screening, cost of

screening, and the fear of getting a positive cancer diagnosis were obstacles to CaP screening [48].

Notably, the qualitative data suggest participants received conflicting information from healthcare providers about the age of screening initiation for CaP. This may be due to inconsistency in CaP screening practice among healthcare providers following the US Preventive Services Task Force (USPSTF), recommendation against prostate-specific antigen (PSA)-based screening for men 75 years and older in 2008; and discouraging PSA-based screening in 2012 [49]. Jemal et al., examined changes in stage-specific CaP and PSA screening rates following the 2008 and 2012 USPSTF recommendations [50]. The authors noted potential emerging trends in CaP incidence and PSA-based screening following the 2012 USPSTF recommendation against screening, could have significant adverse public health implications, citing about 33,519 fewer men nationwide receiving a diagnosis of CaP in 2012 than in 2011 [50]. Given, that previous research documenting that African-American men are more likely to be diagnosed with an advanced stage CaP [5, 6], and have less trust of providers [10, 11], the 2012 USPSTF recommendation against PSA-based screening may contribute to preexisting disparities in CaP outcomes for minorities.

Few studies have utilized a mixed methods research design to investigate facilitators for screening behavior in men of African descent. Owens et al., used a mixed methods research design to assess African-American men's and their female relatives, friends, and significant other's knowledge and cancer related decision-making practices within the context of a CaP education program [40]. The authors found that men often relied on their female significant other and doctors for guidance on cancer related decisions. Whereas, women described their role in assisting with their male partners' cancer decision [51]. The authors concluded using mixed methods research design in formative research could provide relevant information for developing effective cancer-related interventions.

In another similar mixed methods research study, O'Shaughnessy et al., explored issues related to sexual function and relationship for men and their wives following diagnosis and treatment for CaP. Focus group and couple interviews were used to improve validity for questionnaire items designed to provide insight into men's experience of CaP in areas such as sexual function and relationships [52]. The authors found that wives/partners confirmed cancer had an impact on their partner's feelings of masculinity (71%), compared to 42% of men who felt that this was the case. Whereas, key themes in men were concerns about loss of libido, erectile dysfunction, feeling less of a man, regrets about treatment choice, distress, and cancer having impacted their masculinity [52].

In conclusion, previous mixed methods research studies have investigated African-American men's cancer related decision-making practices, treatment choice regret, and issues related to sexual function following diagnosis and treatment for CaP. However, these studies did not explore the associations between nativity and facilitators for screening behaviors. Using a concurrent exploratory mixed methodology for the present study allowed for the exploration of the feasibility and acceptability the survey instruments prior to administration of a larger study. The concurrent exploratory mixed methodology also highlighted conflicting

information participants received from healthcare providers about the age of screening initiation for CaP.

Limitations

The concurrent exploratory mixed methods methodology of the present study facilitated an in-depth investigation of CaP fear and facilitators for screening behavior in African-American and Caribbean-born Black. However, several study limitations may have affected the interpretation of the study results. First, a non-probability sample was used to investigate perceptions CaP fear and facilitators for screening behavior and therefore may not be representative of the views of all African American and Caribbean-born Black males in the United States. Second, as CaP screening was assessed retrospectively, it is possible that participants' error in recall may have impacted reporting of PSA screening within the last year. Third, it was difficult to assess whether the individual who confused CaP screening with colonoscopy were the ones who reported CaP misinformation, since participants were not assigned a unique identifier to link both quantitative and qualitative data. Fourth, a concurrent mixed methods methodology was used to investigate the study outcomes. Therefore, the research design may not reflect causation. Further, although a trained co-investigator with extensive qualitative expertise and experience in the Southeast Florida community moderated the qualitative discussions, it is possible that interviewer bias may have affected the qualitative outcomes.

Lastly, although spirituality was part of the conceptual framework guiding the study and informed the instrument development, this topic was not explored via focus group and interview protocols. This was done to avoid a potential bias between spirituality and the measurement of cancer fatalism. Although, spirituality was not addressed in the focus group and interview protocols of the current study, the qualitative data of this study still provides insights regarding perceived barriers to CaP screening, motivation to visit the doctor, misconceptions about CaP screening, and misinformation regarding CaP screening.

