JOURNAL OF MEN'S STUDIES
1537-6680 (PRINT)
1933-026X (ONLINE)

VOLUME 21
ISSUE 2
SPRING 2013

MEN'S STUDIES PRESS, LLC
PO BOX 32
HARRIMAN, TN 37748 USA
WWW.MENSSTUDIES.COM
WWW.MENSSTUDIES.INFO
423-369-2375 (PHONE)
423-369-1125 (FAX)

PLEASE SCROLL DOWN FOR ARTICLE

JAMIE A. MITCHELL*, JACLYNN HAWKINS** and DAPHNE C. WATKINS**

FACTORS ASSOCIATED WITH CANCER FAMILY HISTORY COMMUNICATION BETWEEN AFRICAN AMERICAN MEN AND THEIR RELATIVES

African American men bear a disproportionately high burden from cancer in the U.S. The American Cancer Society reports that for all cancer sites combined, African American men are 32% more likely to die than white men (American Cancer Society, 2011). Having a family history of cancer elevates an individual's risk for the disease and should inform decision-making around the use of specific cancer screening tests as well as earlier onset and frequency of cancer screening. Adult African American men who attended an annual hospital-based community health fair in the Midwest which targeted minority men, were approached to complete a paper-based survey. Participants were asked "have you ever talked with any of your relatives about your family history of cancer (about any members of your family who have been diagnosed with cancer)?" Predictors were evaluated using bivariate analysis and logistic regression; they included socio-demographic, health access, health behavior, health status, and communication variables. Participants were 558 African American men with a mean age of 54 years old. African American men were most likely to have ever discussed their family history of cancer with a relative if they had specific knowledge of their family history of cancer and if they had ever talked to a physician about their family history of cancer. For African American men with a familial predisposition to cancer, further examination of barriers and facilitators to discussion with relatives, specifically those related to health access and knowledge, is warranted.

Keywords: *cancer, African American, communication, family history, men*

The American Cancer Society reports that 25 percent of all deaths in the United States are the result of cancer and that nearly one-third of Americans will develop cancer in their lifetime (American Cancer Society [ACS], 2011; Kelly, Shedlosky-Shoemaker, Porter, Remy,

* Wayne State University.
** University of Michigan.

Correspondence concerning this article should be sent to Jamie A. Mitchell, Wayne State University, School of Social Work, 337 Thompson Home, 4756 Cass Avenue, Detroit, MI 48202. Email: Jamie.Mitchell@Wayne.edu

THE JOURNAL OF MEN'S STUDIES, VOL. 21, NO. 2, SPRING 2013, 97-111.

jms.2102.97/$15.00 • DOI: 10.3149/jms.2102.97 • ISSN/1060-8265 • e-ISSN/1933-0251

DeSimone, & Andrykowski, 2007). Based on data from the ACS, African American men have the highest mortality and poorest survival rates for most cancers among all racial/ethnic groups in the U.S. (ACS). With a death rate 32 percent higher than that of white men for all types of cancer combined, African American men are less likely to be alive at each stage of a cancer diagnosis as well as five years after a cancer diagnosis when compared to their white male counterparts (ACS). While evidence suggests that a range of complex and multi-level social and economic disparities contribute to the disproportionate cancer burden of African American men (ACS), there are also personal and familial factors well-known to affect risk, such as family history of cancer (FHC). This study seeks to extend previous studies on cancer burden among African American men by examining the various socio-demographic, health information, health access, and behavioral health factors associated with the occurrence of FHC communication between African American men and their relatives.

The literature is replete with evidence that FHC alone is a significant risk factor for several cancers including breast, colorectal, and prostate (Acheson, 2011; Shah, Zhu, Palmer, & Wu, 2007; Ziogas et al., 2011). In particular, having a first-degree relative (i.e., parent, sibling, or child) diagnosed with cancer substantially increases an individual's relative risk for the disease compared to the general population (Guttmacher, Collins, & Carmona, 2004; Yoon, Scheuner, Peterson-Oehlke, Gwinn, Faucett, & Khoury, 2002; Ziogas et al.). For example, individuals with a colorectal FHC are two to six times more likely to develop the disease than individuals with no FHC (Ziogas et al.) while men with a first-degree male relative with prostate cancer are more than twice as likely to develop the disease as men without that FHC (Shah et al.). These reports are essential from a population health perspective because it is estimated that more than 22% of individuals in the U.S. have a familial or hereditary predisposition to cancer that may warrant earlier, more frequent, or more sensitive cancer screenings for the purposes of prevention or early detection of malignancies (ACS, 2011; Ziogas et al.).

