

Knowledge, Attitudes and Beliefs of Women about the Importance of Prostate Cancer Screening

Kristi Blanchard; Tracy Proverbs-Singh; Adrienne Katner; Deborah Lifsey; Steven Pollard; and Walter Rayford, MD, PhD, FACS

New Orleans, Louisiana

Objectives: To understand women's knowledge, attitudes and beliefs about prostate cancer.

Methods: A survey was self-administered to 324 women age >18 years. It contained 42 questions that assessed women's knowledge about prostate cancer, possible risk factors, and opinions regarding screening and early detection. Women were grouped as married or unmarried for convenient comparisons. Chi-squared and F statistics were performed.

Results: Ninety-seven percent of married women reported having some influence over the healthcare decisions of their spouse. Married women's worst fear about their spouse or family member's diagnosis of prostate cancer was death. The most important benefit of prostate cancer screening was the possibility of cure, while the main hindrance was fear of the digital rectal exam. Marital status, age, educational level and income were all significantly associated with women's knowledge about prostate cancer ($p < 0.001$).

Conclusions: Women play an important role in health-related matters in the home. Educating women on prostate cancer may improve early detection efforts and reduce the devastating impact of this disease on their family.

Key words: African-American women ■ KAB (knowledge, attitudes and beliefs) ■ prostate cancer ■ screening

INTRODUCTION

Prostate cancer is the most frequently diagnosed noncutaneous cancer in American men and the second leading cause of cancer-related deaths in the United States.^{1,2} The diagnosis of clinically localized prostate cancer is associated with a 95% survival rate compared to 30% if the diagnosis is made after metastasis.³ African-American men have a 66% greater risk of being diagnosed with prostate cancer and the highest mortality rate in the world, which is twice that of Caucasian men.⁴⁻⁶ Thus, detecting prostate cancer in the early stages of disease while there are several treatment options from which to select and better chances for cure is crucially important for all men, particularly African-American men.

Several factors are associated with a greater likelihood of a man being screened for prostate cancer: race (Caucasian-American men), age decade (60–70 years) and socioeconomic factors.⁷⁻⁹ Additionally, it has been shown that men who perceive the benefit of prostate cancer screening and realize the advantages of early detection are screened more frequently.⁸ Knowledge about cancer and cancer screening tests,⁷ physician influence¹⁰ and family influence¹¹ have all been shown to play a role in participation in cancer screening programs. The challenge of identifying new methods to target high-risk populations is essential and should include searching for new mechanisms to educate men on the benefits of annual screening.

Women are the primary healthcare providers in many American households. Thus, they have the potential to impact household and family members' health-seeking behaviors. Marital status has been a well-documented predictive factor for women with regard to cervical and breast cancer screening.^{12,13} This has recently been demonstrated to be true of men concerning prostate cancer screening.^{3,14} Furthermore, men acknowledge seeking out their wives as one of their sources of health information.¹ In this study, we sought to assess women's knowledge, attitudes and beliefs about prostate cancer to further assist our

© 2005. From the Department of Urology, Louisiana State University Health Sciences Center, Stanley S. Scott Cancer Center, New Orleans, LA. Send correspondence and reprint requests for *J Natl Med Assoc.* 2005;97:1378–1385 to: Walter Rayford, MD, PhD, FACS, Louisiana State University Health Sciences Center, Department of Urology, Stanley S. Scott Cancer Center, New Orleans, LA 70112; phone: (504) 568-3586; fax: (504) 568-4849; e-mail: wrayfo@lsuhsc.edu

efforts in educating men about the importance of screening and early detection. Additionally, the study was targeted to predominantly African-American women in order to gain a better understanding of their perceived role in the health-seeking behavior of their spouses and male family members.

