Scholar Postulations on Afro-American Males and Prostate Cancer Screening in California

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RESEARCH ARTICLE

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Abstract

In Los Angeles County, California, prostate cancer is the second primary cause of cancer-related death in men. Previous studies have focused on sociodemographic factors influencing racial and ethnic inequalities in health in the United States. However, research was lacking regarding if and to what extent social-ecological factors predict prostate cancer screening, specifically among African American men residing in Los Angeles County. The purpose of this scholarly review was to identify the factors that may mattered to scholars pertaining to prostate cancer screening among Afro-American males who are resident in the Los Angeles areas. Considering the age brackets characteristically associated with prostate cancer, scholars focused on Afro-American males that are not younger than 45 old.

Introduction

Prostate Cancer

An integral part of the male reproductive system is the prostate. It is localized underneath the bladder but precedes the rectum. Cancer of the prostate begins with the growth of abnormal cells in the prostate gland, a male-specific sexual organ. No cure exists for cancer, although a regimen of chemotherapy and/or radiation treatment can reduce the size and growth rate of tumors. With surgical intervention, cancerous tumors may be permanently removed without regrowth, contingent on the category of cancer and cancer phase, and the aggressiveness of the cancer cells (ACS, 2016; CDC, 2016).

PC continues to cause more death among AA men than men in any other racial group (CDPH, 2016; Cheng et al., 2009). According to the 2010 U.S. Census, California's population is over 38 million: about 39.4% Whites, 6.6% AA, 38.2% Hispanics; 13.9% Asians, 1.7% Native Americans and Alaskan Natives, and 0.4% Native Hawaiians and other Pacific Islanders (U.S. Census, 2010). In California, PC prevalence is highest among AA men; twice as high as among White men (American Cancer Society, 2014; CDPH, 2015; Cheng et al., 2009).

Prostate tumor growth is similar to other forms of cancerous tumors in which a mass of cells grows out of control and eventually spreads to other cells and tissues. Normal cells turn into cancer cells because of genetic defects or mutations in the DNA (Baba & Câtoi, 2007; Cooper, Yuan, Bowlin, Dennis, Kelly, Chen, & Rimm, 2000; NIH, 2007; Nnamdi, 2011). Often, damaged DNA that could lead to the formation of cancerous cells can be detected and repaired by the cell's DNA repair mechanisms (Baba & Câtoi, 2007; Cooper, 2000; NIH, 2007; Nnamdi, 2011). However, when a cell is severely damaged and not repaired, the cancer cell may be

destroyed by its own mechanism (Baba & Câtoi, 2007; Cooper, 2000; NIH, 2007; Nnamdi, 2011).

When damaged cells grow, cancer occurs, divide, and multiply aberrantly rather than undergoing self-destruction (Baba & Câtoi, 2007; Cooper, 2000; NIH, 2007; Nnamdi, 2011). Therefore, through early cancer screening tests, cancerous cells or by-products of cancerous cells can be detected before the onset of symptoms (ACS, 2016). For advanced cancerous cell symptoms, diagnostic tests can be used to diagnose cancer definitively (ACS, 2016; Baba & Câtoi, 2007; Cooper, 2000; NIH, 2007; Nnamdi, 2011).

Background

Theoretical Foundations

The SEM was employed in this study to understand the motives affecting AA men in screening for PC. Mcleroy et al. (1988) developed this model as a tool for a health campaign originated from Bronfenbrenner's ecology theory, and the social, ecological ideations began with Bookchin. Theorists created some social-awareness models to account for sociodemographic variations in health behaviors. The SEM is an investigative tool that is used to explore health outcomes or behaviors concerning various interacting levels of interpersonal, intrapersonal, and environmental factors (McLaren & Hawe, 2005).