Collecting FHC information is one of the most efficacious ways of identifying individuals with higher than average cancer risk, yet the success of obtaining such information is met by a number of individual and system-level challenges. In a state-of-the-science report, the National Institutes of Health (NIH, 2009) described evidence of several individual, family, and health-system barriers to the collection, reporting, and use of family health histories for the purposes of prevention and treatment in clinical care (NIH). This NIH report cited the lack of health insurance, low income of patients, lack of time and compensation for physicians, and unfamiliarity with technology and methods for interpreting family history data among physicians as factors impeding family health history use in clinical settings (NIH).This is unfortunate considering that the act of communicating with one's family about FHC and relaying that information to a health provider has implications for earlier than usual preventive interventions, cancer screening frequency, referrals to genetic testing, patient education, and other potentially modified surveillance recommendations that could reduce cancer-related disparities for individuals at moderate to high-risk (Kelly, Sturm, Kemp, Holland, & Ferketich, 2009; Koehly et al., 2009; Murthy et al., 2011).

Though few studies have specifically examined FHC communication between African American men and their health providers and families, one general study on cancer communication in underserved minority communities reported that higher income and increased cancer worry increased the likelihood that participants would talk with their family mem-

bers and health providers about FHC (Kelly et al., 2009). Extant research has demonstrated that interventions promoting the collection of FHC information among African American men have improved perceived cancer risk and knowledge (Murthy et al., 2011) and increased prostate cancer screening completion using the prostate-specific antigen test (Bloom, Stewart, Oakley-Girvans, Banks, & Chang, 2006; Mastalski, Coups, Ruth, & Raysor, 2008; Spencer et al., 2006). Yet, other studies have reported a disturbing trend whereby African American men with a FHC are less likely to complete prostate (Ford, Vernon, Havstad, Thomas, & Davis, 2006; Weinrich, 2006) and colorectal (Griffith et al., 2008; Powe, Faulkenberry, & Harmond, 2010) cancer screening when compared to both African American and white men without a FHC. These studies infer that the reluctance to complete screening given the knowledge of a FHC is related to fear of being diagnosed with cancer; and pain or embarrassment associated with invasive screening tests such as the digital rectal exam or colonoscopy.

Gaps in previous studies on FHC and African American men has left a number of unanswered questions for how to move forward with cancer screening, diagnosis, and treatment among African American men. Obtaining accurate FHC information is imperative for understanding and reducing cancer risk and associated disparities. However, given the incongruence of available evidence on how African American men obtain, interpret, and utilize their FHC information, more inquiry is needed on the factors influencing their FHC communication. This study endeavors to advance this area of inquiry by identifying socio-demographic, health information, health access, and behavioral health factors associated with the occurrence of FHC communication between African American men and their relatives.

METHODS

This study utilized a cross-sectional purposive sample of African American men who attended a community health fair in 2011. Participants were ages 18 or older, who could read and write in English; and who self-selected to complete a paper-based self-reported survey at an annual community health fair hosted by a large medical system in the Midwest United States. The health fair targeted minority men's health needs. This sample was chosen due to ease of access to a population that has been underrepresented in health-related communications research (Schneider et al., 2011). Undergraduate student volunteers were trained to administer and collect the 40-item anonymous survey and participants gave oral consent following a script read by volunteers. Volunteers were not matched to the demographic characteristics of the study population and the survey took approximately 7 minutes to complete; there was no compensation for participation. Survey items were comprised of a combination of likert-type, multiple choice, and open-ended questions on demographic characteristics, health behaviors, and health history. This study was approved by the Institutional Review Board at the hosting hospital.

Sample

Responses were received by 558 African American men who represented over 30% of the approximately 1500 African American male health fair attendees; a refusal rate for men who declined participation was not recorded. The mean age of this sample was 54 years old. Nearly 63% of the African American men in this sample were unmarried; 89% of the

participants had at least a high school diploma while 19% of the participants had an undergraduate degree or higher level of education. Over twenty percent of the participants were unemployed, nearly 39% reported household income levels below $20,000 per year, and 44.4% reported having no form of health insurance. A comparison of this sample to a nationally representative sample of African American men taken from the Current Population Survey (U.S. Census Bureau, CPS, 2011) found that the current sample is demographically similar to a national sample of African-American men in terms of marital status, educational attainment, household income, and employment status while notably more men in the current sample lacked any type of health insurance coverage when compared to African American men nationally. Table one presents the sample's demographic characteristics.