METHODS

A self-administered survey that contained 42 questions and assessed women's general knowledge about prostate cancer, possible risk factors and per-

sonal opinions regarding the disease and screening was administered to 324 English-speaking women (by convenience sampling) age >18. This multiple-choice formatted questionnaire was designed to require less than half an hour for completion in order to avoid unduly taxing respondents, and in practice it required an average of 20 minutes to complete. The questionnaire was at a junior-high-school reading proficiency. Response rates for completion exceeded 90%. The questionnaire was developed by an interdisciplinary team, incorporating feedback

Table 1. Demographics

	n (%)	Mean Knowledge Score (95% CI)	P Value
<i>Race/Ethnicity</i>			
Caucasian/white	4 (1.2)		
African-American/black	278 (85.8)		
Hispanic/white	2 (.6)		
Hispanic/black	7 (2.2)		
Other	9 (2.8)		
Refused to answer	24 (7.4)		
<i>Age</i>			
18-30	36 (11.1)	6.31 (4.88, 7.73)	0.036 ^a
31-40	57 (17.6)	7.95 (7.01, 8.89)	
41-50	81 (25.0)	7.25 (6.61, 7.89)	
51-60	58 (17.9)	7.69 (6.86, 8.52)	
61-70	50 (15.4)	6.1 (5.06, 7.14)	
70+	16 (4.9)	6.5 (4.62, 8.38)	
Refused to answer	26 (8.0)		
<i>Marital Status</i>			
Married	120 (37.0)	7.68 (7.05, 8.31)	0.047 ^b
Living with significant other	14 (4.3)	6.86 (5.20, 8.52)	
Single	69 (21.3)	6.39 (5.63, 7.15)	
Widowed	33 (10.2)	6.09 (5.05, 7.13)	
Divorced/separated	62 (19.1)	7.34 (6.37, 8.31)	
Refused to answer	26 (8.0)	7.68 (7.05, 8.31)	
<i>Education</i>			
Grade school	6 (1.9)	4.17 (1.32, 7.02)	<0.001 ^c
Some high school	19 (5.9)	5.21 (3.36, 7.06)	
High school	67 (20.7)	6.04 (5.31, 6.78)	
Some college	95 (29.3)	7.22 (6.50, 7.94)	
College	101 (31.2)	8.18 (7.53, 8.83)	
Other	7 (2.2)	8.57 (6.98, 10.16)	
Refused to answer	29 (9.0)		
<i>Income</i>			
<\$10,000	58 (17.9)		<0.001 ^d
\$10,001-\$20,000	68 (21.0)	5.53 (4.66, 6.41)	
\$20,001-\$30,000	42 (13.0)	6.75 (6.00, 7.50)	
\$30,001-\$40,000	48 (14.8)	7.45 (6.38, 8.52)	
\$40,001-\$50,000	28 (8.6)	8.02 (7.14, 8.90)	
>\$50,000	26 (8.0)	8.82 (7.45, 10.20)	
Refused to answer	54 (16.7)	8.77 (7.43, 10.11)	

n=324; Questionnaire out of a possible 15 points; Mean = 6.99 ± 3.54, F statistic, p<0.05; a: 26 women refused to disclose age or had no knowledge information and were excluded (F=2.423); b: 26 women refused to disclose marital status or had no knowledge information and were excluded (F=2.438); c: 29 women refused to disclose education level completed or had no knowledge information were excluded (F=5.979); d: 54 women refused to disclose income level or had no knowledge information and were excluded (F=6.536)

from focus groups and pilot-testing to assure content and face validity as well as reliability. An eight-member panel that included urologic physician, nurse, epidemiologist and outreach coordinator representation developed the instrument and incorporated refinements in response to the input of focus groups consisting of prostate cancer survivors and lay individuals. The instrument was piloted and validated by administering the survey at two time points to a sample of women ranging from 18–70 years of age (20 replicates). As expected, maximal concordances were observed for the most objective measures (e.g., 100% for husband’s age), but concordance across the gamut of questions regarding prostate knowledge was also good (range 70%–95%, average 81%), indicating acceptable reliability. The final instrument was approved by the institutional review board (IRB).

The survey data was coded and entered into a multiple-tabled Microsoft® Access™ database linked by unique identifiers. Each of the tables corresponded to a section of the survey (spouse and family information; demographic information; knowledge, and attitudes and beliefs). Fifty surveys were randomly selected and checked for accuracy in data entry.

In the analysis, women were grouped as either

married or unmarried for convenient comparisons. The married category included both married women and women living with a significant other, while the unmarried category combined single, widowed and divorced or separated women.

