

Understanding preventive behaviors among mid-Western African-American men: a pilot qualitative study of prostate screening

Keywords

Preventive health behaviors

Focus groups

African American

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Abstract

Background: African-American men bear a disproportionate burden for disease compared to other ethnic and racial groups. Due to gender differences in socialization and lifestyle practices, men are more likely to adopt attitudes and beliefs that undermine their health and well-being, including beliefs related to masculinity. The purpose of this study was to explore and understand the contextual factors in the attitudes and beliefs of African-American men's view of health in general, and as related to prostate cancer in particular.

Methods: Qualitative data from 15 African-American men were collected from two focus groups and analyzed for common themes using a qualitative descriptive design.

Results: Three themes emerged that focused on the beliefs and attitudes regarding general health and prostate cancer screening: (i) traditional beliefs about masculinity; (ii) psychosocial impact from family medical history; and (iii) sexual mores regarding digital rectal exams.

Conclusions: The socialization of African-American men and masculinity ideologies may be significant factors in the focus group member's decisions to seek preventive health behavior changes. Further research is needed to examine the determinants of African-American men's health seeking behavior, in particular on the influence of masculine beliefs. WPMH GmbH. Published by Elsevier Ireland Ltd.

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Introduction

African-American men have a higher incidence rate for conditions such as hypertension, heart disease, diabetes, and lung, colorectal and prostate cancers, compared to non-Hispanic white men [1]. On average, African-American men die earlier than any other group in the United States, with a life expectancy that is 7.1 years less than that for white men, 7.5 years less than for African-American women and 12.7 years less than for white

women, respectively [1]. Racial discrimination [2,3], a lack of affordable health services [4], cultural barriers [5], poverty [3,6], unemployment [3,7], insufficient health insurance [3,8], and masculinity ideology [9,10] are reasons used to describe the lower life expectancy of African-American men. Furthermore, African-American men tend to have higher participation in unhealthy lifestyles (i.e., lower levels of physical activity, higher levels of smoking and obesity) compared to non-Hispanic white men [11,12].

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Efforts to eliminate disparities in prostate cancer morbidity and mortality are complicated by the controversy regarding screening efficacy, with numerous observational studies reporting inconsistent findings regarding the benefit of screening [13]. The question of whether all men should undergo general prostate screening remains ardently debated because of cost and possible complication of treatment options. Recently, the US Prevention Service Task Force (USPSTF) has concluded there is insufficient evidence for or against routine screening for prostate cancer using the prostate-specific antigen (PSA) blood test or the digital rectal exam (DRE) [14]. In addition, two randomized controlled trials – the Prostate, Lung, Colorectal, and Ovarian (PLCO) Cancer Screening Trial in the United States [15] and the European Randomized Study of Screening for Prostate Cancer (ERSPC) [16] – were conducted to determine the effect of screening on prostate cancer mortality. The ERSPC found a significantly higher detection rate in the screening group after 9 years (8.2% vs. 4.8%) [16], while the PLCO found no difference between the study's intervention and control groups [15]. The two studies also had divergent results regarding mortality rates, with the ERSPC finding a reduced risk of death from prostate cancer in the screening group, and the PLCO not finding a difference in mortality rates [15,16].

Despite these uncertainties, medical and health organizations (e.g., American College of Physicians [17], American College of Preventive Medicine [18], American Cancer Society [19], and American Urological Association [20]) recommend that physicians discuss the potential benefits and known harms of PSA screening with their patients, consider their patients' preferences, and individualize screening decisions. These organizations agree that the most appropriate candidates for screening include men aged 50 years or older, who have a life expectancy of at least 10 years. Both the American Cancer Society [19] and the American Urological Association [20] recommend that further testing, such as the DRE, be conducted on men annually, beginning at age 50 years. In addition, the National Comprehensive Cancer Network recommends a risk-based screening algorithm, including family history, race, and age [21]. Finally, the American Cancer Society advocates that phy-

sicians discuss the risks and benefits of PSA measurement before the age of 50, and recommend it to men in high-risk groups (i.e., African Americans, or men with a close relative diagnosed with prostate cancer prior to the age of 65 years) [22,23]. Although the balance of advantages and disadvantages is still being debated regarding prostate cancer screening, the purpose of this study was to explore and understand the contextual factors in the attitudes and beliefs of African-American men's views of health in general, and prostate cancer in particular.