Table 1
Demographic Profile of Participants

	Talked with family		Did not talk with family		Total	
	N	%	*N*	%	*N*	%
Age (50 yrs of age or older)						
Yes	194	68.3	166	60.5	360	64.5
No	90	31.7	108	39.4	198	35.5
Marital status						
Married	119	41.9	88	32.1	207	37.1
Not married	165	58.1	186	67.9	351	62.9
Education (Some college or more)						
Yes	163	57.4	111	40.5	274	49.1
No	121	42.6	163	59.5	284	50.9
Employment						
Employed	136	47.9	127	46.4	263	47.1
Not employed	148	52.1	147	53.6	295	52.9
Income ($20k or less)						
Yes	85	29.9	125	45.6	210	37.6
No	199	70.1	149	54.4	348	62.4
Has regular doctor						
Yes	165	58.1	127	46.4	292	52.3
No	119	41.9	147	53.6	266	47.7
Insurance						
Yes	174	61.3	136	49.6	310	55.5
No	110	38.7	138	50.4	248	44.5
Talked to doctor about family history						
Yes	182	64.1	64	23.4	246	44.1
No	102	35.9	210	76.6	312	55.9

MEASURES

Dependent Variable

The outcome of interest was assessed by asking "have you ever talked with any of your relatives about your family history of cancer (about members of your family who have been diagnosed with cancer)?" Response options were yes/no and the outcome variable was coded 1 or 0 with 1 indicating that participants had ever spoken with a relative about cancer family history.

Independent Variables

Socio-demographic variables included age, education, income, and marital status. Data on respondents' age was taken from a single open-ended question; age was measured continuously and coded as 1 or 0 with 1 indicated participants age 50 years and older. Response categories for level of education ranged from 1 ("Less than or some elementary school") to 8 ("Graduate or professional degree"). Education was then coded as 1 or 0 with 1 indicating a minimum of one year of college completed or more. For combined household income, response categories ranged from "Less than $10,000" to "more than $50,000." Income was also coded 1 or 0 with 1 indicating a household income below $20,000. For marital status, a dummy variable was created to identify participants who were married at the time of data collection. A value of 1 was assigned to participants who reported being currently married while 0 was assigned to those who reported being single, divorced, separated, widowed, or a member of an unmarried couple.

ADDITIONAL HEALTH INFORMATION, ACCESS, AND OUTCOME VARIABLES

Literature concerning factors that influence cancer family history communication supported the examination of additional variables, which were divided into two categories; health and information access variables and health behavior and outcome variables. Health information and access variables included: health insurance status, having a regular doctor, use of the internet as the most recent source of health information, and discussions with a physician about family history of cancer. Health insurance status was captured by asking respondents, "Are you covered by any of the following types of health insurance?" Response categories included Medicare, Medicaid, employer-based insurance; health insurance purchased directly; and self-pays (no insurance coverage). A dummy variable was created to capture participants who were insured (coded as 1) and uninsured (coded as 0). Having a regular doctor was measured with a single item asking participants, "Do you have a regular doctor or health care provider?" Responses were coded as follows: 1 = yes or 2 = no and a dummy variable was created which recoded the responses as 1 = yes or 0 = no.

Health-related internet use was assessed by asking: "the most recent time you looked for information about health or medical topics, where did you go first"? (Hesse & Moser, 2009). Responses included: health professional, books, brochures/pamphlets, family members, friends or co-workers, pastor/spiritual leader, the internet, magazines/newspapers, or other (with a space for the participant to fill in the other source). Health-related Internet use was coded 1 or 0 with 1 indicating the internet as the most recent source of health-related in-

formation for participants. Talking with the doctor about one's family history with cancer was assessed using a single item, "Have you ever talked with a doctor or health care professional about your family history of cancer (about the members of your family who have been diagnosed with cancer)?" Response values were coded 1 for yes or 2 = no.

Health behavior and health outcome variables included: the completion of any form of colorectal cancer screening (CRC) at any time, the completion of any form of prostate cancer screening at any time, a personal diagnosis of cancer at any time, and a self-reported family history of cancer in one or more blood relatives. Colorectal cancer screening completion was assessed by asking: "Have you ever had any type of medical test to screen for colon cancer or colorectal cancer such as colonoscopy, sigmoidoscopy, stool test or fecal occult blood test?" This question was coded 1 that indicated that respondents received any form of cancer screening and 0 that indicated that no cancer screening was received. Prostate cancer screening completion was assessed by asking "Have you ever had any type of medical test to screen for prostate cancer such as a digital rectal exam (DRE) or prostate specific antigen test (PSA)?" Responses were coded 1 if respondents received any form of cancer screening and 0 if no cancer screening was received. A personal diagnosis of cancer was assessed by asking participants, "Have you ever been diagnosed with cancer?" Response values were 1 = yes and 2 = no, then coded as 1 or 0, which indicated a cancer diagnosis at any time. Lastly, family history of cancer in a blood relative was measured by asking, "Have any of your blood-related relatives (parents, siblings, aunts/uncles, and grandparents) ever been diagnosed with cancer?" Response values were 1 = yes or 2 = no.