The knowledge section was composed of 15 equally weighted questions. Each question was assigned a single point value, and the number of correct responses determined the score. Each true/false question allowed for an additional “don’t know” option to limit random guessing. Questions that were incorrectly completed were not included in the analysis. Data was analyzed using SPSS 11.0. Chi-squared and F statistics were performed. For all statistical comparisons, significance was assumed at ≤ 0.05 .

RESULTS

Eighty-six percent of participants were African-American, 41% were married or living with a significant other, 44% had a yearly income of >\$20,000 and 81% completed high school (Table 1). Thus, the diversity in socioeconomic status of participants is highly likely to accurately represent the African-American female population. Women’s general knowledge about prostate cancer and screening recommendations was assessed using the self-adminis-

Table 2. Knowledge about prostate cancer

	n	Mean (95% CI)	P Value
<i>Talk about Prostate Cancer at Home</i>			
Yes	169	7.69 (7.2, 8.18)	<0.001 ^a
No	155	6.23 (5.6, 6.8)	
<i>Read Something about Prostate Cancer within Six Months Prior to Completing Survey</i>			
Yes	246	7.28 (6.86, 7.7)	<0.001 ^b
No	78	6.09 (5.19, 6.99)	
<i>Knowledge of Family Member with Prostate Cancer</i>			
Don't know any	199	6.93 (6.42, 7.44)	<0.296 ^c
1	61	7.03 (6.28, 7.78)	
2	7	9.43 (7.59, 11.27)	
3	4	6.25 (0.10, 12.40)	
<i>Knowledge of Family Member Receiving PSA Blood Screen</i>			
Don't know any	139	6.19 (5.59, 6.8)	<0.005 ^d
1	116	7.51 (6.88, 8.14)	
2	40	8.1 (7.13, 9.07)	
3	5	8.2 (2.98, 13.42)	
4	6	7.83 (5.59, 10.08)	
<i>Knowledge of Family Member Receiving DRE</i>			
Don't know any	160	6.35 (5.76, 6.94)	0.001 ^e
1	107	7.78 (7.15, 8.39)	
2	29	7.69 (6.84, 8.54)	
3	3	10.33 (8.90, 11.77)	
4	6	10 (7.70, 12.30)	

Questionnaire out of a possible 15 points; mean = 6.99 ± 3.54; F statistic, p<0.05; a: F=14.441; b: F=6.768; c: F=0.998; d: F=3.754; e: F=4.872

tered survey. The mean knowledge score out of a possible 15 points was 6.99 ± 3.54 . Table 1 outlines the mean knowledge scores and 95% confidence intervals by age, marital status, education and income. The mean score differences within age groups and marital status were shown to be statistically different ($p=0.036$ and 0.047 , respectively). The mean knowledge score expectedly increased with education and income ($p \leq 0.001$ for both). Women with a college education had significantly higher scores than those with only a high-school diploma ($p=0.001$), an incomplete high-school education ($p=0.005$) and women with a grade-school education alone ($p=0.048$). Women who made $< \$10,000$ per year scored significantly less than those who made $\$20,000\text{--}30,000$ ($p=0.045$), $\$30,000\text{--}40,000$ ($p=0.002$), $\$40,000\text{--}50,000$ ($p < 0.001$) and $\geq \$50,000$ ($p=0.001$).

Knowledge scores were also analyzed on the basis of familiarity with prostate cancer and prostate cancer screening (Table 2). Women who acknowledged discussing prostate cancer and/or prostate cancer screening within their homes and women who read about prostate cancer within six months scored significantly higher than women who did not ($p < 0.001$). Having a family member with the disease did not influence knowledge about prostate cancer. Women who were unaware of any male family members receiving PSA screening tended to have lower scores than those who knew of one or two family members who had been screened ($p=0.023$ and $p=0.020$, respectively). Similarly, women who knew of one male family member who had undergone a digital rectal examination as screening for prostate

cancer scored higher than those who were unaware of any male relatives who had undergone the examination ($p=0.009$).

The knowledge section was broken down into broad categories in order to define the different areas in which women's knowledge was exemplary (Table 3). Women showed deficiency in general prostate cancer knowledge, including the fact that men can be asymptomatic and still have prostate cancer, particularly in the early stages of the disease. Approximately half (54.3%) of the women answered this question correctly. Nearly 37% of women did not know that the risk for prostate cancer increases with age. Most of the women (83.9%) knew that men should attend screening events even without symptoms. They also demonstrated lack of knowledge about treatment options and potential side effects.