Conclusions have been drawn from numerous studies based on the application of the SEM for the assessment of health behaviors (Kothari, Edwards, Yanicki, & Hansen-Ketchum, 2007; Lewis, 2005; Novilla, Barnes, De La Cruz, Williams, & Rodgers, 2006; Raneri & Wiemann, 2007; Richard, Gosselin, Ducharme, Sapinsky, & Trudel, 2008; Vantamay, 2009; Woody, 2006). The SEM has been applied to address health risks including but not limited to the evaluation of behaviors influencing HIV transmissions and AIDS outcomes resulting from HIV

infections (Lewis, 2005). Also, in adolescent pregnancy studies, the SEM was applied as the theoretical framework (Raneri & Wiemann, 2007) and in alcohol consumption among college students (Vantamay, 2009). Furthermore, in other studies, the SEM was used as the explanatory framework for the prevention of elder abuse and elder falls (Richard et al., 2008), health promotion at the family and household levels (Novilla et al., 2006), smoking cessation and tobacco control (Kothari et al., 2007), promoting prevention science in social work practice (Woody, 2006, and expanding community-based health interventions (McLeroy et al., 2003).

The interpersonal level of the SEM describes the creation of change in social relationships. For this study, PCS activities were intended to facilitate individual behavioral change by affecting social and cultural norms and overcoming personal barriers. Access to healthcare providers, community health workers, and patient navigators represented potential sources of the environmental support system (Stokols, 1992, 1996). The SEM in this study highlighted several interventions appropriate for providers who recommended screening for their patients, patients' receipt of reminders about the need for screening, and patient navigator's assistance with the removal of logistical and other barriers to testing.

In this review, the basis of the SEM variables of the interpersonal, intrapersonal, and environmental or community factors was a critical element. For example, the independent variables are explained by three levels of SEM factors (interpersonal, intrapersonal, and environmental or community). The intrapersonal factors for independent individual variables consisted of AA men's age, gender, race/ethnicity, education level, and employment status, annual household income variables. The interpersonal-level variable ascribed in this study was marital status (single, married, divorced, separated, and widow) variables. The third-level environment or community level of the SEM explained the independent social and control

variables which included access to healthcare, family support, family history, health decision, health insurance status—specifically, access to healthcare provided via the Affordable Care Act (ACA)—and relationship with physician, medical trust, perceptions of health status, cultural influences, and religious variables. These variables were specified in the posited research questions and others were addressed in the written analysis.

Key Variables and Concepts Related to the Literature Review

The variables of intrapersonal, interpersonal, and community factors were ordinal variables, specifically for this study. These variables included age, education, income, marital status, access to care, and family support. The dependent variable in the PCS category, screen (participation status) or no-screen state (no participation), was a nominal variable. Based on levels of measurement, illustrated the independent and the dependent variables by logistic regression.

Scholarly Postulations

Screening for Prostate Cancer

One of the commonly known screening options for PC is a DRE (American Society of Clinical Oncology, 2011; CDC, 2017). A DRE examination requires physical assessment of the prostate (American Society of Clinical Oncology, 2011; CDC, 2017). The test is semi-subjective because it relies on expert opinion and interpretation regarding the state of the prostate (ACS, 2016; CDC, 2017; Fedchenko & Reifenrath, 2014). A timely PCS is essential to detect and treat the disease early (ACS, 2016; CDC, 2017; Fedchenko et al., 2014). The DRE and the PSA are PCS tests that can be performed in conjunction (ACS, 2016; CDC, 2016; Lehto, Song, Stein, & Coleman-Burns, 2010).

A PSA is a histological test performed to determine the level of prostate-specific antigen or PSA proteins (ACS, 2016; CDC, 2017; Fedchenko & Reifenrath, 2014; Fedewa, Ward, Brawley, & Jemal, 2017; Scales, Antonelli, Curtis, Schulman, & Moul, 2008). Some men may have PC even though their PSA levels are less than 4ng/mL (ACS, 2016; CDC, 2017; Fedchenko & Reifenrath, 2014; Fedewa et al., 2017). Therefore, finding intermediate levels (5 to 9 ng/mL) of PSA complicates the ability to obtain an accurate diagnostic evaluation. Although it is an individual's right to choose whether to screen, awareness among AA men living in L.A. County must improve (ACS, 2016; CDC, 2017; Fedchenko & Reifenrath, 2014; Kendrick, Montgomery, & Ouattara, 2009).