Data Analysis

As this study was exploratory in nature, no hypotheses were specified prior to analysis. Data from 558 African American men were analyzed using SPSS version 19. Categorical variables were summarized as frequency distributions. Potential relationships between demographic variables and the key outcome variable (i.e., discussing family history of cancer with relatives) were analyzed. Bivariate analysis with cross-tabulations and chi-squared tests of significance were performed to determine if any significant differences or associations existed between the independent variable and other covariates.

Data were screened for missing values to determine if non-responsiveness among survey participants was associated with any essential study variables. The SPSS missing values analysis (MVA) module was utilized to determine whether or not missing values were randomly distributed across all observations. No variables were identified as having significant missing values. Imputation methods were not utilized for item non-response; instead, cases with any missing data on variables under analysis were deleted (i.e., listwise deletion). Listwise deletion of cases is an appropriate statistical method if missing response values are independent of one another and missing completely at random (Van der Ark & Vermunt, 2010).

RESULTS

Bivariate Analysis

Bivariate analyses were conducted to evaluate each of the linear relationships between socio-demographic, health information and access, health behaviors and outcome variables,

and the occurrence of cancer family history discussions between African American men in the sample and their relatives. Table 2 details the bivariate correlations from this analysis. Of note, previous knowledge and non-relative discussions about FHC were positively associated with the occurrence of FHC communication with relatives. For example, having spoken to a doctor about FHC ($r = .410, p = .000$) and having knowledge of FHC in a blood relative ($r = .473, p = .000$) were both significantly correlated with the outcome. Following bivariate analysis, the variables found to be significantly associated with the occurrence of FHC communication were tested under three models according to their conceptual similarities (i.e., sociodemographic characteristics; health information and access; and health behaviors and outcomes). Each logistic regression model was computed to assess the relationship between the variables under each model and the binary outcome (1 = ever FHC communication, 0 = never FHC communication).

The raw score binary logistic regression coefficients and the estimated change in odds for the occurrence of any discussion of FHC between African American men and their relatives are summarized in tables 3, 4, and 5. All logistic regression models included 558 cases. Regarding the socio-demographic model, a test of the full model compared to the null model was statistically significant, $\chi^2 = 30.047, p = .000$ but the strength of association between the four predictor variables and the outcome was weak with Cox and Snell's $R^2 = .052$ and Nagelkerke's $R^2 = .070$. The health information and access model was also statistically significant, $\chi^2 = 103.773, p = .000$ and the strength of association for the four predictor variables was moderately strong with Cox and Snell's $R^2 = .17$ and Nagelkerke's $R^2 = .23$. Lastly, the health behavior and health outcomes model was statistically significant when compared to the null model, $\chi^2 = 160.66, p = .000$. The strength of association between the four predictor variables and the outcome also moderately strong with Cox and Snell's $R^2 = .25$ and Nagelkerke's $R^2 = .33$. Hosmer Lemeshow tests were insignificant for each model indicating appropriate model fit across all models.

DISCUSSION

Our study examined predictors for discussing cancer family history with relatives among African American men who participated in a health fair in the Midwest. Having had a previous cancer diagnosis, known family cancer history, and a history of CRC screening increased the likelihood of respondents discussing their family cancer history with their relatives. Men who had some college education or higher, used the internet to access health information, and reported discussing their FHC with their physician also spoke with relatives about FHC at higher rates, while participants with lower combined household incomes were less likely to have discussed family history of cancer with their relatives. In general, these findings are consistent with studies that have shown that men with higher income, educational attainment, and stronger patient-provider relationships are more likely to discuss and utilize FHC information (Griffith, 2008; Kelly, 2007; Zlot, Silvey, Newell, Coates, & Leman, 2012). In an effort to move FHC research and practice on African American men forward, we will discuss our findings in the context of three models, the health behaviors-outcomes model, the health information-access model, and the socio-demographic model. We chose to do this because factors associated with FHC communication in general are situated and discussed in the extant literature according to similar overarching categorizations.