Conclusion

The findings from the qualitative data of this highlight the importance of addressing perceived barriers to CaP screening (e.g., cancer as a death sentence, a culture of not going to the doctor on a regular basis as a result of family upbringing, being unaware of CaP screening or diagnosis, lack of health insurance, lack of access to healthcare, and healthcare affordability); misconceptions about CaP (e.g., limited knowledge); and misinformation about CaP (e.g., conflicting CaP screening information from healthcare providers) within men of African descent. Furthermore, although not getting physical exams on a regular basis was reported as a culturally reinforced phenomenon, there were certain influences that could lead to visiting a doctor for CaP screening (e.g., feeling responsible to make sure family members were taken care of, and the role of a significant other).

Whereas, the findings from the quantitative data highlight the reliability and cultural appropriateness of the modified Powe Fatalism Inventory, and the modified PIPCaD Survey.

However, future research should evaluate the associations between nativity, healthcare affordability, navigating high costs, and fear of a CaP diagnosis.

Acknowledgments

Funding The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the National Institutes of Health (5T32CA128582-043); and the National Cancer Institute Carolina Community Network Center to Reduce Cancer Health Disparities (1-U54-CA153602-01).

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Table 1

Participant characteristics

Characteristic	African-American Men n = 14 Frequency (%)	Caribbean-born Black Men n = 17 Frequency(%)
Education		
Less than High School	2 (14.3)	7 (41.2)
High School Degree	9 (64.3)	6 (35.3)
Some College Training	1 (7.1)	3 (17.6)
College Degree	1 (7.1)	0 (0)
Postgraduate	1 (7.1)	1 (5.9)
Income		
\$0 – \$19,999	5 (35.7)	10 (58.8)
\$20,000 – \$39,999	6 (42.9)	5 (29.4)
\$40,000 – \$59,999	0 (0)	1 (5.9)
\$60,000 – \$79,999	3 (21.4)	1 (5.9)
Age		
Less than 40 years	3 (21.4)	0 (0)
40 – 49 years	3 (21.4)	3 (20.0)
50 – 59 years	4 (28.6)	1 (6.7)
60 – 69 years	1 (7.1)	2 (13.3)
70 – 79 years	3 (21.4)	9 (60.0)
Marital Status		
Single	3 (21.4)	1 (5.9)
Married	8 (57.1)	9 (52.9)
Divorced	2 (14.3)	4 (23.5)
Widowed	1 (7.1)	3 (17.6)
Public or Private Health Insurance		
No	5 (35.7)	1 (5.9)
Yes	9 (64.3)	16 (94.1)
Family History of Prostate Cancer		
No	13 (94.1)	16 (94.1)
Yes	1 (5.9)	1 (5.9)
General Health		
Excellent	3 (23.1)	1 (5.9)
Very Good	3 (23.1)	3 (17.6)
Good	2 (15.4)	7 (41.2)
Fair	4 (30.8)	6 (35.3)
Poor	1 (7.7)	0 (0)

Table 2

Prostate Cancer Fatalism, Acculturation, Spirituality, Perception of Prostate Cancer Treatments, and Knowledge Scores (n = 31)

Variables	African-American Men n = 14 Mean (Std. Dev.)	Caribbean-born Black Men n = 17 Mean (Std. Dev.)	p-value
Cancer Fatalism Score	37.71 (13.52)	38.23 (7.49)	0.893
Acculturation Score	14.14 (5.20)	15.23 (2.88)	0.465
Spirituality Score	10.79 (4.42)	13.76 (1.79)	0.031 *
Perception of Prostate Cancer Treatment Score	6.14 (2.28)	8.23 (1.67)	0.006 *
Prostate Cancer Knowledge Score	4.71 (2.72)	5.70 (1.40)	0.233

* Significant at $p < 0.05$

Table 3

Reliability Estimates of the Modified Powe Inventory and the Modified Personal Integrative Model of Prostate Cancer Disparity Survey (n = 31)

Construct	Cronbach's Alpha Original Researchers	Original Researchers Sample Size	Cronbach's Alpha (Current Study)
Cancer Fatalism	0.840–0.890	192	0.867
Acculturation	0.709	3,400	0.711
Spirituality	0.907	3,400	0.910
Perception of Prostate Cancer Treatment	0.610	142	0.702
Prostate Cancer Knowledge	(Not Reported)	3,400	0.601