Growing concern among healthcare professionals has brought the subjects of men's physical and mental health to the forefront of public health discussions [24–26]. Sociological theories of masculinity have been used to understand men's health behaviors with the ultimate goals of reducing men's high morbidity and mortality rates [10,27,28]. Due to gender differences in socialization and lifestyle practices, men are more likely to adopt attitudes and beliefs that undermine their health and well-being, including beliefs related to masculinity, compared to women [27,29]. However, men construct a variety of masculinities, such that men who differ culturally may also differ in their masculinity ideology. Factors such as ethnicity, economic status, educational level, sexual orientation, and social context influence the kind of masculinity that men construct, and contribute to the differential health risk among African-American men [27]. Although perceptions of masculinity and health vary across cultures [30], men who adopt traditional or stereotypic beliefs about masculinity have greater health risks than their peers with less traditional beliefs [31–34]. When studying the link between masculinity and health behaviors, researchers have used facets of traditional masculinity based upon the social constructionist view of masculinity, which emphasizes how gender is socially and culturally (versus biologically) created and transmitted [35]. With masculinity as a socially constructed phenomenon [36], it is not surprising that men's sense of masculinity becomes another lens to use in understanding African-American men's preventive behavior practices. Therefore, the focus in this study was not the relationship between African-American men's biological and physical health disparities, but rather on gender-socialized

patterns of behavior and their relationship to health [26]. Obviously, gender socialization influences the extent to which men adopt masculine behaviors, which, in turn, influence their attitudes about prevention [37]. For example, traditional masculinity is associated with men being less willing to consult medical and mental health care providers [38], and lower utilization of preventive health care [31]. In addition, admitting the atrophy of the aging body may threaten men's cultural values about masculinity. Due to the pressure to conform to the masculine role, men may not be willing to admit to illness or seek preventive health care [27,29]. Researchers have suggested that men's sense of masculinity may have its impact on health behaviors, in particular, prostate cancer screenings [36]. Moreover, African-American men's concerns about masculine pride, or not wanting to appear weak or not macho, influenced their decisions about seeking help from both professionals and from family and friends [39]. With African-American men having the highest rate of prostate cancer in the world, and twice the incidence rate compared to non-Hispanic white men [40,41], prostate cancer screening among African-American men is a compelling health issue. African-American men were less likely to screen for prostate cancer compared to non-Hispanic white men aged 50 years and older (PSA screening 33.5% vs. 42.9%, respectively) [42].

It is important to understand that men's health behaviors are embedded in, and likely influenced by, the social context in which they live. According to researchers, people are influenced by their observations of others. Applied to men's health behaviors, perception of others' health practices may provide information about how individual men should act or not act in terms of the health behaviors they adopt [43,44]. The Preventive Health Model (PHM) is used as a framework to understand the perception of preventive health behaviors, and, in particular, prostate cancer screening. The PHM is based on theories found in psychosocial models such as the Health Belief Model [45-47], Theory of Reasoned Action [48,49], and Social Cognitive Theory [50]. There are four factors related to behavioral intentions and health behavior in the PHM: (i) background factor, (ii) cognitive/psychological factor, (iii) social support and influence factor, and (iv) programmatic/systemic factor [51]. Firstly, background

factors include sociodemographic characteristics, such as age, race, gender, medical history, and past preventive behavior [51,52]. Secondly, the cognitive/psychological factor includes perceptions of cancer and cancer screening, such as perceived susceptibility to disease [45,47], worry about having a disease, interest in knowing diagnosis status, belief in disease prevention and curability, belief in salience and coherence of behavior, belief in efficacy of detection and treatment, perceived self-efficacy related to behavior [53], and concern about behavior-related discomfort [51,52]. Furthermore, the cognitive/psychological factor includes perceived embarrassment and discomfort to prostate cancer screening behavior [54,55]. Thirdly, the social support and influence factor consists of the support and influence of family members and healthcare professionals in relation to prostate cancer screening decision-making [51,52]. Finally, the programmatic/systemic factor includes characteristics of the healthcare delivery systems that facilitate or inhibit preventive behavior [51,52]. The PHM has been used in other studies to identify predictive factors in prostate cancer screening among African-American men [51,52,56,57].