Table 2
Correlations

		1	2	3	4	5	6	7	8	9	10	11	12	13
1. Spoke to family about cancer history	Pearson	1												
	Sig (2-tail)	—												
2. Some college or more	Pearson	.169	1											
	Sig (2-tail)	.000	—											
3. $20k or less income	Pearson	-.162	-.164	1										
	Sig (2-tail)	.000	.000	—										
4. Uses internet for health information	Pearson	.115	.262	-.119	1									
	Sig (2-tail)	.006	.000	.005	—									
5. Spoke to doc about family cancer history	Pearson	.410	.081	-.176	.056	1								
	Sig (2-tail)	.000	.056	.000	.187	—								
6. Completed prostate screening	Pearson	.187	.100	-.221	.000	.354	1							
	Sig (2-tail)	.000	.018	.000	.997	.000	—							
7. Completed colorectal screening	Pearson	.197	.097	-.186	.015	.359	.572	1						
	Sig (2-tail)	.000	.022	.000	.726	.000	.000	—						
8. Personal history of cancer diagnosis	Pearson	.141	-.054	-.008	-.052	.164	.148	.128	1					
	Sig (2-tail)	.001	.206	.846	.220	.000	.000	.002	—					
9. Family history of cancer in blood relative	Pearson	.473	.152	-.043	.091	.200	.057	.075	.059	1				
	Sig (2-tail)	.000	.000	.314	.033	.000	.180	.079	.166	—				
10. Health insurance	Pearson	.117	.114	-.400	-.028	.264	.307	.334	.147	-.015	1			
	Sig (2-tail)	.006	.007	.000	.512	.000	.000	.000	.001	.716	—			
11. Regular doctor	Pearson	.118	.098	-.133	-.034	.363	.299	.333	.134	.025	.446	1		
	Sig (2-tail)	.005	.021	.002	.426	.000	.000	.000	.002	.559	.000	—		
12. Over age 50	Pearson	.081	.002	-.127	-.101	.176	.344	.360	.073	-.002	.241	.267	1	
	Sig (2-tail)	.057	.968	.003	.016	.000	.000	.000	.086	.954	.000	.000	—	
13. Married	Pearson	.101	.047	-.352	-.033	.200	.151	.174	-.020	-.052	.306	.176	.135	1
	Sig (2-tail)	.017	.266	.000	.437	.000	.000	.000	.630	.218	.000	.000	.001	—

Table 3
Logistic Regression Socio Demographic Model

					95% C.I. for EXP(B)	
Predictor variable	B	S.E. (B)	Wald	Odds ratio	Lower	Upper
Over age 50	.262	0.184	2.033	1.30	.906	1.865
Married	.20	0.193	1.083	1.222	.838	1.782
Some college or more	.610***	0.176	12.154	1.844	1.307	2.602
Income less than $20,000	-.486**	0.193	6.311	0.615	.421	.899
Constant			-.325	0.212	2.342	.723
$\chi^2 = 30.047$***	$df = 4$					

*$p < .05$, **$p < .01$, ***$p < .001$.

Table 4
Logistic Regression Health Information and Access Model

					95% C.I. for EXP(B)	
Predictor variable	B	S.E. (B)	Wald	Odds ratio	Lower	Upper
Has health insurance	.147	0.211	.488	1.159	.766	1.753
Has regular health provider	-.208	0.221	.889	.812	.527	1.252
Uses internet as primary source of health information	.467*	0.198	5.577	1.595	1.083	2.351
Ever spoken with physician about cancer family history	1.804***	0.207	75.798	6.072	4.046	9.114
Constant	-.871***	0.172	25.760	.419		
$\chi^2 = 103.773$***	$df = 4$					

*$p < .05$, **$p < .01$, ***$p < .001$.

Table 5
Logistic Regression Health Behavior and Outcomes Model

Predictor variable	B	S.E. (B)	Wald	Odds ratio	95% C.I. for EXP(B) Lower	Upper
Prostate screening completion	.494*	0.246	4.043	1.639	1.013	2.652
Colorectal screening completion	.525*	0.239	4.837	1.690	1.059	2.698
Personal cancer history	1.080*	0.463	5.438	2.945	1.188	7.301
Self-reported family cancer history	2.145***	0.206	108.126	8.541	5.701	12.796
Constant	-1.87***	0.219	72.932	.154		
$\chi^2 = 160.665$***	$df = 4$					

*$p < .05$, **$p < .01$, ***$p < .001$.

HEALTH BEHAVIORS-OUTCOMES MODEL

Cancer Diagnosis

Having a cancer diagnosis predicted the higher odds of discussing FHC with relatives in our sample. Recent work suggests that 50% of individuals who have a cancer diagnosis also discuss their cancer risk with relatives (Eisinger, Bouhnik, Malavolti, Le Corroller-Soriano, & Julian-Reynier, 2011). The same study also found that persons with a colorectal cancer diagnosis were much more likely to discuss their cancer family history with relatives than individuals with other types of cancer (Eisinger et al.). Research indicates that among African Americans, Hispanics, and Asians, not discussing one's FHC may be associated with lower perceived cancer risk (Orom et al., 2010). In a nationally representative sample, Orom and colleagues (2010) found that individuals who did not report a known family history of cancer also perceived their risk of developing cancer to be low. These findings highlight the interconnectedness of cancer family history knowledge and communication with how individuals view or perceive their cancer risk. Similar to presence of a cancer diagnosis, known family history of cancer also served as a predictor of discussing FHC with relatives.

