Predictors of New Screening for African American Men Participating in a Prostate Cancer Educational Program

JANICE S. EMERSON, MS, MICHELLE C. REECE, MS, ROBERT S. LEVINE, MD, PAMELA C. HULL, PHD, BAQAR A. HUSAINI, PHD

Abstract—Background. African American (AA) men continue to have a greater than twofold risk of dying from prostate cancer compared to Whites. Methods. This community-based intervention study employed a quasi-experimental, delayed-control (cross-over) design with randomization at the church-level (N = 345 AA men). Results. Logistic regression analyses revealed that the level of knowledge (b = .61, P < .05, Exp (B) = 1.84), the perception of risk (b = 2.99, P < .01, Exp (B) = 19.95), and having insurance (b = 3.20, P < .01, Exp (B) = 24.65) significantly increased the odds of participants who needed screening getting screened during study. Discussion. This study demonstrated the need for education, community involvement, and increased access to encourage minority men to obtain needed health screenings.

SIGNIFICANCE OF STUDY: RACIAL DISPARITIES IN PROSTATE CANCER

The American Cancer Society (2007) estimated 234,460 new cases of prostate cancer and 27,350 deaths in 2006 in the United States, making it the leading cause of cancer death in men. Although death rates have declined since the early 1990s, rates for African American (AA) men remain more than twice that for Whites. In Tennessee, the death rate for all races from prostate cancer in 2003 was 32.5 per 100,000, which was well above the national rate of 26.6 and substantially above the Healthy People 2010 Objective of 28.8. The disparity in prostate cancer deaths in Tennessee was very pronounced in 2003, with Whites at 28.5 per 100,000 versus AA at 70.9 per 100,000. Contributing to this disparity could be that AA men are more likely to seek treatment at a later stage of prostate cancer, even after adjusting for comorbidity and socioeconomic status, and they are also less likely to receive radical surgical or radiation treatments.

Aims of the Study

In this study, we hypothesized that an intervention program that includes peer education and a culturally competent education curriculum within a church-based setting will improve prostate cancer knowledge, perception of risk, and screening rates among AA men. The advantage of this project is that it is community based and therefore has the potential for long-term influence through the churches and ministers involved. The goal of this project was to contribute to the reduction of racial disparities in health outcomes for prostate cancer mortality among AA men. The specific aims of the study were to

- Assess the effect of the prostate cancer education program on knowledge and health beliefs related to prostate cancer.
- Assess the impact of increases in knowledge, beliefs of the benefits of screening, and risk perception on the likelihood of getting needed screening.
- Examine social/demographic factors influencing prostate cancer screening behavior.
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METHODS

Sample

The target population was AA males 40 to 70 years old in Davidson County (Nashville), Tennessee. A list of the 206 AA churches in the greater Nashville area was used as the sampling frame, and 45 agreed to participate. The churches assisted with arranging group sessions, announcing the study sessions, and encouraging men to participate, with support from pastors, health committees, and other church leaders. A total of 422 men were recruited from those churches, and 345 of them continued in the study through the final wave of data collection. Of these 345, those who were not up to date on prostate cancer screening at baseline data collection (N = 152) are the focus of this article.

Measures

Interviews were administered to participants at baseline (Wave 1), 3-month follow-up (Wave 2), and 6-month follow-up (Wave 3) by an AA male interviewer. The questionnaires for each wave included self-report items on knowledge about prostate cancer, attitudes and beliefs about prostate cancer, and prostate cancer screening behaviors.

Intervention Design

The educational intervention program was given on a group basis and took approximately an hour. At the program meeting, the men were told about the purpose, aims, and design of the study. After this, informed consent was obtained from those willing to participate, and then baseline data were collected. Afterward, the participants viewed a 10-minute video featuring AA prostate cancer survivors and AA physicians briefly describing the symptoms of prostate cancer, benefits of screening, methods used in detection, and treatment options. The video underscored the importance of knowing symptoms of prostate cancer, associated risk factors, treatment options, the benefits of screening, and talking to one’s doctor about screening.

The video message was followed by a brief question and answer session with a physician from Meharry Medical College who reinforced the message of the video about prostate cancer risks, prevention, and the benefits of screening and making informed decisions. The physician also provided detailed information about prostate-specific antigen (PSA) and digital screening techniques (digital rectal exam [DRE]), stages of prostate cancer, and treatment options. A key emphasis in the program was to reduce fears and stigma associated with screening and to emphasize the survival possibilities that early detection can bring.

Conceptual and Operational Definitions

“New screen” (the dependent variable) refers to screening (either a PSA or DRE) obtained during the study period that was needed. This need was determined by whether the participant was up to date on screening (within the past 12 months) at the time of the baseline questionnaire (ie, the initial meeting). Only new screens were examined because the participants who were up to date on screening at baseline may have scheduled routine screening during the study period whether they participated or not.

Variables of knowledge (ie, the number of correct answers on 6 knowledge questions), correct beliefs regarding the benefits of screening (measured with 7 questions on beliefs regarding benefits and coded 1, all 7 correct and 0, less than 7 correct), and perceived risk (measured by “yes” [1] or “no” [0] responses to the statement “I believe that I could get prostate cancer at some time in my life”) were examined at postprogram (Wave 3) levels as possible factors impacting the likelihood of program participants getting needed screening. The knowledge and beliefs scales were developed for the Prostate Cancer Project, funded by the National Cancer Institute, which looked at 4 educational interventions aimed at increasing screening in at-risk men.8 The question on perception of risk was based on the Health Belief Model discussed later.9

Other demographic and social factors of the men needing screening were put into statistical models including, age, Associates degree or higher (1) or lower (0), marital status, health insurance coverage (any type) of participants at the beginning of the study, and multiple diagnosed medical problems. Additionally, social support was added to the model and measured by the answer to the question, “Have friends or family members talked with you about the benefits of prostate cancer screening?”

Statistics

Difference of proportions tests tested for significant differences in sample characteristics between those up to date at baseline and those not up to date and to test for significant increases in key variables from Wave 1 to Wave 3 data collection. Differences in mean age were determined by independent sample t-tests. Because the unit of randomization was the church, and participants were clustered within these units, logistic multilevel regression was the appropriate multivariate analysis of factors predicting whether men, who were not up to date at baseline, obtained screening by Wave 3.

RESULTS

Description of Sample

The sample is described by the baseline social/demographic characteristics of those who were up to date on screening compared to those who were not and therefore needed screening. This analysis was limited to the 345 who finished the entire study through Wave 3 (see Table 1). First, among those who were up to date at the beginning (n = 193), the mean age was 57.9 years, 54.9% had at least an