Signs and Symptoms

Usually, no noticeable medical, physical, or emotional symptoms appear during the early stages of PC onset. At this first stage, no signs can be detected using any of the tests described in this dissertation. For metastasized tumors, bone pain, mostly in the lower back and pelvic bones are common symptoms (ACS, 2016). The following summarized sets of symptoms are common to individuals with advanced PC (ACS, 2016):

- Delayed urination,

- Urine leakage,

- Straining when urinating, and

- Blood in urine and semen.

General Risk Factors of PC

Aging, familial history, obesity, and genetics are typical examples of PC risk factors (ACS, 2016). Diets high in processed ingredients, known carcinogens, and industrial occupational exposures of toxic combustion products may increase the risk of PC (American

Society of Clinical Oncology, 2017; Chan, Gann, & Giovannucci, 2005). Across racial groups, the lowest rate of PC is among Asian men, especially Chinese people living in Tianjin. In contrast, the highest incidence of PC occurs in Scandinavia and North America, especially among AAs living in the United States (ACS, 2016; American Society of Clinical Oncology, 2017; CDC, 2017; Gronberg, 2003).

Age: Age is a common risk factor and indicator for PC. Of men 65 years of age and older, about 97% are diagnosed with PC (ACS, 2016; American Society of Clinical Oncology, 2017; CDC, 2017). Among men 50 years or older, 60% are diagnosed with PC (ACS 2016; American Society of Clinical Oncology, 2017; CDC, 2017). In some cases, AA men developed PC at the age of 40 (ACS, 2016; CDC, 2017).

Family history. Familial history is a risk factor for PC (CDC 2016; CDPH, 2017). Men with a familial history of PC have a two- to three-fold increased risk of developing the disease (CDC 2016; CDPH, 2017; Gronberg, 2003; McDowell, Occhipinti, & Chambers, 2013). Genetic familial predisposition could account for five to ten percent of PCs (CDC 2016; CDPH, 2017; Colloca & Venturino, 2011). For instance, BRCA2 mutation and Lynch syndrome are inherited conditions connected to PC risk (ACS, 2016; American Society of Clinical Oncology, 2017; CDC, 2017). Individuals with a familial history of PC may have genetic susceptibility to the disease, and exposure to common environmental or other risk factors could produce adverse health outcomes (Gronberg, 2003; McDowell et al., 2013; Zeigler-Johnson et al., 2008).

Diet. Vitamin D is a protective factor against PC (NIH, 2013; Woo, Choo, Jamieson, Chander, & Vieth, 2005). Protective factors reduce the risk of developing PC (Gann, 2002; NIH, 2013). For instance, high intake of Vitamin D reduces the level of PSA in men whose PC has

spread to a new area (NIH, 2013; Woo et al., 2005). Bunker et al. (2002) explored the difference in diet between Asian Indians, Trinidadians, and AA men and their link to PC. The researchers suggested that regular consumption of tomato was a protective factor against PC (Clarke, 2017; NIH, 2013; Wiseman, 2014).

In contrast, high intake of milk, dairy, calcium, saturated fat, zinc, and heterocyclic amines are risk factors (Chan et al., 2005; Clarke, 2017; NIH, 2013; Wiseman, 2014; K. Wu, Hu, Willett, & Giovannucci, 2006). Other common risk factors are excessive alcohol use, a high fat diet, and exposure to cadmium or Agent Orange (American Society of Clinical Oncology, 2011; ACS, 2016; Hori, Butler, & McLoughlin, 2011). However, the link between diet and PC incidence, progression, and survival is not definitive for many of the nutritional risk or protective factors because the chances of acquiring PC are multi-faceted (Chan et al., 2005; Masko, Allott, & Freedland, 2013).