Known Family History

In the current study, men who reported knowing that they had a family history of cancer in a first-degree relative were more likely to have ever discussed that history with their relatives. This finding is particularly encouraging given the barriers that individuals may face to obtaining, conveying, and utilizing FHC information in preventive health decision-mak-

ing (Kenan, Arden-Jones, & Eeles, 2004). In a systematic review on how genetic disease risk is communicated within families, Gaff et al. (2007) demonstrated how the process of transmitting health-risk information within families involves a delicate balance of managing concerns, expectations, and emotions. This study concluded that these dynamics influenced the timing, content, and mode of delivery for such conversations. However, researchers ultimately found that individuals who felt a sense of responsibility to share potentially important health information with relatives did so when they perceived that such information outweighed any temporary stress or harm caused to relatives by hearing concerning health news (Gaff et al.). Previous cancer screening also increased discussion of FHC.

Screening

Men in our study who reported completion of prostate cancer or colorectal cancer screening were more likely to discuss FHC with relatives. Previous studies have found that discussing one's FHC can increase cancer-screening rates (Bock, Peyser, Gruber, Bonnell, Tedesco, & Cooney, 2003; Spencer et al., 2006). Using data from the University of Michigan Prostate Cancer Genetic Project, Bock et al. found that a majority of men who report a FHC engaged in prostate-specific antigen (PSA) screening. More importantly, the study found that African Americans with a FHC were less likely to engage in screening compared to non-Hispanic Whites and Blacks who did not have a FHC, highlighting some potential racial/ethnic disparities in cancer communication. While discussing a FHC can have a positive impact on screening, research suggests African American men may have lower knowledge of the role of family history in cancer risk. In a study of 79 African American men, Weinrich (2006) showed that knowledge of hereditary prostate cancer was low among African American men specifically in the areas of genetic testing, prevention and levels of risk associated with positive test results (Eisinger et al., 2011). Technology may also play an important role in cancer communication among African American men.

HEALTH INFORMATION-ACCESS MODEL

Internet Use

Men in our study who used the internet to access health information discussed FHC with relatives at higher rates. Few studies have examined the influence of internet usage for health information on discussing FHC with relatives in African American men. Research that has been completed suggests Internet usage for health information can vary by education and race/ethnicity. One study found a strong correlation between higher education and increased usage of the internet to access health information for African Americans and Hispanics (Miller, West, & Wasserman, 2007). Miller et al. also found that non-Hispanic Whites were more likely to use the internet to access health information. For African American men specifically, a prostate cancer diagnosis, poor patient-doctor communication and computer availability influenced their use of the internet for health information. Previous research and our study's findings highlight a need to further examine the role of internet use for health information in facilitating discussions of cancer history with family for African American men at-risk for or living with CRC. Along with internet usage, physician communication may play a critical role in communication of FHC and screening.

Physician Communication

Men in our study who discussed FHC with their physicians also had higher odds of discussing FHC with their relatives. Zlot, Silvey, Newell, Coates, and Leman (2012) examined the effect of family history CRC on clinician practice and patient screening behavior using data from the 2008 Behavioral Risk Factor Surveillance Survey. Findings revealed that a family history of CRC resulted in the increased likelihood of physicians discussing CRC screening with patients. Similar to our study, findings highlighted the role of physician communication of CRC risk factors and educating patients about the importance of screening. Our study also revealed significant findings for socio-demographic characteristics, specifically education and income.

SOCIO-DEMOGRAPHIC MODEL

Education

Our study showed that respondents who reported attending some college or more were more likely to report having talked to relatives about their family history of cancer. While few studies have been completed examining the role of education on likelihood of discussing cancer history with family, current research demonstrates the importance of education in lack of knowledge of cancer screening and risk factors (Wagner, Whitaker & Wardle, 2011). Low literacy can impact discussions of FHC by contributing to a lack of understanding of common cancer terms, increasing difficulty in reading cancer literature, and resources and delaying receipt of health care due to lengthy paperwork demands by healthcare providers and facilities (Bennett, Rothschild, & Schillinger, 2003; Kilbridge et al., 2007). Dolan, Ferreira, and Davis (2004) interviewed 387 predominately non-Hispanic White (51%) and African American (41%) men who participated in a Chicago-based Veteran Affairs health facility. In their sample, African American men were twice as likely to have literacy skills at the eighth grade level or below. Participants with limited literacy were less familiar with colorectal cancer and screening tests, but were more likely to report procrastination as the reason for not getting screened. Although the study did not focus on FHC as an outcome, it still has implications for the impact of literacy on health-seeking behavior among African American men.