Methods

Focus groups were chosen as a model for data collection because they can be a rich source of information. In a focus group, data are collected from a homogenous group of individuals using a predetermined, structured sequence of questions in a focused discussion [58]. Focus groups for this study were used to allow for an in-depth exploration of the knowledge, attitudes, and beliefs of African-American men's view of health care in general, and prostate cancer in particular [59]. The authors were not solely interested in what influences African-American men's decisions to undergo preventive screening and other health behaviors, but also in how they viewed preventive health behaviors. The main research question was "What were the critical factors within African-American men's decision-making relevant to health and prostate cancer screening?" The study used convenience sampling of 15 African-American men. Prior to the study, the focus group questionnaires were reviewed and approved by the Protection of Human Subjects

division of the Institutional Review Board at a large public Midwestern university. Recruitment strategies included printed materials such as informational flyers and announcements in church bulletins; radio announcements; and electronic messages posted on *Eweek*, the university weekly email newsletter. Informational flyers included an invitation to participate in a 2-hour focus group discussion about issues related to general and prostate health for African-American males. All participants signed an informed consent form prior to involvement in the study. After describing confidentiality measures and obtaining informed consent, two different discussions, composed of 15 participants altogether, were conducted by an African-American medical student. Each group consisted of, on average, seven research participants. The discussion lasted approximately 2 hours, and was tape-recorded. The sessions were conducted in a

relaxed fashion with minimal intervention from the facilitator. This permitted the participants to set the tone and direction of the focus group. However, the facilitator did follow the interview guide which focused on topics such as the men's personal health history, life history of chronic conditions, and methods to increase awareness for prostate health (see Table 1).

Prospective participants were administered a screening questionnaire by phone. Eligibility criteria included race (i.e., self-report African-American), age (i.e., age 40 or older), current health insurance holder, and residence in two contiguous cities in central Illinois. Health insurance as a criterion ensured that each participant had access to primary care providers and screening services. Upon arrival, all participants reviewed and signed the consent form prior to the focus group discussion. The session lasted approximately 2 hours, after

Table 1 Focus group questions

General

1. How would you rate your health status on a scale of 1–10?
2. What factors do you use to determine your health status?
3. At what point do you seek medical help?
4. What role do others play in your health care decisions? What role do you play in others' health care decisions?
5. What are your views on the health care system (trust, confidence)? What has shaped how you view the system?
6. Describe your relationship with your doctor. Do you feel comfortable discussing sensitive health problems?
7. From what sources do you get health information in general?

Health concerns

1. What do you view as significant health problems for African-American men?
2. What do you know about the prostate and prostate cancer?
3. When did you learn about prostate cancer?
4. Has anyone received a prostate cancer screening recently? What did it involve?
5. What lead you to have a prostate cancer screening and how did you learn about it? What are your impressions of the prostate cancer screening process (DRE, PSA test)?
6. For those who have not had a prostate cancer screening, what are some factors that prevent you from doing so?
7. Recent studies show that the DRE and PSA test must go together to be effective, but men are still reluctant to receive screening, why do you think this is the case?

Communication about prostate cancer

1. How would you like to learn about prostate cancer screening?
2. Whose advice would you most likely heed as a spokesperson for prostate cancer screening?
3. In what tone would you prefer to hear the message?
4. In what place should information about prostate cancer screening be delivered?
5. Would you rather learn about it in a group or individual setting?
6. What combination of delivery approaches would positively influence your decision to undergo early detection exam for prostate cancer?
7. If you are developing a project to persuade African-American men to participate in prostate cancer screening, how would you do it?

DRE, digital rectal examination; PSA, prostate-specific antigen.

which each focus group member was compensated \$50.