Ninety-seven percent of married women professed to have some influence over the healthcare decisions of their spouse, while 93% who live with a significant other claimed to have the same influence (Table 4). Only 2% of married women reported that they had no influence on the health-seeking behaviors of their husband. Women living with a significant other made no such claim. Eighty-seven percent and 74% of married and unmarried women, respectively, stated that they were influential in healthcare decisions made by their male family members. Only 7% of both married and unmarried women reported having no influence at all.

Married women (55%) revealed that if their spouses were diagnosed with prostate cancer, their worst fear would be death (Table 5). The greatest concerns if a male family member, other than a spouse, were diag-

Table 3. Proportion of correct and incorrect responses from knowledge section

	Correct Answers (%)	Don't Know or Incorrect (%)
<i>General Prostate Cancer Knowledge</i>		
Enlarged prostate not always associated with PC	43.2	56.8
Asymptomatic prostate cancer is possible	54.3	45.7
Age risk (risk of PC increases with age)	63.4	36.6
Race risk (AA risk for PC is greater than Caucasian)	55.2	44.8
Elevated PSA and abnormal DRE are not always associated	11.2	88.8
<i>Benefits of Early Diagnosis</i>		
Prostate cancer cured if caught early	87.6	12.4
<i>Screening</i>		
Age at screening	63.9	36.1
Need for DRE	34.0	66.0
Asymptomatic individual should get screened	83.9	16.1
<i>Treatment</i>		
Surgery is not the only option	60.6	39.4
Radiation risks (erectile dysfunction)	40.3	59.7

PC: prostate cancer; AA: African-American; DRE: digital rectal exam

nosed with prostate cancer were death (52% and 40% for both married and unmarried women, respectively) and depression (8% and 15% for married and unmarried women, respectively). The most important benefit of prostate cancer screening was the possibility of a cure as a result of early detection (54% married women and 42% unmarried women). The main hindrances to participation were fear of the digital rectal exam and the fear of the test results, which combined to account for 41% (married women) and 32% (unmarried) of the responses. Interestingly, 18% of married women and 14% of unmarried women responded that men may not feel at risk for developing prostate cancer or may be too embarrassed to be screened for prostate cancer (7% married and 11% unmarried, respectively).

In general, the respondents felt that the most effective methods that would encourage men to participate in free screenings were: more education (37%), knowing that there is a cure for prostate cancer (16%) and more advertising (9%). A small percentage of responders (7% married and 8% unmarried, respectively) believed that being able to talk with other men about prostate cancer and providing free exams or blood tests could also encourage participation (data not shown). Married women disclosed that in order to encourage their own spouse to participate in free screenings they would initiate a family discussion (56%), provide educational materials for him (49%) and even make an appointment for him (49%) (Table 6). Only about 6% of these women felt that the decision should be left up to the spouse alone. Similarly, women would encourage their male family members to participate in screening events using the same methods, although a greater portion felt that their male relative could make the decision alone independent of her input (8% and 7%, respectively).

DISCUSSION

African-American men have among the highest incidence of prostate cancer in the world, and it is

diagnosed at more advanced stages, therefore, reducing the possibility of cure. Furthermore, African-American men are significantly less likely than Caucasian-American men to participate in prostate cancer screening.^{8,15,16} In an attempt to lower mortality through early detection, high-risk populations need to be targeted and programs implemented to increase their awareness and knowledge about prostate cancer.

Currently, there is a paucity of information on the reasons for racial differences in participation in prostate screening programs. Several studies have evaluated the relationship between knowledge about cancer screening tests and participation in cancer screening. In one study of 211 men and women, colorectal cancer knowledge was shown to be a predictor in participation in a free colorectal cancer screening.¹⁷ Weinrich et al.⁷ demonstrated that men with more knowledge about prostate cancer were more likely to participate in free prostate cancer screening than men with less knowledge. Price et al.¹⁸ found that <50% of African-American men knew at what age to begin prostate screening, 60% did not know African-American men are at higher risk for developing prostate cancer and 45% thought that if they had prostate cancer it would kill them. Abbott et al.¹⁹ reported racial differences in the ability to correctly identify early symptoms of prostate cancer and the basic components of a prostate checkup.