Obesity. Obesity is a risk factor for many health outcomes and the condition of other disease predictors such as diabetes. Obesity links to PC and an increased risk of death (ACS, 2016; Gallagher & LeRoith, 2015; Pi-Sunyer, 2009). Some studies found a link between obesity and cancer. Also, obesity aligns with a decreased risk for low-grade PC (Gallagher & LeRoith, 2015; Hsing, Sakoda, & Chua, 2007; Pi-Sunyer, 2009; Vidal et al., 2014). In contrast, obesity increases the risk of high-grade PC (Hsing et al., 2007; Vidal et al., 2014).

Side Effects of Treatment

Healthcare providers recommend specific types of treatment, based on the stage of cancer (ACS, 2016; Grunfeld & Earle, 2010). Standard treatments for PC include active interceptive surveillance such as hormone therapy, chemotherapy, radical treatment, brachytherapy, robotic-assisted prostatectomy, proton-beam radiation, and radical prostatectomy surgery (ACS, 2016;

Jayadevappa et al., 2017). All available treatment options have side effects that could affect a patient's quality of life (ACS, 2016; Jayadevappa et al., 2017; National Cancer Institute, 2012). Problems with sexual function is a risk common to many of the specified treatments for PC (ACS, 2016; Jayadevappa et al., 2017; National Cancer Institute, 2012; Thor et al., 2015). Among AA men, 60% were concerned about or are afraid of impotence following PC treatment (Kalsbeek, Chan, Corcoran, Hovens, & Hayes, 2017; Parchment, 2004; Thor et al., 2015).

Prostate Cancer Prevention

Before the onset of clinical symptoms, the disease can be prevented, delayed, controlled, and perhaps treated in early detection of PC. The current screening guidelines for men aged 50 and older states that men should have sufficient information about PC to decide on screening participation or non-participation (Allen et al., 2011; R. A. Jones, Steeves, & Williams, 2009). All AA men, especially those with a family history of PC, should dialogue with their doctor about the disease by 45 years of age. Men at higher risk should have a discussion about the condition with their healthcare provider at the age of 40 (Costanza et al., 2011). Participation in health screening should be voluntary, and the participant must authorize such service before it is performed (ACS, 2016; Kendrick et al., 2009; Plowden, 2006).

The critical barrier to optimal healthcare services among AA men is insufficient health insurance (Niu, Roche, Pawlish, & Henry, 2013; Williams & Jackson, 2005; Woods et al., 2004). A late-stage cancer diagnosis can be extraordinarily costly and stressful (ACS, 2016). Uninsured and underinsured individuals may receive a diagnosis of cancer at an advanced phase (ACS, 2016; Kirby & Kaneda, 2010; Niu et al., 2013; Polite et al., 2014). The ACA helped improve access to healthcare systems by substantially reducing the number of uninsured individuals (ACS, 2014; Kocher & Adashi, 2011). With the ACA in place, insurance companies may not

deny coverage due to preexisting medical conditions (Karpman, Long, & Zuckerman, 2016; Kocher & Adashi, 2011; Uberoi, Finegold, & Gee, 2016). The introduction of the ACA created a health insurance marketplace in which healthcare options are readily accessible and affordable (Karpman et al., 2016; Kocher & Adashi, 2011; Sommers, Chua, Kenney, Long, & McMorrow, 2015; Uberoi et al., 2016). The ACA promised to guarantee healthcare access for everyone in the U.S., but inherent issues in the quality of care or relationship between providers and AAs are still of great concern (Chen et al., 2016; Clemans-Cope, Kenney, & Buettgens, 2012; Long et al., 2015; McMorrow et al., 2015; Sealy-Jefferson, Vickers, Elam, & Wilson, 2015; Sommers et al., 2015).