Data collection

The focus group sessions were conducted at the local university survey-research laboratory, with trained African-American male facilitators serving as leader and co-leader. The principal investigator and research team developed a series of questions to help facilitate the focus group discussions. The same facilitator and moderator led both focus groups to enhance study reliability [58]. Discussion topics included, but were not limited to, African-American men's health, prostate health, and medical history. For each topic, multiple questions were formulated to guide the discussion. The facilitator began each focus group with the following question: "Describe your current health status?" Throughout the focus group, the facilitator followed the participants' lead. Both focus groups were recorded and later transcribed verbatim. Transcripts were checked against the tape for accuracy.

Data analysis

As suggested by qualitative researchers, each transcript was read several times to identify content topics, that is, similar threads interwoven throughout all the transcripts [60]. The transcripts were first coded by the principal investigator and by the study's facilitator. The coding process provided a systematic approach for identifying themes in the data. Codes were used as indexing devices to facilitate retrieval of data on desired topics. This coding of the data continued for each transcript until no new categories were found. Afterward, the initial codes, patterns, and commonalities among the categories were identified and grouped into proto-themes. Proto-themes are themes that "develop and change as the analysis proceeds" [60:176]. Once an initial definition of a proto-theme was decided upon, the transcripts were re-examined for material relevant to that theme. The term "theme" in this paper refers to the patterns that repetitively occurred across the focus groups. Once completed, the final form of the theme was constructed, named, and defined. After the categorization was fully developed, the transcripts were again analyzed by team members for the goodness-of-fit between the data and the derived categorizations.

To establish inter-rater reliability in identifying themes, a study team member performed a separate thematic content analysis from the transcriptions from the focus groups. The principal investigator and the study team member met and reviewed the results of their separate analyses, at which time they also reconciled any inconsistencies in the identification and interpretation of themes. Themes were identified using a consensus approach; whenever divergent interpretations occurred, transcripts were re-reviewed and discussed until consensus was reached. Finally, the themes that emerged from the focus groups were compared to relevant research literature. This technique was used to increase confidence in the results and to see if the analysis and interpretation of the data were credible [61].

Results

Sociodemographic and health characteristics of the sample are shown in Table 2. The sample consisted of 15 African-American men with an average age of 56.9 years (standard deviation (SD) = 11.85 years; range = 40–78 years). The participants had high school education or lower (80%), they were more likely to be married (87%); have an annual income of \$50,000 or less (80%), and work in manufacturing (60%). All participants had some form of health insurance, private (80%) or Medicare (20%). The major health problems in the sample included: heart disease and hypertension (40%); type-2 diabetes (27%); arthritis (13%); and various other chronic conditions (60%). Although the participants were knowledgeable about, and familiar with, the various screening procedure for prostate cancer (i.e., PSA and DRE), they did not know the symptoms of prostate cancer. A number of themes emerged from the focus group sessions that concentrated on the beliefs and attitudes regarding men's health and prostate health: (i) traditional beliefs about masculinity; (ii) psychosocial impact from family medical history; and (iii) sexual mores regarding digital rectal exams. Examples of thematic results from transcribed focus groups (see below) have used verbatim wording.

Traditional beliefs about masculinity

Participants acknowledged that their notions of masculinity influenced their preventive

Table 2 Sociodemographic characteristics ($n=15$)

	All participants	
	<i>n</i>	%
Age		$X = 56.9$; $SD = 11.85$
40–64	11	73
65 and over	04	27
Education		
High school or less	12	80
More than high school	03	20
Marital status		
Married	13	87
Not married	02	13
Income		
\$25,000–50,000	12	80
\$50,000 and above	03	20
Industry code		
Educational services	02	13
Manufacturing	09	60
Retail services	01	07
Retired	03	20
Health insurance		
Private	12	80
Medicare	03	20
Chronic conditions*		
CVD/hypertension	06	40
Type-2 diabetes	04	27
Arthritis	02	13
Other conditions	09	60

CVD, cardiovascular disease.

* Column total exceeds 100% because many focus group participants had more than one chronic condition

health behaviors as denial of illness, or the appearance of being healthy. These male participants discussed how the norms and expectations of manhood influence their behavior toward preventive practices. Almost half of the participants ($n = 7$, 47%) articulated illness as a sign of weakness. That focus group discussed how the cultural façades of masculine roles impact their health beliefs and behaviors.