An increase in knowledge following prostate education programs has been well documented. A significant increase in prostate cancer knowledge was shown by Boehm et al.²⁰ in 123 African-American men following a church-based prostate educational and screening program. Likewise, other investigators have shown a significant increase in knowledge when comparing pre- and posttest scores after participation in prostate cancer education and screening.^{9,21,22} Future studies should correlate improvement in test scores after implementation of a comprehensive educational program with participation by their spouse, significant other or male family member in prostate cancer

Table 4. Influence on spouse or male family members

	Very Influential	Somewhat Influential	Not Influential	Not Applicable	P Value
<i>Influence on Spouse's Healthcare Decisions</i>					
Married/living with significant other (n=134)	90 (67.2)	40 (29.9)	2 (1.5)	—	—
Married (n=120)	81 (67.5)	36 (30.0)	2 (1.7)	—	0.895 ^a
Living with significant other (n=14)	9 (64.3)	4 (28.6)	0 (0.0)	—	
<i>Influence on Male Family Members' Healthcare Decisions</i>					
Married/living with significant other (n=134)	45 (33.6)	72 (53.7)	9 (6.7)	6 (4.5)	0.085 ^b
Not married (n=190)	57 (30.0)	84 (44.2)	13 (6.8)	23 (12.1)	

a: Chi-square 0.222, two women refused to answer and were excluded from analysis; b: Chi-square 6.610, 15 women refused to answer and were excluded from analysis

screening. Additionally, future studies will evaluate whether implementation of a family-based education program will correlate with enhanced knowledge of prostate cancer and participation in prostate cancer screening and early detection by men.

To our knowledge, this is the first study to evaluate the knowledge, attitudes and beliefs of women with regard to prostate cancer. Age, marital status, education level and income were significantly associated with women's knowledge about prostate cancer. The higher the level of income or education, the more information women had with regard to prostate cancer and screening. These results correlate with Wilkinson et al. concerning the awareness and knowledge of African-American men about prostate cancer.²² They reported that men in the 40–69 age group scored significantly higher than those <40 and >70. Furthermore, their results revealed that unmarried participants who had lower levels of education and income had consistently

lower knowledge scores. It is this population that probably has the greatest need for prostate cancer education. Although challenging, the entire family should be targeted to increase overall education and awareness about prostate cancer screening.

Approximately half the women responded that a family discussion was the most effective method to encourage male family members to get screened. It was shown that knowledge of prostate cancer was higher in women who talked about this disease within the home. With this in mind, one novel method to educate men about the importance of prostate cancer screening could be to educate women on this topic utilizing a family discussion format. Since the study confirmed that the majority of women are thought to have at least some influence on the health behaviors of their male family members, it is crucial that they have a basic understanding about prostate cancer and recommended screening practices. This will afford women the opportunity to better educate men

Table 5. Attitudes and beliefs

	Married ^a n (%)	Not Married ^b n (%)
<i>Worst Fear if Spouse was Diagnosed with PC</i>		
Death	73 (54.5)	–
I have no fears	19 (14.2)	–
Depression	9 (6.7)	–
Other	23 (17.2)	–
Refused to answer	10 (7.5)	–
<i>Greatest Concern if Family Member was Diagnosed with PC</i>		
Death	70 (52.2)	76 (40.0)
Depression	10 (7.5)	28 (14.7)
Inability to pay for treatment	10 (7.5)	8 (4.2)
Other	32 (23.9)	44 (23.2)
Refused to answer	12 (9.0)	34 (17.9)
<i>Perceived Most Important Benefits of Early Screening</i>		
Possibility for cure if found early	72 (53.7)	80 (42.1)
Diagnosis can be made	24 (17.9)	36 (18.9)
Knowing he has no PC	17 (12.7)	30 (15.8)
More treatment options	3 (2.2)	2 (1.1)
No benefits	0 (0.0)	4 (2.1)
Refused to answer	18 (13.4)	38 (20.0)
<i>Main Reason Men Do Not Participate in Free Screenings</i>		
Fear of finger exam	29 (21.6)	36 (18.9)
Fear of results	26 (19.4)	25 (13.2)
Does not think he is at risk	24 (17.9)	27 (14.2)
Too embarrassed to go	9 (6.7)	21 (11.1)
Believe PC cannot be cured	6 (4.5)	16 (8.4)
Did not know it was needed	6 (4.5)	6 (3.2)
Fear of treatment side effect	5 (3.7)	5 (2.6)
Fear of needle	3 (2.2)	3 (1.6)
Other	12 (9.0)	17 (8.9)
Refused to answer	14 (10.4)	34 (17.9)