Health Disparities in African American Men

Health disparities adversely affect people who have steadily experienced greater differences in the health status due to their race or ethnicity and other discriminatory or exclusionary characteristics (Aizer et al., 2014; Braveman et al., 2011; Brondolo, Brady, Pencille, Beatty, & Contrada, 2009). Among AA men, healthcare inequality is a factor mitigating willingness to participate in PCS (Jones et al., 2009; Muliira, Al-Saidi, & Al-Yahyai, 2017; Oliver, 2007). Such impediments are linked to perceived lack of self-efficacy due to the implicit and explicit social or institutional constructs that promote healthcare discrimination (Muliira et al., 2017; Oliver, 2007). Societal recognition of the self-worth of AA men is an important motivational aspect of their humanity (Daher, 2012; Dale, Bilir, Han, & Meltzer, 2005; Odedina et al., 2008; Oliver, 2007).

Social inequities in any environment, SES, and medical care status are factors influencing racially driven health disparities (Williams & Jackson, 2005; Williams, Mohammed, Leavell, & Collins, 2010). Although death from PC has declined among Whites, it has increased markedly

among AA men (ACS, 2016; NIH, 2016; Platz, Rimm, Willett, Kantoff, & Giovannucci, 2000; Williams & Jackson, 2005). AAs often receive care from underserved healthcare systems and overworked providers (ACS, 2016; Hudson et al., 2014; Williams & Jackson, 2005). AAs have limited access to appropriate follow-up and rehabilitation services and health insurance coverage (ACS, 2016; Hudson et al., 2014; D. R. Williams & Jackson, 2005).

In addition to fears of sexual dysfunction, psychosocial issues influence access to alternative PC among AA men (James et al., 2017; Woods, Montgomery, & Herring, 2004). According to Healthy People 2020, health disparities disproportionately link to economic, social, and environmental disadvantages against AAs (Adeloye et al., 2016). Many barriers prevent AAs from receiving regular healthcare services (Mitchell, 2011). AA men can improve their use of cancer care if obstacles are addressed (Mitchell, 2011; Wray et al., 2009). This section will discuss various ways that AAs differ from patients of other ethnicities that could play a role in the development of PC or the participation in PCS.

Physician-patient relationship. A respectful and trusting relationship between healthcare providers and patients is an essential interpersonal quality in medical practice and healthcare service processes (R. A. Jones, Steeves & Williams, 2010; Tucker, Marsiske, Rice, Jones & Herman, 2011). Respect and trust are critical interpersonal qualities evaluated at the point of care by many AA men seeking information about their health status and services (Ashton et al., 2003; Tucker et al., 2011). In a study, AA men identified good rapport, sincerity, and patient-caring quality as establishing meaningful trust and mutual respect between them and healthcare providers or healthcare systems (Ashton et al., 2003; Tucker et al., 2011).

AA men is the most disconnected group in healthcare systems compared to women or individuals in other racial or ethnic groups (Elder et al., 2014). Engagement and a healthy

relationship between AA men and healthcare providers should rely on building trust and respect (Crowley, 2010; Elder et al., 2014). Most men feel the need to be respected and when such attribute is achieved will engage in a meaningful discussion about their health in environment settings that protect their rights and integrity (Ashton et al., 2003; Kendrick et al., 2009; Tucker et al., 2011).

Improving health literacy and culturally sensitive messages or cultural competency could enhance the value of life, and conceivably, decrease health inequalities (Parchment, 2004). Overall, substantial monetary and non-monetary benefits that could be achieved through improved or strengthened healthy patient-provider relationships (Ashton et al., 2003; Tucker et al., 2011).

Medical mistrust. Beyond disparities in health insurance and healthcare access, medical mistrust complicates the relationship between AA men and providers (Arnett, Thorpe, Gaskin, Bowie, & LaVeist, 2016; LaVeist, Isaac, & Williams, 2009; Underhill et al., 2015). Medical mistrust is an inherent healthcare barrier, regardless of the race, ethnicity, or SES of any group or individual (Arnett et al., 2016; LaVeist et al., 2009; Underhill et al., 2015). The Tuskegee experiment, involving the U.S. government, was an intentional and orchestrated exposure of AAs to syphilis without their informed consent or knowledge of the study. The Tuskegee experiment was one of many unethical and inhumane cases of medical malpractice experienced by AAs in the U.S. (Allen et al., 2007; Behrman, 2004; CDC, 2009; Jones, 1992; Scharff et al., 2010). At present, AAs' experience with the Tuskegee experiment continues to be a destructive force that prevents or delays any attempt to build perceived social, medical, political, or economic issues among AAs (Allen et al., 2007; Behrman, 2004; CDC, 2009; Freimuth et al., 2001; Jones, 1992; Scharff et al., 2010).