FG12: *I knew that [falling asleep] was not me. I just put it off for a long time and it got worse and worse and worse, to the point where I would be sitting up and all of a sudden I would be out. . . I needed to go to the doctor, but I did not want. . . I never been quick to run to the doctor.*

FG18: *I think it is because Black men will not go to the doctor. . . I have a brother. . . I tell him every day, 'Hey man, you need to go get a checkup, you do not know what is going on with you.' Just like the brother here [referring to FG15] is saying he*

does not feel anything wrong with him, he is not going to go.

The second focus group, also noted the socio-cultural barriers to care such as the pride of African-American men and their ability to maintain their health without the assistance of doctors, a trait known as the superman syndrome. Those focus group members elaborated how the role of masculinity can put them at risk for illness:

FG21: *We men... we are that rock. We are supposed to stay that solid rock, and when we say something is wrong with us, even going to the doctor... we think that chips at that rock and we don't want people to really look at us that way... I have diabetes, that's another chip off of me. I am not that solid.*

FG24: *You hear stuff about men [who] are more private about their health and they do not talk about it much. Maybe with men, being unhealthy*

is a sign of being unmanly, so maybe we are not as likely to talk about it with each other.

The men in that focus group acknowledged that their health was not a top priority. Traditional masculinity influenced the male participants' attitude towards health by hiding their "unhealthy" status. This subset found themselves in juxtaposition between the façade of "health" and seeking medical attention. The focus group men's reluctance may have been derived from not wanting to appear weak.

Psychosocial impact from family medical history

In spite of their masculine beliefs, 66% ($n = 10$) of the male participants became fully engaged in preventive services after they experienced the death of a close relative or a debilitating diagnosis in a loved one. Only then did the participants become proactive regarding their own health. For example, when a participant found out that his grandfather died from prostate cancer, he began getting an annual DRE.

FG16: *I knew I had to go to the doctor.... I'm thinking to myself... you know how you think the worst... that was my first time being checked for prostate.... It was [a] bad experience, but [it had] to [be] done. I talked to my Mom about the whole situation afterwards, and of course, my Mom had been a nurse for years. She never shared with me... that my grandfather suffered from prostate cancer.... I've been checked once a year. Two factors: one my own personal experience... and number two was the fact that I found out that my grandfather had prostate cancer and was dying with it himself, along with an uncle. I was thinking that it might have been hereditary. I don't know if that's the case or not... but I don't want to go out like this.*

Other members within the same focus group described their concern of being diagnosed with the same chronic condition that "runs in the family."

FG11: *I start to think about 'I got high blood pressure... She had diabetes, can I develop it now?' Yeah I can. So I have got kind of concern.*

FG14: *I have three family members who are diabetic and I had an aunt who passed from being diabetic and I learn during that time that she had it, and I was say to myself 'I am a person*

who do not like needles.' I have been taking insulin for 15 years.

FG15: *My dad was a diabetic for a long time. Doctor told him to diet and he ate everything he was not supposed to eat and it finally took him.*

It is interesting to note that the study participants described how illness and death of significant others had a profound effect on initiating preventive measure practices.

FG22: *Both my parents passed away with cancer, so it made me more aware of it because of them, but the ones even before them, you know...the cancer is there...I had an episode with my wife, [she] just had breast cancer. It is the type of thing we think that breast cancer is for women only. But we never think of it with men...I think we need to make that aware, that men can get breast cancer also.*

FG25: *I think how that might have impacted me personally, might influence how you would accept that because I have an uncle who was diagnosed with testicular cancer.... In 2000, my baby sister died from breast cancer. I have a sister-in-law who's a seven-year survivor.... It has impacted me personally [and that] carries more weight.*

Based on the conversations above, the male participants indicated that they were aware that their family member's illness made them vulnerable to similar diseases. Moreover, when a member of the family became ill, the knowledge that the disease, such as breast or prostate cancer, exists in the genetic history of a family, alerts the healthy participant to change his personal habits to avoid the similar condition. This is different from, and contradictory to, what happened when the male participants pretended to be "healthy."