a: Married (n=134): Includes women who are married (n=120) and women living with significant other (n=14); b: Not married (n=190): Includes women who are single (n=69), widowed (n=33), divorced/separated (n=62) and those who refused to answer (n=26)

in their family on the importance of screening and early diagnosis. Men who participate in one screening event are more likely to participate again.^{14,23} Therefore, any mechanism that promotes initial involvement in prostate cancer screening may help promote a behavioral outcome of increased participation in future screenings.

Another intriguing finding was that women believe many men do not feel they are at risk for prostate cancer. This is of critical importance since a man's perception of his susceptibility as it relates to the diagnosis of prostate cancer may contribute to noncompliance related to preventive health issues, such as prostate cancer screening activities. Again, this underscores the need to identify new pathways to educate men on the importance of screening and early detection of prostate cancer.

Additionally, further avenues of investigation could include administering this survey to other ethnic populations (especially the Hispanic population since our experience notes a very low level of participation in prostate cancer screening among these men despite aggressive targeted strategies aimed at increasing their participation) and correlating their responses to African-American women, identifying the most effective strategy to educate the mass public or a targeted group of women (e.g., direct mail out of postcards, newspaper, group session discussions or electronic media inclusive of radio and television), and correlating the efficacy of an educational program targeted to multiethnic groups and making associations among socioeconomic status, race, age and marital status.

CONCLUSIONS

It is important to recognize the unique role and influence that women can provide regarding health-related matters in the home. Strategies targeted to educating women may help to improve screening efforts, thus, potentially reducing the devastating impact of prostate cancer on the family through early detection. It will be equally important to measure the outcomes of an educational intervention to determine any long-term benefits of such a program for both spouses and male family members. Utilizing the apparent influence that women have regarding health-related issues in the home, educating them on men's health issues may provide a successful alternative to the mechanisms currently employed.

REFERENCES

1. Taylor KL, Turner RO, Davis JL, et al. Improving knowledge of the prostate cancer screening dilemma among African-American men: an academic community partnership in Washington, DC. *Public Health Rep.* 2001; 116:590-598.
2. O'Dell JK, Volk RJ, Cass AR, et al. Screening for prostate cancer with the prostate specific antigen test: are patients making informed decisions? *Journal of Family Medicine Practice.* 1999;48:682-688.
3. Tingen MS, Weinrich SP, Heydt DD, et al. Perceived benefits: a predictor of participation in prostate cancer screening. *Cancer Nurs.* 1998;21:349-357.
4. von Eschenbach A, Ho R, Murphy GP, et al. American Cancer Society guidelines for the early detection of prostate cancer: update, June 10, 1997. *Cancer.* 1997;80:1805-1807.
5. Parker SL, Tong T, Bolden S, et al. Cancer statistics, 1997. *CA Cancer J Clin.* 1997;47:5-27.
6. Hankey BF, Feuer EJ, Clegg LX, et al. Cancer surveillance series: interpreting trends in prostate cancer—part I: evidence of the effects of screening in recent prostate cancer incidence, mortality and survival rates. *J Natl Cancer Inst.* 1999;91:1017-1024.
7. Weinrich SP, Weinrich MC, Boyd MD, et al. The impact of prostate cancer knowledge on cancer screening. *Oncol Nurs Forum.* 1998; 25:527-534.