The benefits of social support. In the U.S., AAs, particularly men, experience psychosocial and psychological struggle for acceptance (APA, 2016; Badr & Taylor, 2009; Cranford, 2004; Franklin & Boyd-Franklin, 2000). Many AAs experience persistent racism, and as a result of centuries of discrimination and exploitation, their ability to cope with social and health issues is undermined (APA, 2016; Badr & Taylor, 2009). Invisibility syndrome is an expression used to explain the perceived effects of injustices against AAs who maintain jaded outlooks about their conditions or address chronic societal indignation regarding their social environment (Dowden, Decuir Gunby, Warren, & Boston, 2014; Franklin & Boyd-Franklin, 2000; Roberts, 2011). The phrase describes an individual's feeling of being invisible and irrelevant to the dominant society (Dowden et al., 2014). In contrast, among AAs and in AA communities, feelings of invisibility are substantial because of shared social burden and emotional intelligence about sociopolitical issues that affect the group as a unit (Dowden et al., 2014).

SES, health status, and social support can be conceptualized in two ways (Cohen & Wills, 1985): social support as the main effect, or as a model of stress and buffering (Cheng et al., 2009; Cohen & Wills, 1985). In other words, social support is the main effect through which aid could positively link to mental state and physical well-being (Cohen & Wills, 1985; Sanderson et al., 2006). From the central-effect perspective, involvement in social networks could be beneficial in avoiding negative experiences such as physical or psychological illness (Cheng et al., 2009; Cohen & Wills, 1985). Social networks may assure predictability and stability and have a positive effect on one's ability to adapt to challenges (Bao et al., 2007; Du, Fang, & Meyer, 2008).

The stress-buffering model suggests that social support could diminish, prevent, or delay adverse effects of stress (Bennett et al., 2004; Blanc-Lapierre, Rousseau, & Parent, 2017; Bowen et al., 2014; Cranford, 2004). For example, family support may reduce, prevent, or delay the onset of psychological or physical illness (Bloom, Stewart, Girvan, Banks, & Chang, 2006). Many sources can provide social support such as intimate/romantic partners, friends, family members, clergy, organizations, and coworkers (Bloom et al., 2006; Coker, Sanderson, Ellison, & Fadden, 2006).

Family and friends play a crucial role in PCS among AA men, influencing their decision-making processes (Enaworu & Khutan, 2016; R. A. Jones et al., 2010; Toles, 2008). Family in this context is not limited to only individuals with bloodline ties (Enaworu et al., 2016). Church members and community persons could be a branch of family, depending on the attached relationship and shared values (Colloca, & Venturino, 2011; Enaworu et al., 2016; Strong, DeVault, & Cohen, 2010). Social systems such as cultural outlook, health policy, and views on sexuality in a social environment influence decision-making processes and shape lifestyle behaviors (Rao, Gopalakrishnan, Kuruvilla, & Jacob, 2012).

Marital status and spousal support influence the health-seeking behaviors of AA men. Unfortunately, research has shown that AAs have lower marital quality than their White counterparts (Birmingham et al., 2015; Broman, 2005). Higher rates of married men participate in PCS, apparently due to the role of the spouse in PCS (Volk et al., 2004). In a study, about 88% of married AA men were likely to participate in PCS (Drake et al., 2010). In another study, the highest percentage or proportion of AA who did not join in PCS were unmarried men (Haque et al., 2009). Data collected by McFall and Davila (2008) and the outcome report by Haque et al. (2009) showed that PCS participation correlates to marriage status. For most adults, marriage is a

form of relationship that provides beneficial health impacts (Robles & Kiecolt-Glaser, 2003; Wilson, 2014).