Income

Our study findings also revealed that participants who reported low incomes were less likely to have discussed their family history of cancer with relatives. Similar to our study, other studies found that individuals with higher income were more likely to talk with family members and with physicians about their FHC (Kelly et al., 2009). Considering the role of FHC in screening, both studies demonstrate the need to further explore the role of socioeconomic status as a barrier to discussing cancer family history among African American men who are low-income.

LIMITATIONS

A few limitations should also be noted when interpreting the findings from this study. Because the study sampled African American men from a Mid-western city, findings may not be generalizable to African American men from other regions in the U.S. or the country as a whole. The study also utilized cross-sectional data, which does not account for potential changes over time and confounding variables. Similar studies using nationally representative probability-based samples may better explicate which factors predict discussion of cancer family history with relatives among African American men. Longitudinal data would potentially allow the examination of changes in FHC communication over the life course. Further, data collected via self-report in the study may potentially be subject to recall bias. Despite the limitations of this study, the findings contribute to the ongoing inquiry regarding the role and influence of family health history in the health of African American men.

CONCLUSION

Our findings highlight a need for a comprehensive evaluation of African American men's communication about family history of cancer. Also, since this was an exploratory study, a series of questions remain that could be answered using more descriptive and inferential analysis. It may also be important for physicians and other health-care professionals to be aware of the barriers to FHC communication facing African American men and respond by taking additional time when collecting FHC information as well as providing tailored tools to facilitate family conversations around increased risk. Future studies should also assess the role of physicians in encouraging African American men to speak about their FHC with relatives and in health settings and subsequently engage in cancer preventive behaviors such as screening. Other predictors identified in this study should be explored further, specifically the impact of educational attainment and socioeconomic status on family discussions around FHC in medically underserved populations, namely African American men.

REFERENCES

Acheson, L. (2011). Recording, interpreting, and updating the family history of cancer: Implications for cancer prevention. *Journal of the American Medical Association*, *306*(2), 208-210.

American Cancer Society. (2011). *Cancer facts & figures for African Americans 2011-2012*. Atlanta, GA: American Cancer Society.

Bennett, D., Rothschild, R., & Schillinger, D. (2003). Low literacy high risk: The hidden challenge facing health care in California: Report from the California health literacy initiative. Available at http://www.cahealthliteracy.org

Bloom, J., Stewart, S., Oakley-Girvans, I., Banks, P., & Chang, S. (2006). Family history, perceived risk, and prostate cancer screening among African American men. *Cancer Epidemiology, Biomarkers, & Prevention*, *15*, 2167-2173.

Bock, C., Peyser, P., Gruber, S., Bonnell, S., Tedesco, K., & Cooney, K. (2003). Prostate cancer early detection practices among men with a family history of disease. *Urology, 62*, 470-475.

Dolan, N.C., Ferreira, M.R., & Davis, T.C. (2004). Colorectal cancer screening knowledge, attitudes, and beliefs among veterans: Does literacy make a difference? *Journal of Clinical Oncology, 22*(13), 2617-2622.

Eisinger, F., Bouhnik, A., Malavolti, L., Le Corroller-Soriano, A., & Julian-Reynier, C. (2011). Cancer survivors: Familial risk perception and management advice given to their relatives. *Familial Cancer*, *10*(1), 147-155.

Ford, M., Vernon, S., Havstad, S., Thomas, S., & Davis, S. (2006). Factors influencing behavioral intentions regarding prostate cancer among older African American men. *Journal of the National Medical Association, 98*(4), 505-514.

Gaff, C., Clarke, A., Atkinson, P., Sivell, S., Elwyn, G., Iredale, R., et al. (2007). Process and outcome in communication of genetic information within families: A systematic review. *European Journal of Human Genetics*, *15*(10), 999-1011.

Griffith, K., McGuire, D., Royak-Schaler, R., Plowden, K., & Steinberger, E. (2008). Influence of family history and preventive health behaviors on colorectal cancer screening in African Americans. *Cancer, 113*(2), 276-285.

Guttmacher, A., Collins, F., & Carmona, R. (2004). The family history: More important than ever. *The New England Journal of Medicine*, *351*, 2333-2336.

Hesse, B., & Moser, R. (2009). Health Information National Trends Survey (HINTS), 2007: Inter-university Consortium for Political and Social Research (ICPSR) [distributor].