Table 6. Methods to encourage men to participate in free screenings

	Married ^a n (%)	Not Married ^b n (%)	Total
<i>Encourage Husband/Significant Other to Participate in Free Screenings</i>			
Family discussion	75 (56.0)		
Provide educational materials	66 (49.3)		
Make appointment for him	66 (49.3)		
Nag him until it gets done	31 (23.1)		
Provide transportation	17 (12.7)		
It's up to him	8 (6.0)		
Not applicable	4 (3.0)		
Other	6 (4.5)		
<i>Encourage Male Family Members to Participate in Free Screenings</i>			
Family discussion	71 (53.0)	89 (46.8)	160 (49.4)
Provide educational materials	70 (52.2)	95 (50.0)	165 (50.9)
Make appointment for him	51 (38.1)	60 (31.6)	111 (34.3)
Nag him until it gets done	26 (19.4)	35 (18.4)	61 (18.8)
Provide transportation	18 (13.4)	18 (9.5)	36 (11.1)
It's up to him	11 (8.2)	13 (6.8)	24 (7.4)
Other	10 (7.5)	15 (7.9)	20 (6.2)

a: Married (n=134): Includes women who are married (n=120) and women living with significant other (n=14); b: Not married (n=190): Includes women who are single (n=69), widowed (n=33), divorced/separated (n=62) and those who refused to answer (n=26)

8. Tingen MS, Weinrich SP, Boyd MD, et al. Prostate cancer screening: predictors of participation. *J Am Acad Nurse Practitioners*. 1997; 9:557-567.
9. Freeman, HP. Cancer and the socioeconomically disadvantaged. *CA J Clin*. 1989;39:263-295.
10. Meissner HI, Potosky AL, Convisser R. How sources of health information relate to knowledge and use of cancer screening exams. *J Commun Health*. 1992;17:153-165.
11. Myers R, Wolf T, Balshem A, et al. Receptivity of African-American men to prostate cancer screening. *Urology*. 1994;43:480-487.
12. Calle EE, Flouder WD, Thun MJ, et al. Demographic predictors of mammography and pap smear screening among older women. *Am J Public Health*. 119;83:53-60.
13. Sherman JJ, Avel E, Tavakoli A. Demographic predictors of clinical breast examination, mammography, and pap screening among older women. *J Am Acad Nurse Practitioner*. 1996;8:231-236.
14. Denmark-Wahnefried W, Catoe K, Paskett E, et al. Characteristics of men reporting for prostate cancer screening. *Urology*. 1993;42:269-275.
15. Barber KR, Shaw R, Folts M, et al. Differences between African-American and Caucasian men participating in a community-based prostate cancer screening program. *J Commun Health*. 1998;23:441-451.
16. Weinrich SP, Boyd MD, Bradford D, et al. Recruitment of African Americans into prostate cancer screening. *Cancer Pract*. 1998;6:23-30.
17. Weinrich SP, Boyd MD, Johnson E, et al. Knowledge of colorectal cancer among older persons. *Cancer Nurs*. 1992;15:322-330.
18. Price JH, Colvin TL, Smith D. Prostate cancer: perceptions of African American males. *J Natl Med Assoc*. 1993;85:941-947.
19. Abbott RR, Taylor DK, Barber K. A comparison of prostate knowledge of African-American and Caucasian men: changes from prescreening baseline to postintervention. *Cancer J Sci Am*. 1998;4:175-177.
20. Boehm S, Coleman-Burns P, Schlenk E, et al. Prostate cancer in African-American men: increasing knowledge and self-efficacy. *J Commun Health Nursing*. 1995; 12:161-169.
21. Collins M. Increasing prostate cancer awareness in African-American men. *Oncology Nurs Forum*. 1997;24:91-95.
22. Wilkinson S, List M, Sinner M, et al. Educating African-American men about prostate cancer: impact on awareness and knowledge. *Urology*. 2003;61:308-313.
23. Weinrich SP. Predictors of older adults' participation in fecal occult blood screening. *Oncology Nurs Forum*. 1990;17:715-720. ■



Journal of the National Medical Association Call for Papers

✓ **OBESITY**
December 2005*

✓ **CHILDREN'S HEALTH**
February 2006*

✓ **MEN'S HEALTH**
April 2006*

JNMA will be publishing theme issues covering the following topics: (1) obesity/metabolic syndrome, (2) children's health and (3) men's health. This is a "call for manuscripts" in all three areas.

Please indicate the particular theme issue in your cover letter. Submission guidelines are located in at least every other issue of JNMA and on NMA's website at www.nmanet.org under publications, JNMA. Please e-mail your submissions to shaynes@nmanet.org.

Eddie Hoover, MD • JNMA Editor-in-Chief

* Publication, not manuscript submission, dates. Most submissions needed four months or more ahead of publication date.