The role of women or wives is a critical and fundamental source of support and encouragement to AA men regarding household issues and particularly PCS care (Jones et al., 2010; Wilson, 2014). The nature of the quality of the marital relationship seems to influence health status and quality of life of an individual (Robles & Kiecolt-Glaser, 2003; Wilson, 2014). Although marriage may be beneficial to health, troubled marriages may have adverse health consequences (Robles & Kiecolt-Glaser, 2003; Wilson, 2014). Marital strain is a chronic social stressor with severe health burdens that include risk for cardiovascular, endocrine, and immune diseases (Bevans & Sternberg, 2012; Robles & Kiecolt-Glaser, 2003; Wilson, 2014). Such strain also links to economic burden (Robles & Kiecolt-Glaser, 2003)

The monetary and non-monetary burdens associated with PCS or diagnosis weigh heavily on not just a man, but his spouse (Harden, Northouse, & Pienta 2002). The healthcare assistance advanced through a social system by a spouse to their partner plays a beneficial role in PCS and management care (Queenan, Feldman-Stewart, Brundage, & Groome, 2010; Wilt & Ahmed, 2013). Spouses play an active role in their partners' illness as the immediate source of support in seeking care and as a communication conduit between their partners and providers (Enaworu et al., 2016; Reinhard, Given, Huhtula, & Bemis, 2008; Wilt & Ahmed, 2013). Harden et al. (2002) explored the benefit of spouses as caregivers in addressing cancer outcomes. Heterosexual couples indicated themes such as uncertainty, treatment effects (adverse or positive impact), coping with change, and the need for help or support as key concerns of their experience with cancer (Reblin et al., 2016).

Cultural influences. Cultural values influence health behaviors. Cultural values embed in people's lives and medical and public health practices. Specifically, culture affects the sociocultural and ethnic inequality perspectives on PCS, detection, treatment, and death incidence (Odedina et al., 2011; Woods et al., 2004). Shared cultural beliefs about the health condition or disease among a racial group or community of people play a vital role in preventative measures such as perceptions of screening behaviors for that disease (Conway et al., 2015; Machiori, Patch, & Metcalfe, 2018; Mulugeta, 2014).

Religion and health. A religious institution is often a community-based tool for a directed intervention in health promotion and education measures (Lumpkins, Greiner, Daley, Mabachi, & Neuhaus, 2013; Wilson, 2014). Rigorous research should explore the extent to which and by what means religious factors influence health (Miller & Thoresen, 2003). In a study, AAs, as compared to White respondents, scored higher on each dimension of religiosity (Ferraro & Koch, 1994). AAs turn to religion more frequently when experiencing health problems than Whites (Ferraro & Koch, 1994). Among AAs, engagement with religious beliefs is a critical coping mechanism (Ferraro & Koch, 1994; Lumpkins et al., 2013; Wilson, 2014).

Some researchers have asserted that religious practice aligns with better health among AA adults, but not among White adults (Miller & Thoresen, 2003). Religious traditions include prayer, reading spiritual literature, and attending religious events (Husaini et al., 2008; Miller & Thoresen, 2003; Wilson, 2014). Religious institutions in AA communities provide mediating effects on health status (Miller & Thoresen, 2003) because the church is one of the social institutions from which AA communities receive social support (Husaini et al., 2008; Miller & Thoresen, 2003; Wilson, 2014). The multi-dimensional nature of religious involvement in health outcomes and status should be appreciated and future studies are needed to examine the

variability among groups to understand how differences affect the meaning and significance of religious factors on health outcomes (Chatters, 2000). The church is a means of receiving equitable treatment and therefore, gaining a better understanding of the correlation between religion and health (Blocker et al., 2006; Husaini et al., 2008; Wilson, 2014). Thus, exploring further evidence-based inquiry on this issue could provide insight on how to mediate health disparities and prevent adverse health outcomes among AA communities (Arcaya, Arcaya, & Subramanian, 2015).