Kelly, K., Shedlosky-Shoemaker, R., Porter, K., Remy, A., DeSimone, P., & Andrykowski, M. (2007). Cancer family history reporting: Impact of method and psychosocial factors. *Journal of Genetic Counseling*, *16*(3), 373-382.

Kelly, K., Sturm, A., Kemp, K., Holland, J., & Ferketich, A. (2009). How can we reach them? Information seeking and preferences for a cancer family history campaign in underserved communities. *Journal of Health Communication: International Perspectives*, *14*(6), 573-589.

Kenen, R., Ardern-Jones, A., & Eeles, R. (2004). We are talking, but are they listening? Communication patters in families with a history of breast/ovarian cancer. *Psycho-Oncology*, *13*(5), 335-345.

Kilbridge, K., Fraser, G., Krahn. M., Nelson, E., Conaway, M., Bashore, R., et al. (2009). Lack of comprehension of common prostate cancer terms in an underserved population. *Journal of Clinical Oncology*, *27*(12), 2015-2021.

Koehly, L., Peters, J., Kenen, R., Hoskins, L., Ersig, A., Kuhn, R., et al. (2009). Characteristics of health information gatherers, disseminators, and blockers within families at risk of hereditary cancer: Implications for family health communication interventions. *American Journal of Public Health*, *99*(12), 2203-2209.

Mastalski, K., Coups, E., Ruth, K., & Raysor, S. (2008). Substantial family history of prostate cancer in black men recruited for prostate cancer screening. *Cancer*, *113*(9), 2559-2564.

Miller, E., West, D., & Wasserman, N. (2007). Health information websites: Characteristics of U.S. users by race and ethnicity. *Journal of Telemedicine & Telecare*, *13*(6), 298-302.

Murthy, V., Garza, M., Almario, D., Vogel, K., Grubs, R., Gettig, E., et al. (2011). Using a family history intervention to improve cancer risk perception in a Black community. *Journal of Genetic Counseling*, *20*(6), 639-649.

National Institutes of Health. (2009, August). Family history and improving health: Evidence Report No. 186. Rockville, MD: Agency for Health Care Quality and Research.

Orom, H., Kiviniemi, M., Underwood, W., Ross, L., & Shavers, V. (2010). Perceived cancer risk: Why is it lower among nonwhites than whites? *Cancer Epidemiology, Biomarkers & Prevention, 19*, 746-754.

Powe, B., Faulkenberry, R., & Hammond, L. (2010). A review of intervention studies that seek to increase colorectal cancer screening among African-Americans. *American Journal of Health Promotion, 25*(2), 92-99.

Schneider, J., Makelarski, J.A., Haitsma, M., Lipton, R.B., Abramsohn, E., Lauderdale, D.S., et al. (2011). Differential access to digital communication technology: Association with health and health survey recruitment within an African-American underserviced urban population. *Journal of Urban Health, 88*(3), 479-492.

Shah, M., Zhu, K., Palmer, R., & Wu, H. (2007). Family history of cancer and utilization of prostate, colorectal, and skin cancer screening tests in U.S. men. *Preventive Medicine*, *44*(5), 459-464.

Spencer, B., Babey, S., Etzioni, D., Ponce, N., Brown, E.R., Yu, H., et al. (2006). A population-based survey of prostate-specific antigen testing among California men at higher risk for prostate carcinoma. *Cancer*, *106*(4), 765-774.

U.S. Census Bureau, Current Population Survey. (2011). Available at http://www.bls.gov/cps.

Van der Ark, L., & Vermunt, J. (2010). New developments in missing data analysis. *Methodology, 6*(1), 1-2.

Von Wagner, C., Good, A., Whitaker, K., & Wardle. J. (2011). Psychosocial determinants of socioeconomic inequalities in cancer screening participation: A conceptual framework. *Epidemiologic Reviews, 33*(1), 135-147.

Weinrich, S.P. (2006). Prostate cancer screening in high-risk men: African American Hereditary Prostate Cancer Study Network. *Cancer*, *106*(4), 796-803.

Yoon, P., Scheuner, M., Peterson-Oehlke, K., Gwinn, M., Faucett, A., & Khoury, M. (2002). Can family history be used as a tool for public health and preventive medicine? *Genetics in Medicine*, *4*(4), 304-310.

Ziogas, A., Horick, N., Kinney, A., Lowery, J., Domcheck, S., Issacs, C., et al. (2011). Clinically relevant change in family history of cancer over time. *The Journal of the American Medical Association*, *306*(2), 172-178.

Zlot, A., Silvey, K., Newell, N., Coates, R., & Leman, R. (2012). Family history of colorectal cancer: Clinicians' preventive recommendations and patient behavior. *Preventing Chronic Disease*, *9*(10), 1-9.