Sexual mores regarding digital rectal exams

Many key informants raised the notion that the prostate exam represents a threat to masculinity, and that African-American men, in particular, are hypersensitive to threats to their maleness. A third of the male participants (33%) discussed their aversion to DREs. The prevailing consensus was that DREs violated the individual's manhood. The men expressed varying degrees of homophobia in their comments. The male participants were very uncomfortable with their physicians

touching their rectal area, as stated by one of the focus group participants: “If you were a man, you didn’t do that. . . Hey, you don’t get any hand put up your butt.” Male gender roles exacerbate African-American homophobic paranoia, which can delay men receiving DRE.

FG18: *I think there’s an aspect that people think it’s gay and there’s that whole sexual issue about it. If you’re willingly to submit to doing this thing, you could never tell anyone about it . . . So I am wondering if it’s part of this homosexual thing or this fear of having a digital rectal exam or having someone messing around your butt. Maybe I have some questions about my own sexuality, my own sexual orientation. What do I do if I like it? What if I find out something about myself while I’m having this exam? Or what if I have questions about myself, what if I’m insecure and that’s what keeps me from going to have this exam. How do you address that insecurity if it’s sexual identity or sexual orientation?*

FG12: *I went to... and every time I go to this doctor... he always says, “Let me check your behind.” I say, “How many times do you want to check it? You’ve checked it two or three times.”*

Similarly, within the second focus group, a participant discussed when he switched doctors after his initial DRE:

FG24: *I changed over to a female doctor after having my first exam [DRE]. This man’s finger is as big as mine; I can’t go through that any more. So I switched over to a female doctor and I was feeling a lot better about that particular exam. . . I can accept it more with a female doctor than I can with a male doctor.*

Similarly, the oldest male participant in the focus group expressed his concern regarding the DRE:

FG 23: *I’m sorry, I don’t mean to interrupt, but let’s get real. The myths about a lot of black males are that to protect that macho image, you don’t have anybody messing around with your butt.*

Men’s resistance to DRE may be linked to the awkwardness of someone touching their “private parts,” the connection to homosexual behavior or the idea that DRE is not a manly “health service.” The male genitalia are a cultural symbol of male power, authority, and sexual domination. The symbolic notion of “bending over” may play a powerful role in the men’s sexual identity. The issue of mascu-

linity and the fear of assault and violation to personal manhood may also play a role in barriers to DRE.

Discussion

Midwestern African-American men described a broad range of factors that influenced their preventive behaviors related to health in general, and prostate health in particular. Men usually do not see physicians for minor symptoms and tend to wait until their medical conditions become more serious before seeing a healthcare provider [62]. The focus groups provided an opportunity to engage in a dialogue, and explore the beliefs of African-American men, the population with the shortest life span in America. There were several interesting findings within this study. Firstly, within this sample of African-American men, certain aspects of cognitive and psychological factors associated with masculinity ideology were related to health beliefs and behaviors. Similar to other research, we found that those who held on to the traditional role of masculinity were concerned with others’ views of the masculine role [6,63,64]. By failing to engage in preventive behaviors, men are conforming to the view that masculine men are invulnerable to disease and are not concerned with health matters [38,65]. This involves the internalization of the idea of masculinity, including the disclosure of sickness and disease. The ideas that illness must be hidden, and public portrayal of health must be reflected, are key contributions to literature on men’s health behavior. This finding agreed with other literature that masculinity ideology inhibits men from seeking preventive health care [38,65,66,67].

Another unique contribution to the literature is that the participants became proactive with regard to preventive behavioral change after the diagnosis or death, from a chronic condition, of a loved one. We found that negative attitudes toward DRE do not necessarily deter African-American men from participating in prostate cancer screening [67]. The negative attitudes men have toward DRE, which are associated with a high level of fear regarding cancer, may reflect a fear of diagnosis [67]. Similar to other studies [57,68–72], the male participants discussed and confronted the risk of inheriting disease through their family