Education and income. In research studies, schooling is often a salient factor because education provides access to knowledge, communication, and quality of life in health activities, and PC knowledge, in particular, has been promoted across all groups of men (Fox et al., 2017; Owens et al., 2015; Pedersen, Armes, & Ream, 2012). However, PC knowledge is particularly weak among AA men (Owens et al., 2015; Pedersen et al., 2012). Similarly, AA men's understanding of risk of PC was inaccurate (Pedersen et al., 2012). Knowledge about the location and function of the prostate among healthy AA men was minimal (Fox et al., 2017; Owens et al., 2015; Pedersen et al., 2012).

Some men were unaware prostate was a man-specific gland and unaware of the risk factors or means of screening for the disease (CDC, 2016; Fox et al., 2017; Owens et al., 2015; Pedersen et al., 2012). Many men do not object to a PCS that is provided with an accurate and meaningful explanation and rationale for the test (Allen et al., 2007; CDC, 2016; Pedersen et al., 2012; Wilt, Scardino, Carlsson, & Basch, 2014). In studies, a majority of targeted men have lower educational attainment, income, and SES (Allen et al., 2007; Carpenter et al., 2009; CDC, 2016; Pedersen et al., 2012; Wilt et al., 2014). Level of education and income status can be determinants for AA men's participation in PCS (Carpenter et al., 2009). Those men with higher

income may have the opportunity to participate in PCS activities because they can afford health insurance (Chiu et al., 2005; Papatsoris & Anagnostopoulos, 2009). Higher income status aligns with more education and with PCS participation (Papatsoris & Anagnostopoulos, 2009). Therefore, increased awareness and advancement of health education on PC-related diseases among AA men, could improve adherence to screening recommendations (Akpuaka, Clarke-Tasker, Nichols-English, Daniel, & Akpuaka, 2013; Owens et al., 2015; Pedersen et al., 2012).

Community-based institutions such as churches, barbershops, and schools were frequently mentioned as appropriate avenues for health education and health-awareness settings (Allen et al., 2007; Cowart, Brown, & Biro, 2004). Health-promotion materials featuring AA men could be helpful along with articles encouraging the inclusion of significant others in the decision-making process; these critical cultural factors are those most important to AA men (Allen et al., 2007). Most AAs also recommended and preferred peer-to-peer formats for educational interventions and culturally tailored educational programs or intervention settings (Cowart et al., 2004; Owens et al., 2015; Woods et al., 2004).

Focusing on intrapersonal, interpersonal, and environmental influences of health behaviors within the target population is driven by the need to understand the contiguous association of factors such as age, education level, income, marital status (single, married, divorced, separated, and widow), access to healthcare, and family support. Also, their effects in promoting and maintaining preventive health behaviors such as PCS. Therefore, in this study the intrapersonal variables include age, education, household income; while intrapersonal and environmental factors include marital status and access to healthcare (e.g., health providers) and family support, respectively (Abernathy et al., 2005; Blumenthal et al., 2005; Fort, 2007).

Conclusion

The incidence of, and death due to, PC among AA men in L.A. County far exceeded that of any other racial or ethnic group (Mitschke, 2012). From an ecological perspective, illness plays an integral part in human relationships, and human relationships affect an individual's or a population's response to disease (Seymour, 2016; Strong et al., 2010; Weinrich et al., 2004). In L.A. County, AA men's health is understudied, and AA men have been disadvantaged in contemporary medical institutions (Brown, Hargrove, & Griffith, 2015; CDPH, 2016). AA men are sometimes unable to make informed decisions due to their lack of knowledge or education about the symptoms and risk factors associated with PC (Allen et al., 2007; Brown et al., 2015; CDPH, 2016; Pedersen et al., 2012). This group is hardly targeted with effective PCS information (Forrester-Anderson, 2005; Weinrich, 2006; Weinrich et al., 2004). AA men may not receive necessary screening recommendations and information because some healthcare professionals lack a vital understanding of the culture and history of AAs (Allen et al., 2007).

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