linage, which is known as the “medicalisation of family and kinship.” Acknowledging this fact may be helpful, as individuals may avoid related health risk factors – for example, by eating well, exercising, and refraining from smoking and drinking – to overcome the inherited risk. Studies specifically dedicated to prostate cancer, have shown that men who had a relative diagnosed with prostate cancer were no more likely to have prostate cancer screenings than men who did not have a relative diagnosed with prostate cancer [73]. However, other researchers have found that men with a family history of prostate cancer were more likely to participate in prostate cancer screening tests [74,75]. The fact that first-degree relatives were no more likely to have undergone screening might have been influenced by higher levels of fatalistic beliefs about developing prostate cancer. Past research has found that higher levels of fatalistic beliefs about cancer risk are associated with decreased levels of adherence to colorectal, breast and cervical cancer screening [76]. One possible explanation for the discrepancy in the findings is that the participants’ relatives were actual cancer survivors, which was the motivating factor in the initiation of preventive services.

Finally, aversion to DRE has been consistent across the Preventive Health Model and other researchers’ findings [57,77,78], however, unlike previous studies, the participants stated that their aversion to DRE was based on questioning one’s sexual mores rather than embarrassment with the exam. Many of the participants voiced extreme discomfort during the discussion of the exam, including comments such as comparing the procedure to homosexual practices and personal physical discomfort with the DRE. What is equally interesting is that those who held traditional beliefs about masculinity were also those who were reluctant to participate in DRE. Similar to other research, men do not like DRE [65]. Aspects pertaining to feelings of shame or a breach of intimacy were reported as an important barrier for not utilizing prostate cancer screenings in our study [38,66]. For instance, a recent study found that 53% of those accepting DRE reported feelings of shame, while only 15.6% of those accepting PSA reported feelings of shame [79]. It was suggested that cultural variation in the male role might be responsible

for some of the divergence in the outcome. While not unique to African-Americans, or men, these findings highlight the importance of understanding and addressing issues in preventive health screening. The role of masculinity may affect a man’s beliefs about whether or not to participate in preventive screenings. Given the desire for information about general health maintenance, coupled with fear about prostate cancer [77,80,81], perceptions that screening and prostate cancer represent a threat to one’s maleness [65], and concerns about homophobia [82], it makes sense to think about placing screening information in the larger context of overall men’s health.

Researchers have begun to examine the behavioral factors that affect the onset, progression, and management of men’s health problems [83]. This paper highlights the importance of understanding the beliefs and experiences of mid-western African-American men. It may well be speculated that in enhancing utilization rates, interventions tailored to the men’s needs may be more efficient. For instance, researchers concluded that men often need assistance with regard to health promotion [84,85]. Although gender-specific, culturally appropriate health promotion and disease prevention interventions are widely recognized and implemented, additional intervention research must begin to address the sociocultural, psychological, and behavioral determinants that influence the health of African-American men. The multifactorial nature of social, psychological, behavioral, and biological determinants of health, suggest that multidisciplinary interventions need to be designed to address the health of African-American men [32,86].

The authors acknowledge some limitations in their study, notably, the small sample size ($n=15$) and being selected from a medium-sized community in the Midwest, whose responses may not reflect the experiences of African-American men in other regions of the United States. Another limitation was the lack of data collected, either self-reported or clinical, on PSA testing. Furthermore, the men in this study may not have accurately recalled participating in prostate cancer screening. Additionally the findings in this study cannot be generalized beyond the sample of predominantly African-American males in a Midwes-

tern small town. Therefore, a larger sample size is needed for further investigation.

However, the results can be used to provide depth and richness in exploring behaviors, and can be used to inform the development of programs to improve screening practices in the targeted population. Although our study did not directly compare men's beliefs about prostate screening (e.g., PSA and DRE) to other preventive screening (e.g. glucose and hypertension), one-third of the participants were very vocal regarding their displeasure with DRE. It is important to note that the primary aim of this exploratory study was to investi-

gate the attitudes and beliefs of relatively healthy African-American men. Although in its early developmental stages, this study has the potential to be a comprehensive model to help public health professionals understand how African-American males incorporate individual values and beliefs surrounding preventive health behaviors. Our small sample size does provide important information in terms of identifying the needs of an "at risk" population, thus prioritizing resources to engage African-American men in the development of skills to reduce their burden of poor health.

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